

Standard Power Module

Product Catalog 2014

www.deltaww.com/dcdc



Brand Promise

Smarter. Greener. Together.



Delta is responding to a changing world in several ways. For global climate change, we have matched our corporate mission and culture to long-term trends. For new energy, we have made our core competencies in power efficiency and the renewable energy development. Due to the evolving economic landscape, we have increased our capabilities in technology, design, manufacturing, and responsiveness to partners.

At Delta, we believe in the power of technology and collaboration - by listening to our partners, we are able to serve their needs with our energy-efficient products and systems. We recognize the importance of investing in technology for the future.

Delta's brand promise is "Smarter. Greener. Together." We believe in the importance of a greener, cleaner tomorrow. To make this a reality, we have dedicated our entire organization to developing innovative technologies that change the way energy is managed and consumed. With close collaboration among our partners, we can create a smarter, greener world together.

Milestones

1971

- Delta Electronics, Inc. established

1983

- Mass production of switching power supplies

1988

- Listed on the Taiwan Stock Exchange (code: 2308)

- Mass production of brushless DC fans

1992

- Inauguration of the first plant (Dongguan) in China

2003

- Acquired ASCOM Energy Systems, an organization with expertise in power supplies and a history of over 100 years

2013

- Selected as a member of Dow Jones Sustainability™ World Index (DJSI World) for 3 consecutive years and listed in the DJSI Emerging Markets Index

- Received 1st Place for both Overall Performance and Environmental Protection at Global Views Magazine's CSR Awards

- Received Top Corporate Social Responsibility Award for Large-scale Enterprises from CommonWealth Magazine

- Awarded "Top 100 China Green Company" Recognition by 4th consecutive year

- Rated as Most Admired Company in the Electronics Industry by CommonWealth Magazine for 12 consecutive years

- Named As Taiwan Top 20 Global Brand for 3rd consecutive year (2011-2013)

- Received "Best Investor Relations by a CEO/President" and "Sustainability Practices" Greater China Area Awards by IR Magazine

2006

- Inauguration of Delta's first green building in Tainan

2007

- Honored with Forbes Asia's Fabulous 50 Award

- Provided world's first company-wide Green Map

2008

- Listed as a Global Top 100 Low-Carbon Pioneer by CNBC European Business Magazine

2011

- Inauguration of Shanghai R&D and Operations Center Building in China

- Inauguration of Delta Smart Green Building (R&D Center) in Taoyuan, Taiwan.

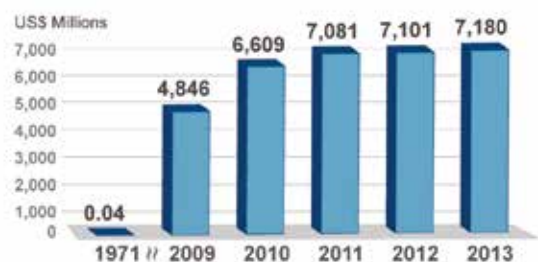
2012

- Received the Taiwan National Industry Innovation Award

Worldwide Revenues

Delta continues to achieve significant business growth and delivers strong and stable financial performance, with a compound annual growth rate of 33.4% since 1971. Delta's consolidated worldwide sales revenues in 2013 were US\$7.18 billion.

CAGR: 33.4%



About Delta



Standard power makes it Simple

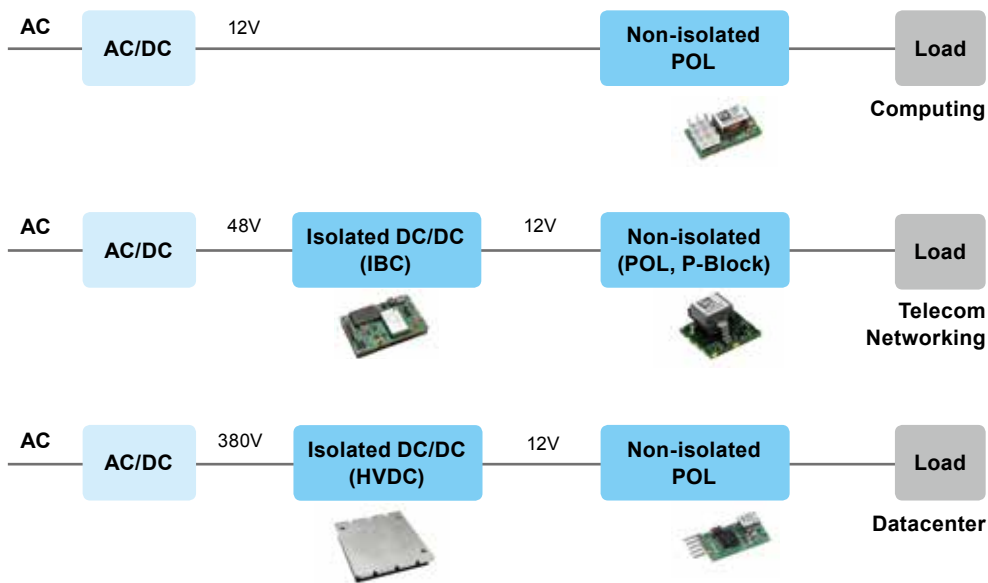
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Solutions

Telecom Networking Datacenter

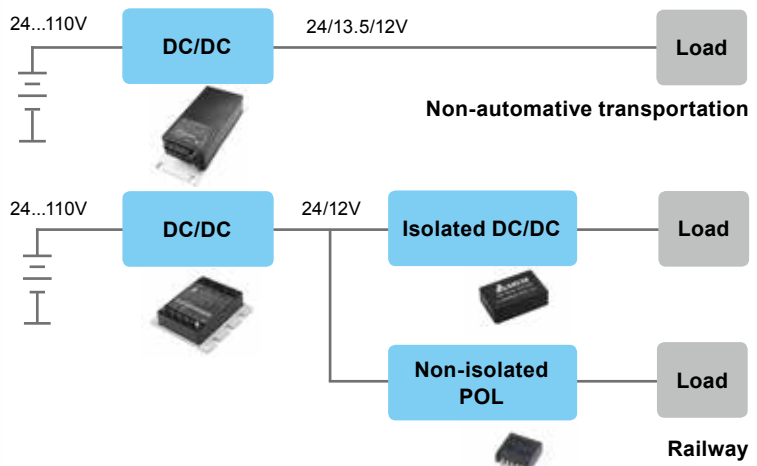
Delta is the worldwide leader in power systems technology and manufacturing for DC-DC converters for the telecom, networking and datacenter marketplace. With creative design topology and patented technologies, Delta is committed to design high-density and high-efficiency converters with advanced performance, flexibility and reliability that worldwide telecom, networking and datacenter market requires.



Transportation



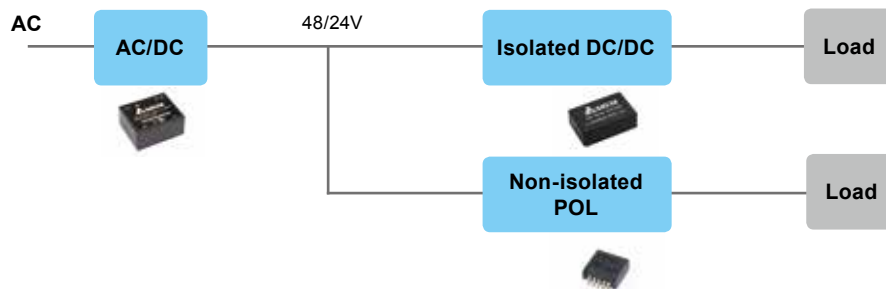
Delta provides isolated DC-DC power converters in the transportation industry for all industrial electric-powered vehicles and various railway applications such as drive controls, power controls, safety monitors and communications systems under the European Standard EN 50155. Delta designed these products with ultra wide input range for optimal performance in extensive transportation market. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance as well as high reliability under extremely harsh operating conditions.



Applications

Industrial

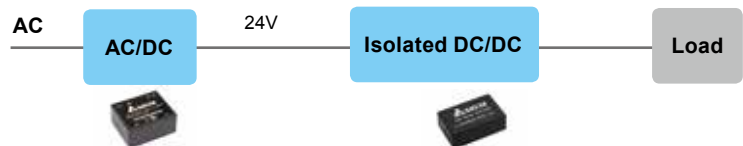
Delta's expansive product portfolio provides solution capability to meet the specific requirements of industrial application. Products use Delta's creative design topology and patented technologies to achieve extremely high efficiency, low power dissipation and greater reliability. These modules housed in industry standard footprint and pinout are easy to use and available in a fully encapsulated package for harsh environment applications.



Healthcare

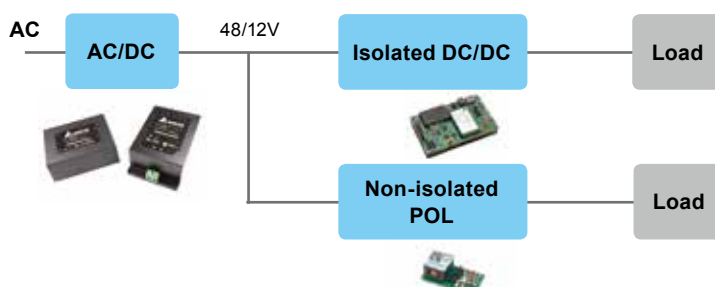


Both AC-DC and DC-DC power supplies are designed to meet specific power requirements for healthcare applications. All models meet UL60601-1 safety specs.



Signage

Delta provides isolated DC-DC power converters for LED signage and display application. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance, as well as extremely high reliability under stressful operating conditions.



ISOLATED

DC-DC POWER MODULE

OPEN FRAME TYPE



Product Overview

The isolated open-frame type DC-DC power module is one of important product portfolios. The power modules range all DOSA-compatible brick converter from 1/32 brick to 1/2 brick with industrial standard footprint and pinout. With 18~75V input voltage range, products output power up to 600W. Delta provides these high-density and high-efficiency converters with advanced performance, flexibility and reliability, which are widely applied to the telecom, networking and datacenter marketplace. In addition, S36SE and S48SP are two small-size series with low output power for industrial application.

Series	Form Factor	Input Voltage	Output Voltage	Output Power	Digital Control	Page
T48SR	1/32 BRICK	36~75V	3.3V, 5V	25W		06
V36SE	1/16 BRICK	18~75V	3.3V, 5V, 12V	50W		07
V48SC	1/16 BRICK	36~75V	3.3V, 5V, 12V	50~100W		08
V48SH	1/16 BRICK	36~75V	1V, 1.2V, 1.8V, 3.3V	17~50W		09
V48SR	1/16 BRICK	36~75V	1.2V, 1.5V, 1.8V, 2.5V, 15V	30~66W		10
E24SR	1/8 BRICK	18~36V	3.3V, 6.5V, 12V	52~73W		11
E36SC	1/8 BRICK	18~75V	3.3V, 5V, 12V	116~125W		12
E36SR	1/8 BRICK	18~75V	3.3V, 5V, 12V	66~75W		13
E48SC	1/8 BRICK	36~75V	3.3V, 5V, 12V	50~83W		14
E48SC	1/8 BRICK	36~75V	12V	240~360W	YES	15
E48SH	1/8 BRICK	36~75V	1V, 1.2V, 1.5V, 1.8V, 2.5V, 3.3V, 5V, 12V	50~120W		16
E48SP	1/8 BRICK	36~75V	3.3V, 5V, 12V	200~240W		17
E48SR	1/8 BRICK	36~75V	1.2V, 1.5V, 1.8V, 2.5V, 5V, 15V	30~60W		18
E54SD	1/8 BRICK	42~60V	12V	300W	YES	19
Q36SR	1/4 BRICK	18~75V	12V	204~240W		20
Q48SA	1/4 BRICK	36~75V	54V	81W		21
Q48SC	1/4 BRICK	36~75V	12V	300~500W	YES	22
Q48SK	1/4 BRICK	46~60V	12V	600W		23
Q48SQ	1/4 BRICK	36~75V	12V	216~400W		24
Q54SG	1/4 BRICK	42~60V	12V	400~600W	YES	25
H36SA	1/2 BRICK	18~75V	54V	150W		26
H48SA	1/2 BRICK	36~75V	12V, 28V, 48V, 54V	150~550W		27
H48SC	1/2 BRICK	36~75V	3.3V, 28V	83~450W	YES	28
S36SE	1" x 1"	18~75V	3.3V, 5V, 12V	15~24W		29
S48SP	1" x 1"	36~75V	3.3V, 5V, 12V	33~36W		30
D48SR	other	44~65V	4.2V	63W		31

T48SR Series

FEATURES

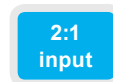
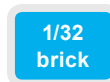
Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

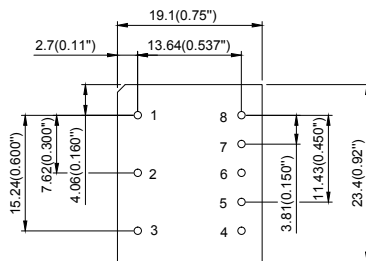
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



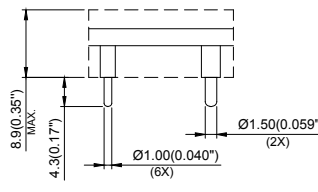
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
T48SR3R307	36~75V	3.3V	2.64~3.63V	7.5A	25W	86%	1500V	19.1 x 23.4 x 8.9 mm
T48SR05005	36~75V	5V	4~5.5V	5A	25W	86%	1500V	19.1 x 23.4 x 8.9 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

T	48	S	R	050	05	N	N	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
T - 1/32 Brick	48- 36~75V	S - Single	R - Family Name	3R3 - 3.3V 050 - 5V	05 - 5A 07 - 7.5A	N - Negative P - Positive	N - 0.146" R - 0.170"	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - Standard Functions

V36SE Series

FEATURES

Electrical

- High efficiency
- Wide 4:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

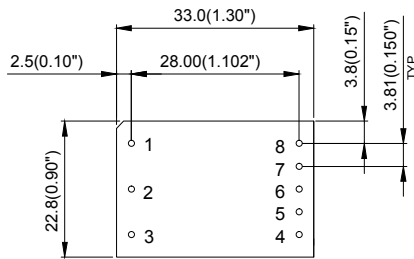
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



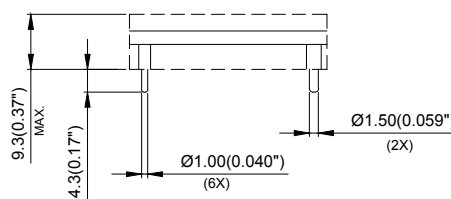
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
V36SE3R315	18~75V	3.3V	2.64~3.63V	15A	50W	90.5%	2250V	33 x 22.8 x 9.3 mm
V36SE05010	18~75V	5V	4~5.5V	10A	50W	91.0%	2250V	33 x 22.8 x 9.3 mm
V36SE12004	18~75V	12V	9.6~13.2V	4.2A	50W	88.0%	2250V	33 x 22.8 x 8.7 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

V	36	S	E	050	10	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
V - 1/16 Brick	36 - 18~75V	S - Single	E - Family Name	3R3 - 3.3V 050 - 5V 120 - 12V	04 - 4.2A 10 - 10A 15 - 15A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS 5/6	A - Standard Functions

V48SC Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

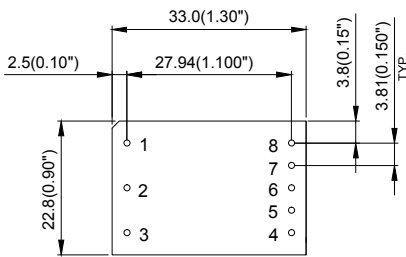
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



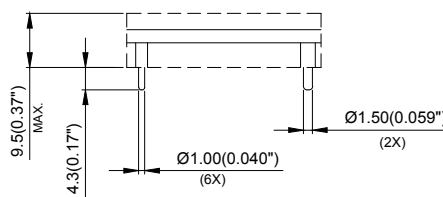
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
V48SC3R315	36~75V	3.3V	2.64~3.63V	15A	49.5W	91.5%	1500V	33 x 22.8 x 9.5 mm
V48SC3R320	36~75V	3.3V	2.64~3.63V	20A	66W	91.0%	1500V	33 x 22.8 x 9.5 mm
V48SC3R325	36~75V	3.3V	2.64~3.63V	25A	82.5W	91.0%	1500V	33 x 22.8 x 9.5 mm
V48SC05013	36~75V	5V	4~5.5V	13A	65W	91.5%	1500V	33 x 22.8 x 9.5 mm
V48SC05017	36~75V	5V	4~5.5V	17A	85W	91.5%	1500V	33 x 22.8 x 9.5 mm
V48SC05020	36~75V	5V	4~5.5V	20A	100W	91.0%	1500V	33 x 22.8 x 9.5 mm
V48SC12007	36~75V	12V	9.6~13.2V	7.5A	90W	92.0%	1500V	33 x 22.8 x 9.5 mm
V48SC12008	36~75V	12V	9.6~13.2V	8.3A	100W	92.0%	1500V	33 x 22.8 x 9.5 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

V	48	S	C	050	13	N	N	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
V - 1/16 Brick	48 - 36~75V	S - Single	C - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	07 - 7.5A 08 - 8.3A 10 - 10A 13 - 13A 15 - 15A 17 - 17A 20 - 20A 25 - 25A	N - Negative	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - Standard Functions H - With Heatspreader B - no sense and trim pin

V48SH Series

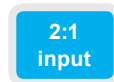
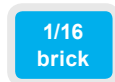
FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- 2:1 input range
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

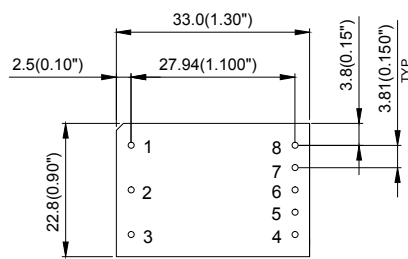
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



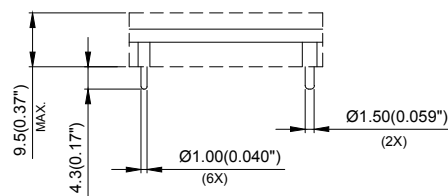
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
V48SH1R035	36~75V	1V	0.8~1.1V	35A	35W	85.0%	1500V	33 x 22.8 x 9.5 mm
V48SH1R050	36~75V	1V	0.8~1.1V	50A	50W	84.0%	1500V	33 x 22.8 x 9.5 mm
V48SH1R235	36~75V	1.2V	0.96~1.32V	35A	42W	87.0%	1500V	33 x 22.8 x 9.5 mm
V48SH1R830	36~75V	1.8V	1.44~1.98V	30A	54W	89.0%	1500V	33 x 22.8 x 9.5 mm
V48SH1R840	36~75V	1.8V	1.44~1.98V	40A	72W	88.5%	1500V	33 x 22.8 x 9.5 mm
V48SH3R325	36~75V	3.3V	2.64~3.63V	25A	82.5W	91.0%	1500V	33 x 22.8 x 9.5 mm
V48SH3R330	36~75V	3.3V	2.64~3.63V	30A	99W	91.0%	1500V	33 x 22.8 x 9.5 mm
V48SH05017	36~75V	5V	4~5.5V	17A	85W	91.5%	1500V	33 x 22.8 x 9.5 mm
V48SH05020	36~75V	5V	4~5.5V	20A	100W	91.5%	1500V	33 x 22.8 x 9.5 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

V	48	S	H	1R0	50	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
V - 1/16 Brick	48 - 36~75V	S - Single	H - Family Name	1R0 - 1.0V 1R2 - 1.2V 1R8 - 1.8V 3R3 - 3.3V 050 - 5.0V	17 - 17A 25 - 25A 30 - 30A 35 - 35A 40 - 40A 50 - 50A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - Standard Functions H - With heat spreader

V48SR Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1

1/16
brick

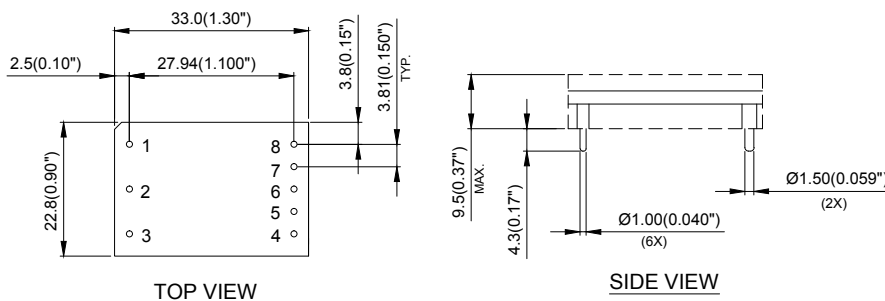
2:1
input



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
V48SR1R225	36~75V	1.2V	0.96~1.32V	25A	30W	84.0%	2250V	33 x 22.8 x 9.5 mm
V48SR1R525	36~75V	1.5V	1.2~1.65V	25A	38W	85.0%	2250V	33 x 22.8 x 9.5 mm
V48SR1R825	36~75V	1.8V	1.44~1.98V	25A	45W	87.0%	2250V	33 x 22.8 x 9.5 mm
V48SR2R520	36~75V	2.5V	2~2.75V	20A	50W	89.0%	2250V	33 x 22.8 x 9.5 mm
V48SR15004	36~75V	15V	12.75~16.5V	4.4A	66W	90.5%	2250V	33 x 22.8 x 9.5 mm

MECHANICAL DRAWING



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOU(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOU(+)	Ø1.50

PART NUMBERING SYSTEM

V	48	S	R	1R2	25	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
V - 1/16 brick	48 - 36~75V	S - Single	R - Family Name	1R2 - 1.2V 1R5 - 1.5V 1R8 - 1.8V 2R5 - 2.5V 150 - 15V	04 - 4.4A 20 - 20A 25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - Standard Functions

E24SR Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

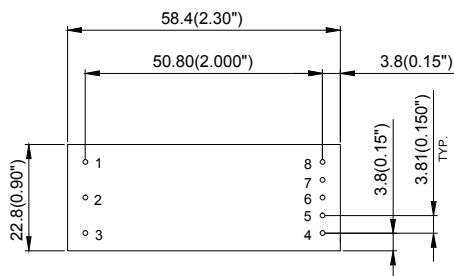
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



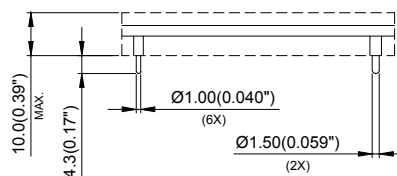
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
E24SR3R320	18~36V	3.3V	2.97~3.63V	20A	72.6W	90.0%	2250V	58.4 x 22.8 x 10 mm
E24SR06508	18~36V	6.5V	5~6.6V	8A	52W	90.5%	2250V	58.4 x 22.8 x 10 mm
E24SR12005	18~36V	12V	10.8~13.2V	5A	60W	90.5%	2250V	58.4 x 22.8 x 10 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	24	S	R	065	08	N	R	F	A
From Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	24V - 18~36V	S - Single	R - Family Name	3R3 - 3.3V 065 - 6.5V 120 - 12V	05 - 5A 08 - 8A 20 - 20A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - Standard Functions

E36SC Series

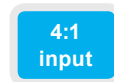
FEATURES

Electrical

- High efficiency
- 4:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

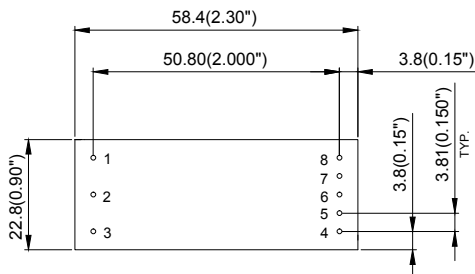
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



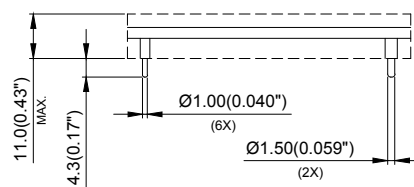
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E36SC3R335	18~75V	3.3V	2.97~3.63V	35A	116W	91%	1500V	58.4 x 22.8 x 11 mm
E36SC05025	18~75V	5V	4~5.5V	25A	125W	91%	1500V	58.4 x 22.8 x 11 mm
E36SC12009	18~75V	12V	10.8~13.2V	9A	108W	92%	1500V	58.4 x 22.8 x 11 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	36	S	C	050	25	N	K	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	36- 18~75V	S - Single	C- Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	09 - 9A 25 - 25A 35 - 35A	N- Negative	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - Standard Functions H - With heat spreader

E36SR Series

FEATURES

Electrical

- High efficiency
- Wide 4:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



1/8
brick

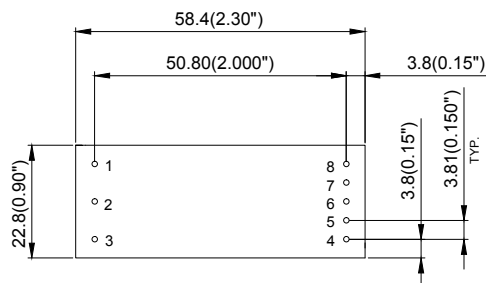
4:1
input



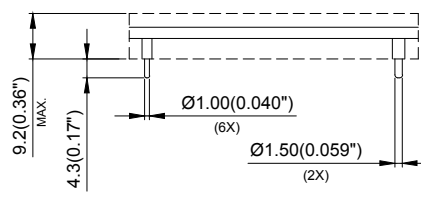
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E36SR3R320	18~75V	3.3V	2.97~3.63V	20A	66W	88%	2250V	58.4 x 22.8 x 9.2 mm
E36SR05015	18~75V	5V	4.5~5.5V	15A	75W	89%	2250V	58.4 x 22.8 x 9.2 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	36	S	R	3R3	20	N	K	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	36 - 18~75V	S - Single	R - Family Name	3R3 - 3.3V 050 - 5.0V	15 - 15A 20 - 20A	N - Negative	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - Standard Functions H - With heat spreader

E48SC Series

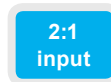
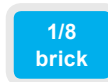
FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense

Safety & Reliability

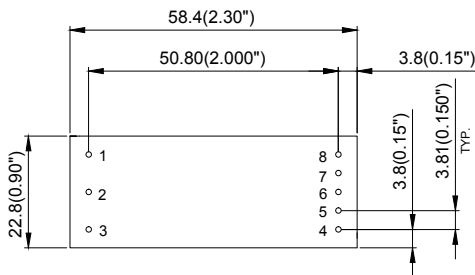
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



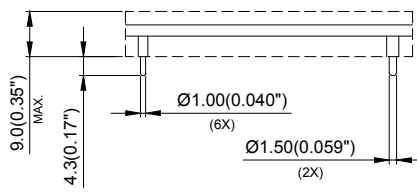
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E48SC3R315	36~75V	3.3V	2.97~3.63V	15A	50W	91.0%	2250V	58.4 x 22.8 x 9 mm
E48SC3R320	36~75V	3.3V	2.64~3.63V	20A	66W	91.0%	2250V	58.4 x 22.8 x 9 mm
E48SC3R325	36~75V	3.3V	2.97~3.63V	25A	82.5W	91.0%	1500V	58.4 x 22.8 x 9 mm
E48SC05012	36~75V	5V	4.5~5.5V	12A	60W	91.5%	1500V	58.4 x 22.8 x 9 mm
E48SC05015	36~75V	5V	4.5~5.5V	15A	75W	91.0%	1500V	58.4 x 22.8 x 9 mm
E48SC12005	36~75V	12V	9.6~13.2V	5A	60W	92.0%	2250V	58.4 x 22.8 x 8.4 mm
E48SC12008	36~75V	12V	9.6~13.2V	8A	96W	92.0%	2250V	58.4 x 22.8 x 8.4 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	48	S	C	120	08	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	48 - 36~75V	S - Single	C - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	05 - 5A 08 - 8A 12 - 12A 15 - 15A 20 - 20A 25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free) Space - RoHS 5/6	A - Standard Functions H* - with Heat spreader

* only available for E48SC12005, E48SC12008

E48SC Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF

Safety & Reliability

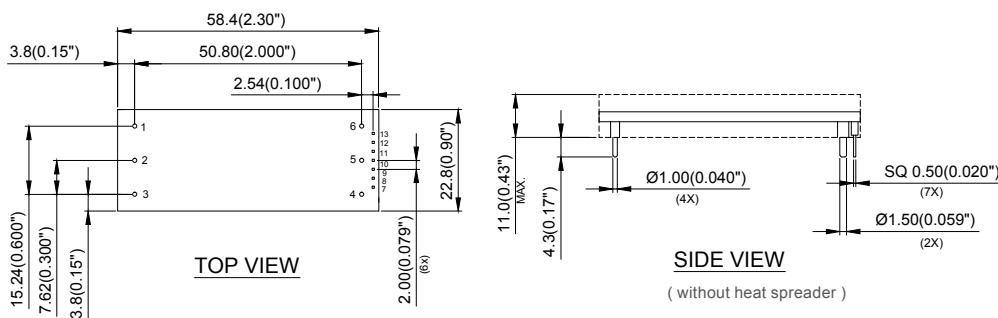
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E48SC12020	36~75V	12V	8~13.2V	20A	240W	95.2%	1500V	58.4 x 22.8 x 11 mm
E48SC12025	36~75V	12V	8~13.2V	25A	300W	95.0%	1500V	58.4 x 22.8 x 11 mm
E48SC12030	36~75V	12V	8~13.2V	30A	360W	94.5%	1500V	58.4 x 22.8 x 11 mm

MECHANICAL DRAWING



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	TRIM/C1	Ø1.00
6	VOUT(+)	Ø1.50
7	C2	SQ0.5
8	SIG_GND	SQ0.5
9	DATA	SQ0.5
10	SMBALERT	SQ0.5
11	CLK	SQ0.5
12	ADDR1	SQ0.5
13	ADDR0	SQ0.5

PART NUMBERING SYSTEM

E	48	S	C	120	20	N	R	F	A															
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code															
E- 1/8 Brick	48 - 36~75V	S - Single	C - Family Name	120 - 12V	20 - 20A 25 - 25A 30 - 30A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free)	<table border="1"> <thead> <tr> <th></th> <th>PMBUS Pin (7~13pin)</th> <th>Heat Spreader</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>B</td> <td>No</td> <td>No</td> </tr> <tr> <td>C</td> <td>No</td> <td>Yes</td> </tr> <tr> <td>H</td> <td>Yes</td> <td>Yes</td> </tr> </tbody> </table>		PMBUS Pin (7~13pin)	Heat Spreader	A	Yes	No	B	No	No	C	No	Yes	H	Yes	Yes
	PMBUS Pin (7~13pin)	Heat Spreader																						
A	Yes	No																						
B	No	No																						
C	No	Yes																						
H	Yes	Yes																						

E48SH Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense
- Secondary side control, very fast transient response



Safety & Reliability

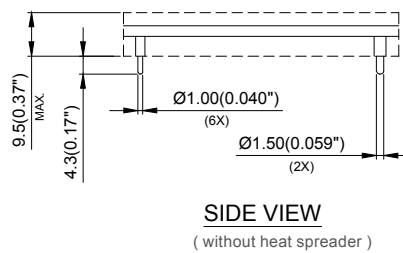
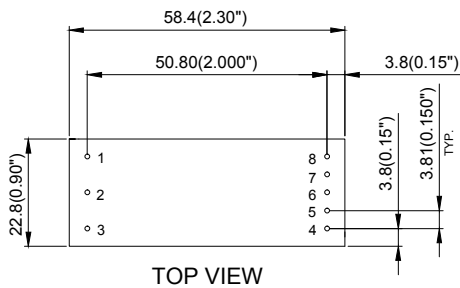
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E48SH1R050	36~75V	1V	0.8~1.1V	50A	50W	84.5%	2250V	58.4 x 22.8 x 9.5 mm
E48SH1R250	36~75V	1.2V	0.96~1.32V	50A	60W	86.5%	2250V	58.4 x 22.8 x 9.5 mm
E48SH1R540	36~75V	1.5V	1.2~1.65V	40A	60W	89.0%	2250V	58.4 x 22.8 x 9.5 mm
E48SH1R840	36~75V	1.8V	1.44~1.98V	40A	72W	90.0%	2250V	58.4 x 22.8 x 9.5 mm
E48SH2R535	36~75V	2.5V	2~2.75V	35A	88W	89.5%	2250V	58.4 x 22.8 x 9.5 mm
E48SH3R330	36~75V	3.3V	2.64~3.63V	30A	99W	92.0%	2250V	58.4 x 22.8 x 9.5 mm
E48SH05020	36~75V	5V	4~5.5V	20A	100W	90.0%	2250V	58.4 x 22.8 x 9.5 mm
E48SH12010	36~75V	12V	9.6~13.2V	10A	120W	93.0%	2250V	58.4 x 22.8 x 9.5 mm

MECHANICAL DRAWING



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	48	S	H	050	20	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	48 - 36~75V	S - Single	H - Family Name	1R0 - 1.0V 1R2 - 1.2V 1R5 - 1.5V 1R8 - 1.8V 2R5 - 2.5V 3R3 - 3.3V 050 - 5.0V 120 - 12V	10 - 10A 20 - 20A 30 - 30A 35 - 35A 40 - 40A 50 - 50A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - Standard functions with output OCL H - With heat spreader with output OCL B* - Standard Functions with output OCP

* only available for 1.2V, 1.8V, 2.5V output

E48SP Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Heat dissipation enhancement pinout (E48SP3R360)



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1

1/8
brick

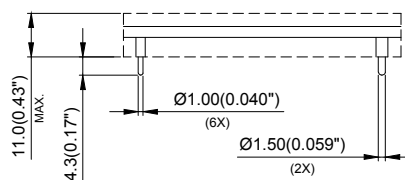
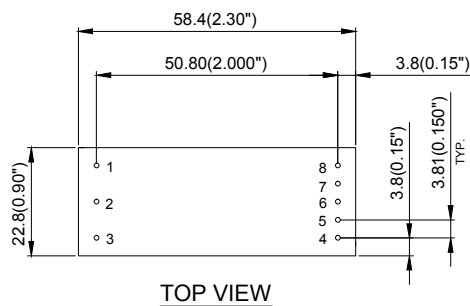
2:1
input



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E48SP3R340	36~75V	3.3V	2.64~3.63V	40A	132W	93.1%	2250V	58.4 x 22.8 x 11 mm
E48SP3R360	36~75V	3.3V	2.64~3.63V	60A	198W	92.3%	2250V	58.4 x 22.8 x 11 mm
E48SP05040	36~75V	5V	4~5.5V	40A	200W	93.5%	1500V	58.4 x 22.8 x 11 mm
E48SP12020	36~75V	12V	-	20A	240W	94.5%	2250V	58.4 x 22.8 x 11 mm

MECHANICAL DRAWING



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

TOP VIEW

SIDE VIEW

(without heat spreader)

PART NUMBERING SYSTEM

(E48SP12020 is without sense pin and trim pin)

E	48	S	P	120	20	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	48 - 36~75V	S - Single	P - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	40 - 40A 20 - 20A 60 - 60A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - Standard Functions H - With heat spreader B* - 36~60V Vin

* only for E48SP12020

E48SR Series

FEATURES

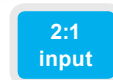
Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

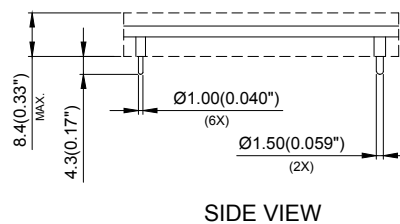
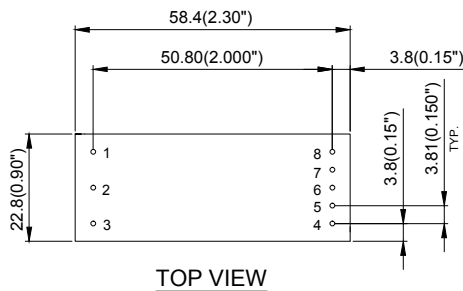
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
E48SR1R225	36~75V	1.2V	1.08~1.32V	25A	30W	88.0%	1500V	58.4 x 22.8 x 8.4 mm
E48SR1R525	36~75V	1.5V	1.35~1.65V	25A	38W	89.5%	1500V	58.4 x 22.8 x 8.4 mm
E48SR1R825	36~75V	1.8V	1.62~1.98V	25A	45W	90.5%	1500V	58.4 x 22.8 x 8.4 mm
E48SR2R520	36~75V	2.5V	2.25~2.75V	20A	50W	89.5%	1500V	58.4 x 22.8 x 8.4 mm
E48SR05012	36~75V	5V	4.5~5.5V	12A	60W	91.5%	1500V	58.4 x 22.8 x 8.4 mm
E48SR15004	36~75V	15V	13.05~16.95V	4A	60W	91.5%	2250V	58.4 x 22.8 x 8.4 mm

MECHANICAL DRAWING



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

E	48	S	R	050	12	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
E - 1/8 Brick	48 - 36~75V	S - Single	R - Family Name	1R2 - 1.2V 1R5 - 1.5V 1R8 - 1.8V 2R5 - 2.5V 050 - 5.0V 150 - 15V	04 - 4A 12 - 12A 20 - 20A 25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - Standard Functions

E54SD Series

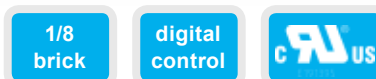
FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense
- PMBUS function (optinal)

Safety & Reliability

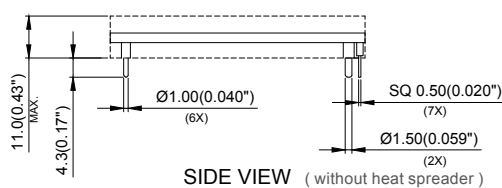
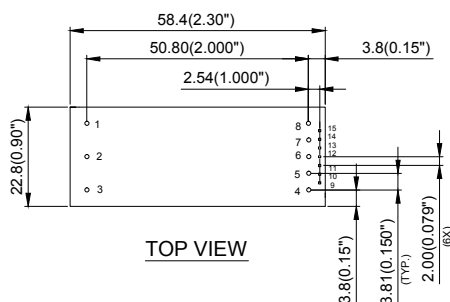
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
E54SD12025	42~60V	12V	8~13.2V	25A	300W	95.2%	1500V	58.4 x 22.8 x 11 mm

MECHANICAL DRAWING



Pin#	Function	D_pin	Pin#	Function	D_pin
1	VIN(+)	Ø1.00	9	C2	SQ0.5
2	ON/OFF	Ø1.00	10	SIG_GND	SQ0.5
3	VIN(-)	Ø1.00	11	DATA	SQ0.5
4	VOUT(-)	Ø1.50	12	SMBALERT	SQ0.5
5	SENSE(-)	Ø1.00	13	CLK	SQ0.5
6	TRIM	Ø1.00	14	ADDR1	SQ0.5
7	SENSE(+)	Ø1.00	15	ADDR0	SQ0.5
8	VOUT(+)	Ø1.50			

PART NUMBERING SYSTEM

E	54	S	D	120	25	N	R	F	A		
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code		
E - 1/8 Brick	54 - 42~60V	S - Single	D - Family Name	120 - 12V	25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free)		PMBUS Pin (9~15pin)	Heat Spreader
									A	Yes	No
									B	No	No
									C	No	Yes
									H	Yes	Yes

Q36SR Series

FEATURES

Electrical

- High efficiency
- Wide 4:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1

1/4
brick

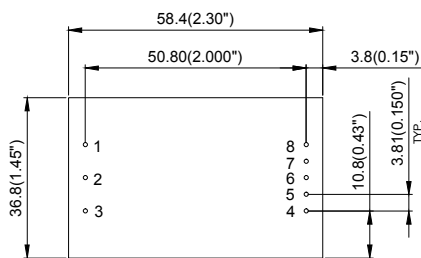
4:1
input



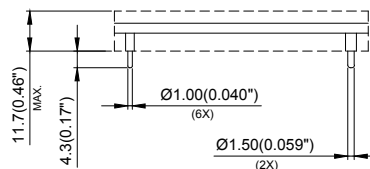
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
Q36SR12017	18~75V	12V	10.8~13.2V	17A	204W	93%	1500V	58.4 x 36.8 x 11.7 mm
Q36SR12019	18~75V	12V	10.8~13.2V	19A	228W	93%	1500V	58.4 x 36.8 x 11.7 mm
Q36SR12020	18~75V	12V	10.8~13.2V	20A	240W	93%	1500V	58.4 x 36.8 x 11.7 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

Q	36	S	R	120	17	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
Q - 1/4 Brick	36 - 18~75V	S - Single	R - Family Name	120 - 12V	17 - 17A 19 - 19A 20 - 20A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free) Space - RoHS 5/6	A - Standard Functions H - With heat spreader

Q48SA Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- 2:1 input range
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

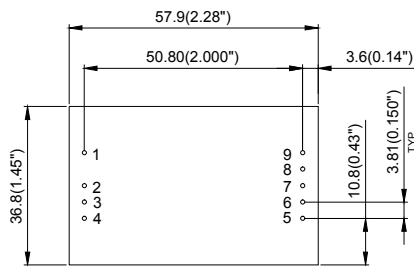
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1
- EN 60950-1



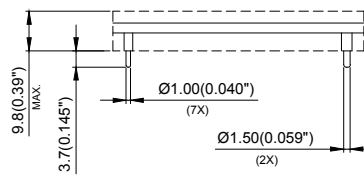
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
Q48SA54001	36~75V	54V	45.9~54V	1.5A	81W	92.0%	1500V	57.9 x 36.8 x 9.8 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW

(without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	CASE(OPTIONAL)	Ø1.00
4	VIN(-)	Ø1.00
5	VOUT(-)	Ø1.50
6	SENSE(-)	Ø1.00
7	TRIM	Ø1.00
8	SENSE(+)	Ø1.00
9	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

Q	48	S	A	540	01	N	N	F	H
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
Q - 1/4 Brick	48 - 36~75V	S - Single	A - Family Name	540 - 54V	01 - 1.5A	N - Negative P - Positive	N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free) Space - RoHs 5/6	H - With heat spreader

Q48SC Series

FEATURES

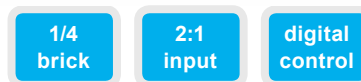
Electrical

- High efficiency
- Fixed frequency operation
- 2:1 input range
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

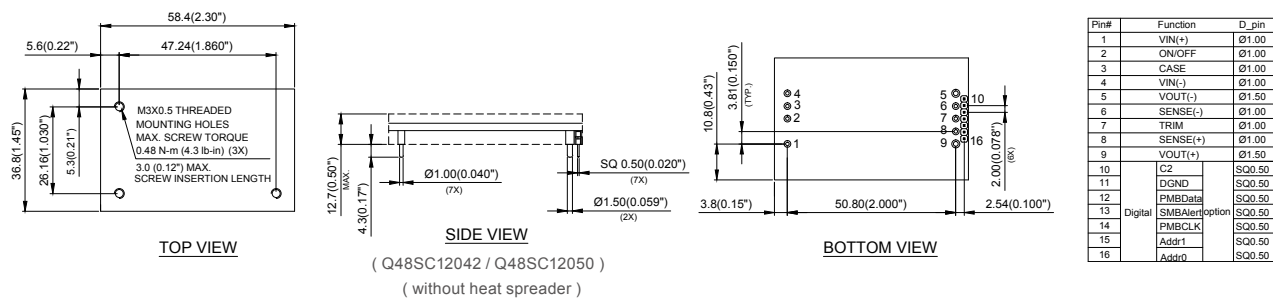
- UL 60950-1 & CSA C22.2 No.60950-1-07



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
Q48SC12025	36~75V	12V	8~13.2V	25A	300W	95.1%	1500V	57.9 x 36.8 x 11.2 mm
Q48SC12033	36~75V	12V	8~13.2V	33A	400W	95.0%	1500V	57.9 x 36.8 x 11.2 mm
Q48SC12042	36~75V	12V	8~13.2V	42A	500W	95.0%	1500V	57.9 x 36.8 x 12.7 mm
Q48SC12050	36~75V	12V	8~13.2V	50A	600W	94.2%	1500V	58.4 x 36.8 x 12.7 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

Q	48	S	C	120	50	N	R	D	H					
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	Pin Assigment	Option Code					
Q - 1/4 Brick	48 - 36~75V	S - Single	C - Family Name	120 - 12V	25 - 25A 33 - 33A 42 - 42A 50 - 50A	P - Positive N - Negative	K - 0.110" N - 0.145" R - 0.170"	D - Digital pins A - Analog pins I - IBC pins T - Trim pins	Trim Pin	Current Sharing	Heat Spreader	Case Pin		
									H	Yes	No	Yes	No	
									I	No	Drop	Yes	No	
									J	No	No	Yes	No	
									R	Yes	No	Yes	Yes	
									S	No	Drop	Yes	Yes	
									T	No	No	Yes	Yes	

Note for mechanical pins option:

1. D - Digital pins: with digital pins & sense pins
2. A - Analog pins: with sense pins, without digital pins
3. I - IBC pins: without digital pins & sense pins
4. T - Trim pins: with digital pins, without sense pins

Q48SK Series

FEATURES

Electrical

- High efficiency
- Max output power is up to 800 watts (4ms)
- Pre-bias startup
- No minimum load required
- External with 450uF minimum capacitance
- Fixed frequency operation
- OTP, Input UVLO, output OCP, OVP
- 1500V isolation and function insulation
- Remote on/off



1/4
brick

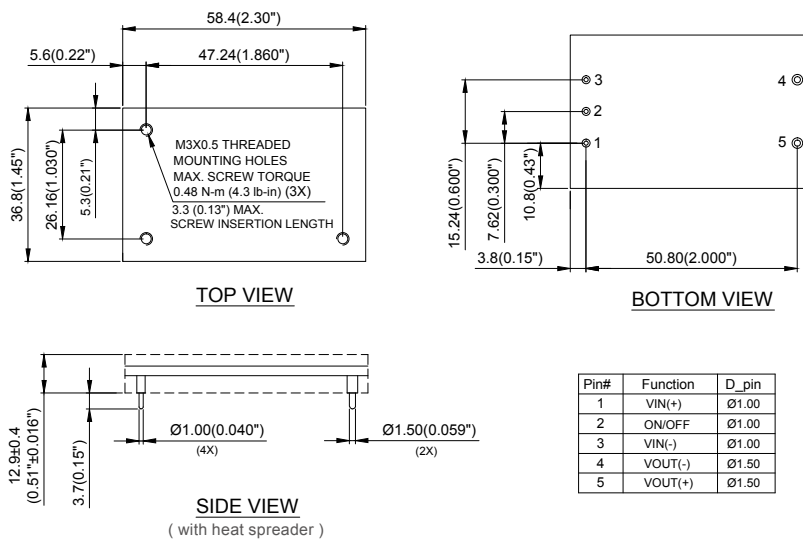
Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) with heat spreader
Q48SK12448	46~60V	12V	-	50A	600W	96.2%	1500V	58.4 x 36.8 x 12.9 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

Q	48	S	K	124	48	N	N	F	B
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
Q - 1/4 Brick	48 - 46~60V	S - Single	K - Family Name	124 - 12V	48 - 50A	N - Negative	N - 0.145"	F - RoHS 6/6 (Lead Free)	B - With heat spreader

Q48SQ Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- 2:1 input range
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

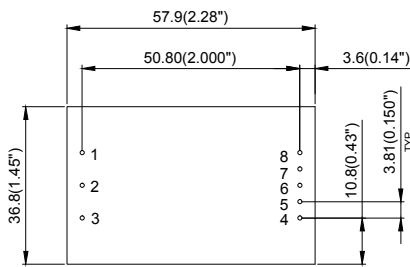
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



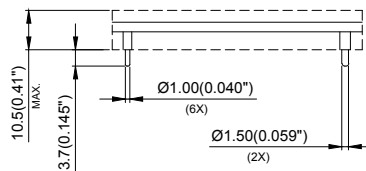
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) without heat spreader
Q48SQ12018	36~75V	12V	9.6~13.2V	18A	216W	95.0%	1500V	57.9 x 36.8 x 10.5 mm
Q48SQ12025	36~75V	12V	9.6~13.2V	25A	300W	95.5%	1500V	57.9 x 36.8 x 11.2 mm
Q48SQ12033	36~75V	12V	9.6~13.2V	33A	400W	95.5%	1500V	57.9 x 36.8 x 13.2 mm

MECHANICAL DRAWING



TOP VIEW



SIDE VIEW
(Q48SQ12018 without heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	SENSE(-)	Ø1.00
6	TRIM	Ø1.00
7	SENSE(+)	Ø1.00
8	VOUT(+)	Ø1.50

PART NUMBERING SYSTEM

Q	48	S	Q	120	18	N	R	F	H
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
Q - 1/4 Brick	48 - 36~75V	S - Single	Q- Family Name	120 - 12V	18 - 18A 25 - 25A 33 - 33A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - with trim/sense pin no heat spreader B - no trim/sense pin no heat spreader H - with trim/sense pin with heat spreader N - no trim/sense pin with heat spreader

Q54SG Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- PMBUS function (optional)

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07



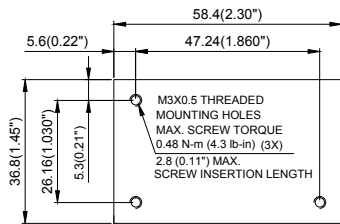
1/4
brick

digital
control

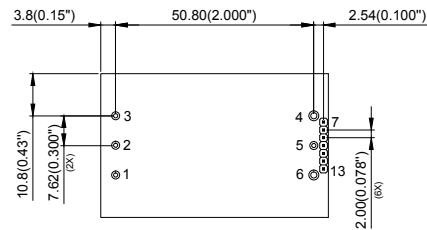
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) with heat spreader
Q54SG12033	42~60V	12V	9.6~13.2V	33A	400W	96.3%	2250V	58.4 x 22.8 x 12.7 mm
Q54SG12050	42~60V	12V	9.6~13.2V	50A	600W	96.7%	2250V	58.4 x 36.8 x 13.2 mm

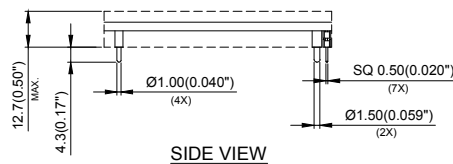
MECHANICAL DRAWING



TOP VIEW



BOTTOM VIEW



SIDE VIEW

(with heat spreader)

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	VIN(-)	Ø1.00
4	VOUT(-)	Ø1.50
5	TRIM	Ø1.00
6	VOUT(+)	Ø1.50
7	C2	SQ0.50
8	Sig_Gnd	SQ0.50
9	Data	SQ0.50
10	Digital SMBAlert option	SQ0.50
11	Clock	SQ0.50
12	Addr1	SQ0.50
13	Addr0	SQ0.50

PART NUMBERING SYSTEM

Q	54	S	G	120	50	N	R	F	G				
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code				
Q- 1/4 Brick	54 - 42~60V	S- Single	G - Family Name	120 - 12V	33 - 33A 50 - 50A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170" Y - 0.200"	F- RoHS 6/6 (Lead Free)		Droop Current Sharing	Trim Pin	PMBus Pin	Heat Spreader
									C	No	Yes	No	Yes
									G	No	Yes	Yes	Yes

H36SA Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- Wide 4:1 input range
- Input UVLO
- Hiccup output over current protection (OCP)
- Hiccup output over voltage protection (OVP)
- Auto recovery OTP
- Monotonic startup into normal and pre-biased loads
- 2828V isolation and basic insulation
- No minimum load required



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

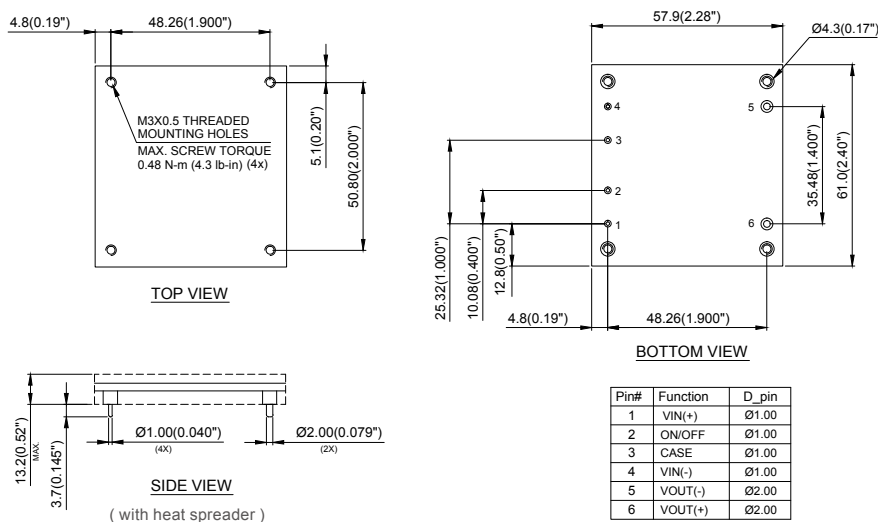
1/2
brick

4:1
input

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH) with heat spreader
H36SA54003	18~75V	54V	48.6~59.4V	3A	162W	93.5%	2828V	61.0 x 57.9x 13.2 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

H	36	S	A	540	03	N	N	F	H
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
H - Half Brick	36 - 18~75V	S - Single	A - Family Name	540 - 54V	03 - 3A	N - Negative P - Positive	N - 0.145"	F - RoHS 6/6 (Lead Free) Space - RoHS 5/6	H - With heat spreader

H48SA Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense (excluding H48SA53010)



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1 / EN 60950-1

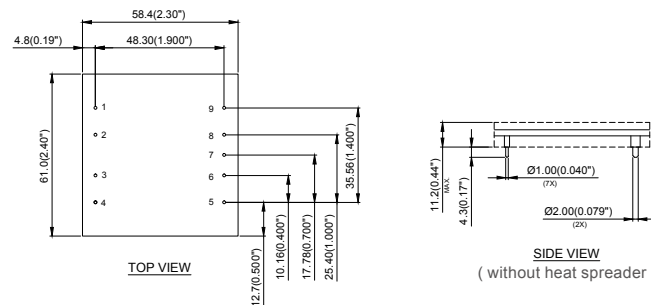


SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
H48SA12025	36~75V	12V	9.6~13.2V	25A	300W	93.2%	2250V	61 x 58.4 x 11.2 mm
H48SA28016	36~75V	28V	14~33V	16A	450W	92.7%	1500V	61 x 57.9 x 12.7 mm
H48SA48003	36~75V	48V	38.4~52.8V	3.2A	150W	92.0%	2250V	61 x 57.9 x 9.8 mm
H48SA53010	38~60V	54V	51.3~56.7V	10.2A	550W	94.2%	2250V	61 x 58.4 x 11.2 mm

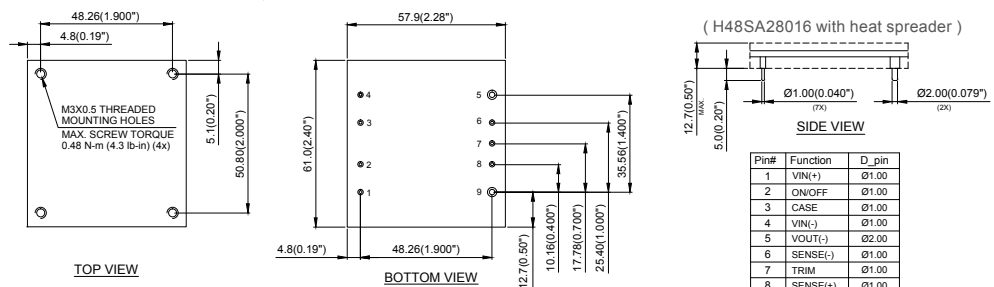
MECHANICAL DRAWING

H48SA12025 H48SA53010



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	CASE	Ø1.00
4	VIN(-)	Ø1.00
5	VOUT(-)	Ø2.00
6	SENSE(-)	Ø1.00
7	TRIM	Ø1.00
8	SENSE(+)	Ø1.00
9	VOUT(+)	Ø2.00

H48SA28016 H48SA48003



Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	CASE	Ø1.00
4	VIN(-)	Ø1.00
5	VOUT(-)	Ø2.00
6	SENSE(-)	Ø1.00
7	TRIM	Ø1.00
8	SENSE(+)	Ø1.00
9	VOUT(+)	Ø2.00

PART NUMBERING SYSTEM

H	48	S	A	120	25	N	N	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
H - Half Brick	48 - 36~75V or 38~60V	S - Single	A - Family Name	120 - 12V 280 - 28V 480 - 48V 530 - 54V	03 - 3.2A 10 - 10.2A 16 - 16A 25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free)	A - Standard Functions H - With heat spreader

H48SC Series

FEATURES

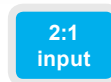
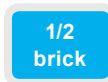
Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Parallel and droop current sharing
- PMBUS function (optional for H48SC28016)



Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1 / EN 60950-1

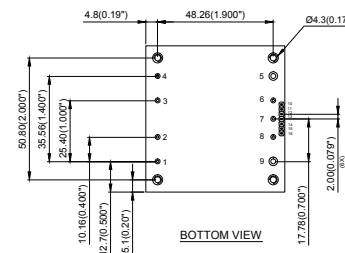
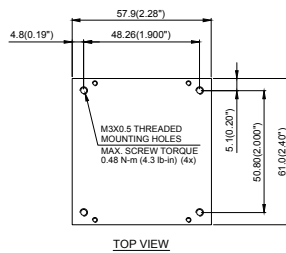


SPECIFICATIONS

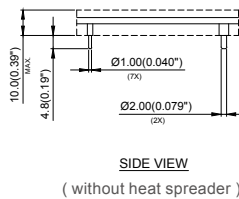
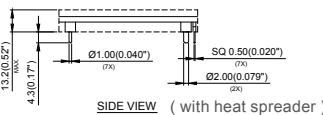
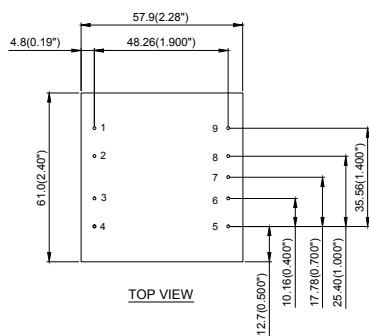
Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
H48SC28016	36~75V	28V	23~33V	16A	450W	95%	1500V	61 x 57.9 x 13.2 mm
H48SC3R325	36~75V	3.3V	2.64~3.63V	25A	82.5W	93%	2250V	61 x 57.9 x 10.0 mm

MECHANICAL DRAWING

H48SC28016



H48SC3R325



Pin#	Function	D_pin	Pin#	Function	D_pin
1	VIN(+)	Ø1.00	10	C2	SQ0.5
2	ON/OFF	Ø1.00	11	DGND	SQ0.5
3	CASE	Ø1.00	12	PMBus	SQ0.5
4	VIN(+)	Ø1.00	13	SMBAlert	SQ0.5
5	VOUT(-)	Ø2.00	14	PMBClk	SQ0.5
6	SENSE(-)	Ø1.00	15	Addr1	SQ0.5
7	TRIM	Ø1.00	16	Addr0	SQ0.5
8	SENSE(+)	Ø1.00			
9	VOUT(+)	Ø2.00			

Pin#	Function	D_pin
1	VIN(+)	Ø1.00
2	ON/OFF	Ø1.00
3	CASE	Ø1.00
4	VIN(+)	Ø1.00
5	VOUT(-)	Ø2.00
6	SENSE(-)	Ø1.00
7	TRIM	Ø1.00
8	SENSE(+)	Ø1.00
9	VOUT(+)	Ø2.00

PART NUMBERING SYSTEM

H	48	S	C	280	16	N	R	F	H
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
H - Half Brick	48 - 36~75V	S - Single	C - Family Name	280 - 28V 3R3 - 3.3V	16 - 16A 25 - 25A	N - Negative P - Positive	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free)	PMBUS pin (10~16pin) Heat Spreader
									A - No B - Yes C - Yes H - No

S36SE Series

FEATURES

Electrical

- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required

Safety & Reliability

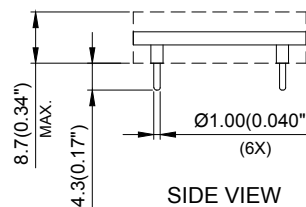
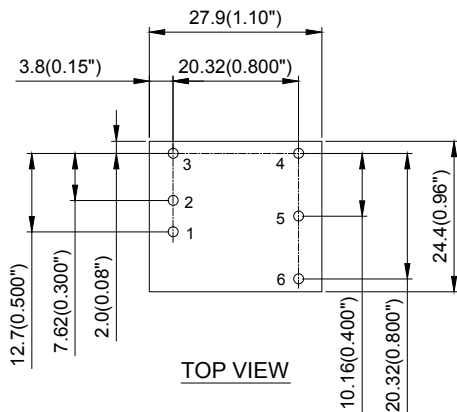
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S36SE3R305	18~75V	3.3V	2.97~3.63V	5A	16.5W	86.5%	2250V	27.9 x 24.4 x 8.7 mm
S36SE05003	18~75V	5V	4.5~5.5V	3A	15W	83.5%	2250V	27.9 x 24.4 x 8.7 mm
S36SE12001	18~75V	12V	10.8~13.2V	1.3A	15.5W	87.0%	2250V	27.9 x 24.4 x 8.7 mm
S36SE12002	36~75V	12V	10.8~13.2V	2A	24W	87.0%	2250V	27.9 x 24.4 x 8.7 mm

MECHANICAL DRAWING



Pin#	Function
1	VIN(+)
2	VIN(-)
3	ON/OFF
4	VOUT(-)
5	TRIM
6	VOUT(+)

PART NUMBERING SYSTEM

S	36	S	E	050	03	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
S - Small Power	36 - 18~75V or 36~75V	S - Single	E - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	01 - 1.3A 02 - 2A 03 - 3A 05 - 5A	N - Negative P - Positive E - No remote on/off control pin	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - No trim pin B - With trim pin (Default)

S48SP Series

FEATURES

Electrical

- High efficiency
- 2:1 input range
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF

Safety & Reliability

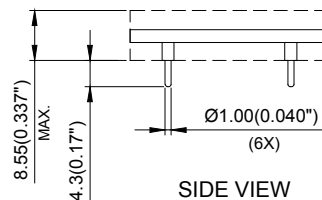
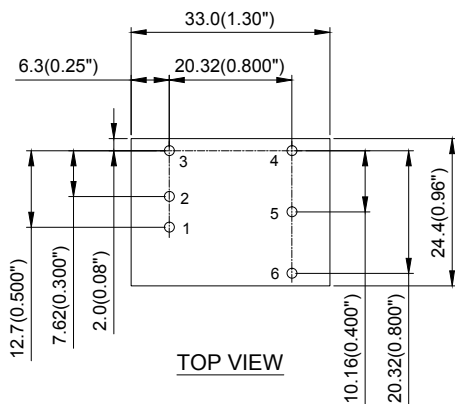
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S48SP3R310	36~75V	3.3V	2.97~3.63V	10A	33W	90.0%	2250V	33.0 x 24.4 x 8.55 mm
S48SP05007	36~75V	5V	4.5~5.5V	7A	35W	90.0%	2250V	33.0 x 24.4 x 8.55 mm
S48SP12003	36~75V	12V	10.8~13.2V	3A	36W	90.0%	2250V	33.0 x 24.4 x 8.55 mm

MECHANICAL DRAWING



Pin#	Function
1	VIN(+)
2	VIN(-)
3	ON/OFF
4	VOU(-)
5	TRIM
6	VOU(+)

PART NUMBERING SYSTEM

S	48	S	P	050	07	N	R	F	B
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
S - Small Power	48 - 36V~75V	S - Single	P - Family Name	3R3 - 3.3V 050 - 5V 120 - 12V	03 - 3A 07 - 7A 10 - 10A	N - Negative P - Positive E - No remote on/off control pin	K - 0.110" N - 0.145" R - 0.170" M - SMD	F - RoHS 6/6 (Lead Free)	A - No trim pin B - With trim pin (Default)

D48SR Series

FEATURES

Electrical

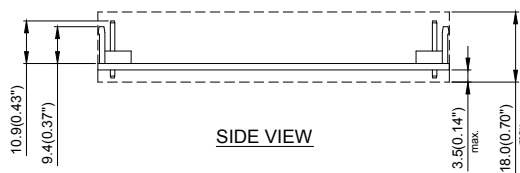
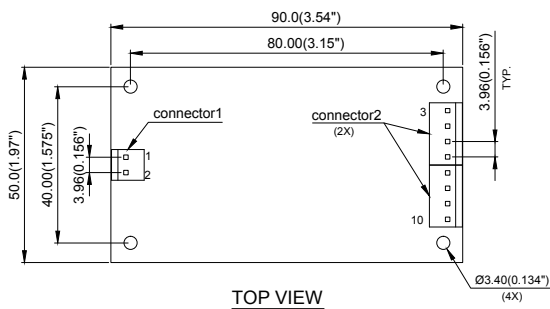
- High efficiency
- Fixed frequency operation
- OTP, Input UVLO, Output OCP, OVP
- Isolation and basic insulation



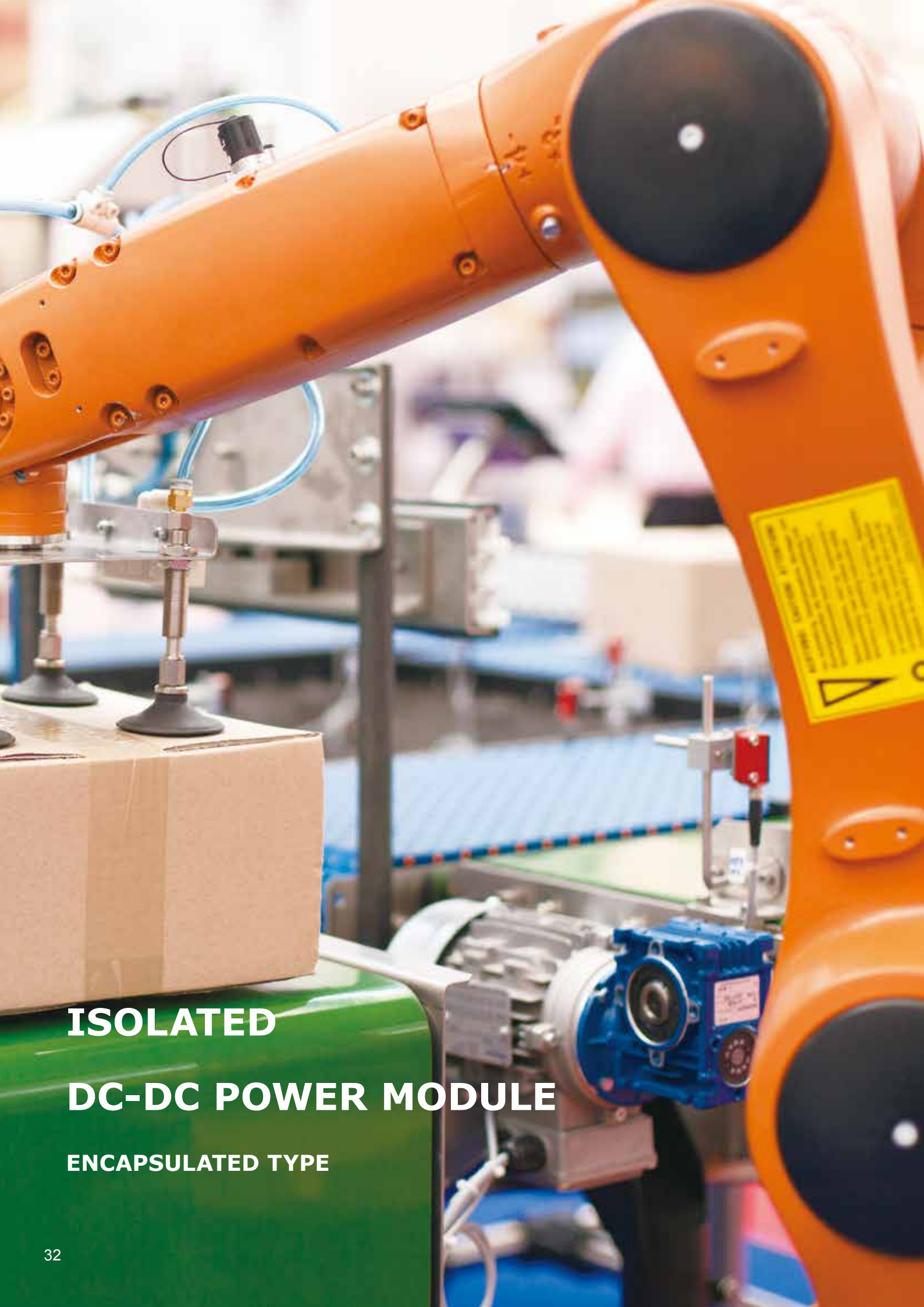
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
D48SR4R215A	44~65V	4.2V	-	15A	63W	91.5%	500V	88 x 48 x 19 mm

MECHANICAL DRAWING



Pin#	Function
1	VIN(+)
2	VIN(-)
3	VOUT(+)
4	VOUT(+)
5	VOUT(-)
6	VOUT(-)
7	VOUT(+)
8	VOUT(+)
9	VOUT(-)
10	VOUT(-)



**ISOLATED
DC-DC POWER MODULE**

ENCAPSULATED TYPE

Product Overview

Delta's expansive product portfolio provides solution capability to meet the specific requirements of industrial application. Products use Delta's creative design topology and patented technologies to achieve extremely high efficiency, low power dissipation and greater reliability. These modules housed in industry standard footprint and pinout are easy to use and available in a fully encapsulated package for harsh environment applications.

HA1SV series is isolated DC-DC power converters designed for various railway applications such as drive controls, power controls, safety monitors and communications systems under the European Standard EN 50155. Delta designed these products with ultra wide input range for optimal performance in extensive transportation market. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance as well as high reliability under extremely harsh operating conditions.

Series	Output Power	Input Voltage	Output Voltage (V)								Max Efficiency	Isolation Voltage	Package	Page	
			3.3	5	12	15	24	48	±12	±15					
S24SE	10~30W	9~36V	•	•	•	•					89%	1600VDC	1"x1"	88	
S24DE	10~30W	9~36V								•	•	88%	1600VDC	1"x1"	89
S24SP	60W	9~36V		•	•	•	•					93%	1500VDC	2"x1"	90
S36SE	15~16.5W	18~75V	•	•	•							93%	2250VDC	1"x1"	91
HA1SV	50~120W	53~154V			•	•	•					89%	3000VDC	1/2 brick	92
HD0SR	600W	200~400V			•		•	•				95%	4242VDC	1/2 brick	93

Series	Output Power	Input Voltage(V)	Output Voltage (V)											Max Efficiency	Isolation Voltage	Package	Page
			3.3	5	9	12	15	24	±5	±9	±12	±15					
DA01S	1W	5,12,24 (±10%)		•	•	•	•							79%	3000VDC	DIP	35
PA01S	1W	3.3, 5,12,24 (±10%)	•	•	•	•	•							80%	1000VDC	SIP	36
PB01S	1W	5,12,15,24 (±10%)	•	•	•	•	•							81%	1000VDC	SIP	37
PB01D								•	•	•	•		38				
PD01S	1W	5,12,24 (±10%)	•	•	•	•	•						81%	3000VDC	SIP	39	
PD01D								•	•	•	•					40	
PE01S	1W	5,12,24 (±10%)		•	•	•	•						88.5%	1000VDC	SIP	41	
PE01D								•	•	•	•					42	
PF01S	1W	5,12,24 (±10%)		•	•	•	•						88%	3000VDC	SIP	43	
PI01S	1W	5,12 (±10%)		•		•	•						75%	3000VAC	SIP	44	
PI01D								•		•	•						
PL01S	1W	4.5-9,9-18, 18-36,36-75		•		•	•						80%	1500VDC	SIP	45	
PL01D										•	•						
SA01S	1W	5,12,24 (±10%)	•	•	•	•	•						82%	1000VDC	SMD	46	
SA01D	1W	5,12,24 (±10%)						•	•	•	•		80%	1000VDC	SMD	47	
SB01S	1W	5,12,24 (±10%)		•		•	•						81%	3000VDC	SMD	48	
SB01D								•		•	•						
SH01S	1W	5,12,15,24 (±10%)	•	•	•	•	•						80%	1500VDC	SMD	49	
SH01D								•		•	•					50	
SK01S	1W	5,12,24,48 (±10%)		•		•	•						82%	1500VDC	SMD	51	
SK01D										•	•						
DB02S	2W	4.5-9,9-18, 18-36,36-75	•	•		•	•						80%	1500VDC	DIP	52	
DB02D								•		•	•					53	
DC02S	2W	5,12,24 (±10%)		•		•	•						64%	6000VDC	DIP	54	
DC02D								•		•	•						
DK02S	2W	5,12,24 (±10%)		•		•	•						75%	4000VAC	DIP	55	
DK02D										•	•						
PC02S	2W	5,12,24 (±10%)	•	•		•	•						83%	1000VDC	SIP	56	
PC02D								•		•	•						
PG02S	2W	4.5-9,9-18, 18-36,36-75	•	•		•							81%	1000VDC	SIP	57	
PH02S	2W	9-36,18-75	•	•		•	•						80%	1500VDC	SIP	58	
PH02D								•		•	•						
SC02S	2W	5,12,24 (±10%)		•		•							82%	1000VDC	SMD	59	
SC02D								•		•	•						
SD02S	2W	4.5-9,9-18, 18-36,36-75	•	•		•	•						81%	1500VDC	SMD	60	
SD02D								•		•	•					61	
SG02S	2W	5,12,24 (±10%)		•		•	•						75%	4000VDC	SMD	62	
SG02D										•	•						

Series	Output Power	Input Voltage(V)	Output Voltage (V)									Max Eff.	Isolation Voltage	Package	Page		
			3.3	5	9	12	15	24	±5	±9	±12					±15	
DD03S DD03D	3W	4.5-9,9-18, 18-36,36-75		•		•	•							81%	1500VDC	DIP	63
DE03S DE03D	3W	4.5-9,9-18, 18-36,36-75	•	•		•	•							84%	1500VDC	DIP	64 65
DK03S DK03D	3W	9-18,18-36,36-75	•	•		•	•							86%	1500VDC	DIP	66 67
DL03S DL03D	3W	9-36,18-75	•	•		•	•							84%	1500VDC	DIP	68
DM03S DM03D	3W	4.5-9,9-18, 18-36,36-75		•		•		•						84%	4000VAC	DIP	69 70
PJ03S PJ03D	3W	4.5-18,9-36,18-75	•	•		•	•							81%	1600VDC	SIP	71 72
SE03S SE03D	3W	9-18,18-36,36-75	•	•		•	•							83%	1500VDC	SMD	73 74
DF04S DF04D	4W	9-36,18-75	•	•		•	•							85%	1500VDC	DIP	75
SF05S SF05D	5W	9-18,18-36,36-75	•	•		•	•							85%	1500VDC	SMD	76 77
DG06S DG06D	6W	4.5-7,9-18, 18-36,36-75	•	•		•	•							86%	1500VDC	DIP	78 79
DH06S DH06D	6W	9-18,18-36,36-75	•	•		•	•	•						84%	1500/3000VDC	DIP	80 81
DJ06S DJ06D	6W	9-36,18-75	•	•		•	•	•						84%	1500/3000VDC	DIP	82
DP06S DP06D	6W	9-18,18-36	•	•		•								86%	1500VDC	DIP	83
DR06S DR06D	6W	9-36,18-75	•	•		•	•							86%	1500VDC	DIP	84
DS06S DS06D	6W	9-36,18-75	•	•		•	•							83%	1500VDC	DIP	85
DU06S DU06D	6W	9-18,18-36,36-75		•		•								80%	4000VAC	DIP	86
DT10S DT10D	10W	9-18,18-36,36-75		•		•								82%	4200VAC	DIP	87

PART NUMBERING SYSTEM

D	A	01	S	05	05	A
Form Factor	Family Series	Output Power	Number of Outputs	Input Voltage	Output Voltage	Option Code
D-DIP P-SIP S-SMD	A~Z - Family Name	01 - 1W 02 - 2W 03 - 3W 04 - 4W 06 - 6W 10 - 10W	S - Single D - Dual	03 - 3.3V 05 - 5V 12 - 12V 15 - 15V 24 - 24V 48 - 48V	03 - 3.3V 05 - 5V or ±5V 09 - 9V or ±9V 12 - 12V or ±12V 15 - 15V or ±15V 24 - 24V or ±24V	A - Standard Functions

DA01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 79%
- High isolation voltage 3000VDC
- Temperature performance -40°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size(5V&12V input):
12.7x7.0x10.2mm (0.50"x0.28"x0.40")
- Case size(24V input):
12.7x8.0x10.2mm (0.50"x0.31"x0.40")

Safety & Reliability

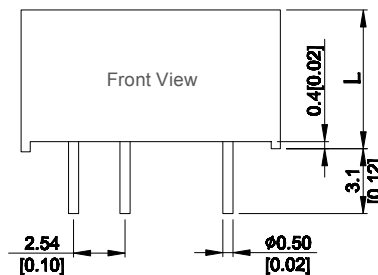
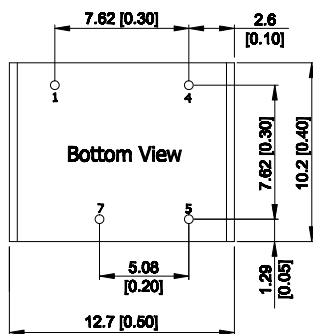
- MTBF > 2MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DA01S0505A	5V (4.5 ~ 5.5V)	5V	200mA	4mA	33uF	69%
DA01S0509A		9V	110mA	2mA	33uF	76%
DA01S0512A		12V	84mA	1.5mA	33uF	77%
DA01S0515A		15V	67mA	1mA	33uF	78%
DA01S1205A	12V (10.8 ~ 13.2V)	5V	200mA	4mA	33uF	71%
DA01S1209A		9V	110mA	2mA	33uF	77%
DA01S1212A		12V	84mA	1.5mA	33uF	79%
DA01S1215A		15V	67mA	1mA	33uF	79%
DA01S2405A	24V (21.6 ~ 26.4V)	5V	200mA	4mA	33uF	70%
DA01S2409A		9V	110mA	2mA	33uF	76%
DA01S2412A		12V	84mA	1.5mA	33uF	79%
DA01S2415A		15V	67mA	1mA	33uF	79%

MECHANICAL DRAWING



Pin	Function
1	-Vin
4	+Vin
5	+Vout
7	-Vout

PA01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 80%
- High isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size(3.3V&5V&12V input):
11.5x6.1x10.2mm (0.45"x0.24"x0.40")
- Case size(24V input):
11.5x7.1x10.2mm (0.45"x0.28"x0.40")

Safety & Reliability

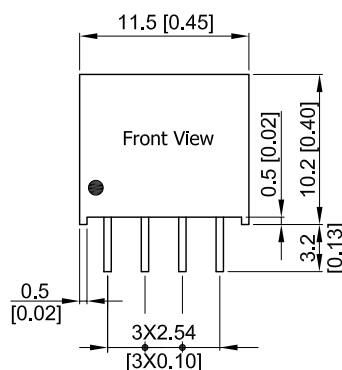
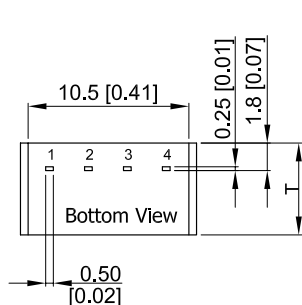
- MTBF > 2MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PA01S0303A	3.3V	3.3V	260mA	6mA	33uF	74%
PA01S0305A	(2.97 ~ 3.63V)	5V	200mA	4mA	33uF	77%
PA01S0503A	5V (4.5 ~ 5.5V)	3.3V	260mA	6mA	33uF	72%
PA01S0505A		5V	200mA	4mA	33uF	69%
PA01S0509A		9V	110mA	2mA	33uF	76%
PA01S0512A		12V	84mA	1.5mA	33uF	77%
PA01S0515A		15V	67mA	1mA	33uF	78%
PA01S1205A	12V (10.8 ~ 13.2V)	5V	200mA	4mA	33uF	71%
PA01S1209A		9V	110mA	2mA	33uF	77%
PA01S1212A		12V	84mA	1.5mA	33uF	79%
PA01S1215A		15V	67mA	1mA	33uF	80%
PA01S2405A	24V (21.6 ~ 26.4V)	5V	200mA	4mA	33uF	70%
PA01S2409A		9V	110mA	2mA	33uF	76%
PA01S2412A		12V	84mA	1.5mA	33uF	79%
PA01S2415A		15V	67mA	1mA	33uF	79%

MECHANICAL DRAWING



Pin	Function
1	-Vin
2	+Vin
3	-Vout
4	+Vout

PB01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 80%
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5V&12V input):
19.5 x 10.2 x 6.1 mm (0.77"x 0.4"x 0.24")
- Case size (15V&24V input):
19.5 x 10.2 x 7.1 mm (0.77"x 0.4"x 0.28")

Safety & Reliability

- MTBF > 2MHours



SIP

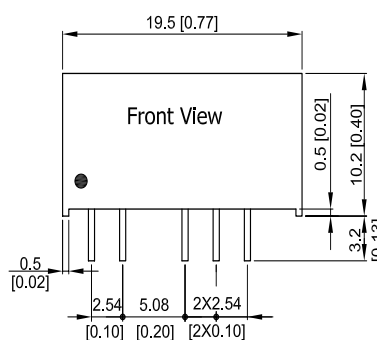
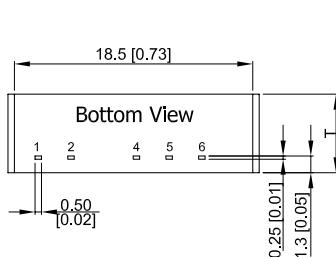
single
output

RoHS

SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PB01S0503A	5V (4.5 ~ 5.5V)	3.3V	260mA	5mA	220uF	73%
PB01S0505A		5V	200mA	4mA	220uF	71%
PB01S0509A		9V	110mA	2mA	220uF	76%
PB01S0512A		12V	84mA	1.5mA	220uF	78%
PB01S0515A		15V	67mA	1mA	220uF	78%
PB01S1203A	12V (10.8 ~ 13.2V)	3.3V	260mA	5mA	220uF	74%
PB01S1205A		5V	200mA	4mA	220uF	73%
PB01S1209A		9V	110mA	2mA	220uF	78%
PB01S1212A		12V	84mA	1.5mA	220uF	80%
PB01S1215A		15V	67mA	1mA	220uF	80%
PB01S1505A	15V (13.5 ~ 16.5V)	5V	200mA	4mA	220uF	72%
PB01S1512A		12V	84mA	1.5mA	220uF	79%
PB01S1515A		15V	67mA	1mA	220uF	79%
PB01S2403A	24V (21.6 ~ 26.4V)	3.3V	260mA	5mA	220uF	73%
PB01S2405A		5V	200mA	4mA	220uF	71%
PB01S2409A		9V	110mA	2mA	220uF	76%
PB01S2412A		12V	84mA	1.5mA	220uF	78%
PB01S2415A		15V	67mA	1mA	220uF	79%

MECHANICAL DRAWING



Pin	Function
1	+Vin
2	-Vin
4	-Vout
5	No Pin
6	+Vout

PB01D Series

FEATURES

Electrical

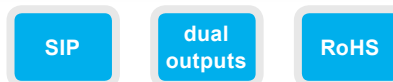
- 1W output
- Efficiency up to 81%
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5V&12V input):
19.5 x 10.2 x 6.1 mm (0.77"x 0.4"x 0.24")
- Case size (15V&24V input):
19.5 x 10.2 x 7.1 mm (0.77"x 0.4"x 0.28")

Safety & Reliability

- MTBF > 2MHours

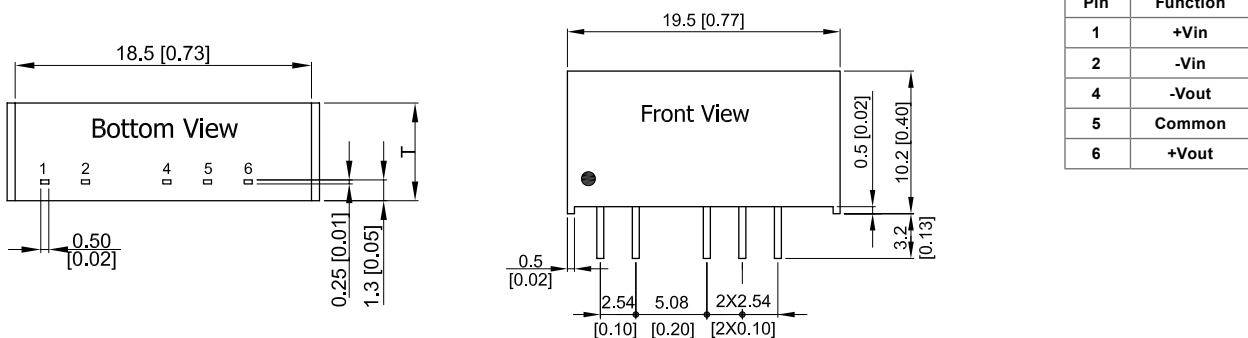


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PB01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2.0mA*	100uF*	72%
PB01D0509A		±9V	56mA*	1.0mA*	100uF*	77%
PB01D0512A		±12V	42mA*	0.8mA*	100uF*	78%
PB01D0515A		±15V	34mA*	0.7mA*	100uF*	79%
PB01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2.0mA*	100uF*	74%
PB01D1209A		±9V	56mA*	1.0mA*	100uF*	79%
PB01D1212A		±12V	42mA*	0.8mA*	100uF*	81%
PB01D1215A		±15V	34mA*	0.7mA*	100uF*	81%
PB01D1505A	15V (13.5 ~ 16.5V)	±5V	100mA*	2.0mA*	100uF*	72%
PB01D1512A		±12V	42mA*	0.8mA*	100uF*	80%
PB01D1515A		±15V	34mA*	0.7mA*	100uF*	80%
PB01D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	2.0mA*	100uF*	72%
PB01D2409A		±9V	56mA*	1.0mA*	100uF*	76%
PB01D2412A		±12V	42mA*	0.8mA*	100uF*	79%
PB01D2415A		±15V	34mA*	0.7mA*	100uF*	80%

* for each output

MECHANICAL DRAWING



PD01S Series

FEATURES

Electrical

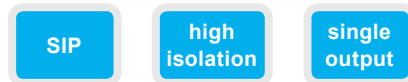
- 1W output
- Efficiency up to 80%
- High isolation voltage 3000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5V&12V input):
19.5 x 10.2 x 6.1 mm (0.77"x 0.4"x 0.24")
- Case size (15V&24V input):
19.5 x 10.2 x 7.1 mm (0.77"x 0.4"x 0.28")

Safety & Reliability

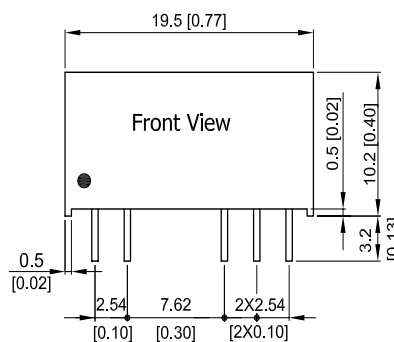
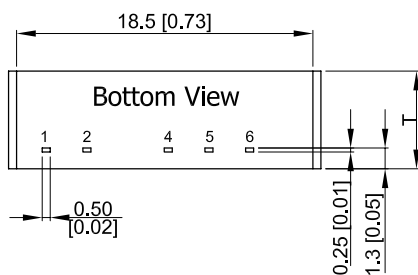
- MTBF > 2MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PD01S0503A	5V (4.5 ~ 5.5V)	3.3V	260mA	5mA	220uF	73%
PD01S0505A		5V	200mA	4mA	220uF	71%
PD01S0509A		9V	110mA	2mA	220uF	76%
PD01S0512A		12V	84mA	1.5mA	220uF	78%
PD01S0515A		15V	67mA	1mA	220uF	78%
PD01S1203A	12V (10.8 ~ 13.2V)	3.3V	260mA	5mA	220uF	74%
PD01S1205A		5V	200mA	4mA	220uF	73%
PD01S1209A		9V	110mA	2mA	220uF	78%
PD01S1212A		12V	84mA	1.5mA	220uF	80%
PD01S1215A		15V	67mA	1mA	220uF	80%
PD01S2403A	24V (21.6 ~ 26.4V)	3.3V	260mA	5mA	220uF	73%
PD01S2405A		5V	200mA	4mA	220uF	71%
PD01S2409A		9V	110mA	2mA	220uF	76%
PD01S2412A		12V	84mA	1.5mA	220uF	78%
PD01S2415A		15V	67mA	1mA	220uF	79%

MECHANICAL DRAWING



Pin	Function
1	+Vin
2	-Vin
5	-Vout
6	No Pin
7	+Vout

PD01D Series

FEATURES

Electrical

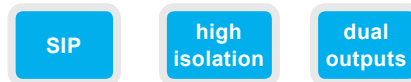
- 1W output
- Efficiency up to 81%
- High isolation voltage 3000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5V&12V input):
19.5 x 10.2 x 6.1 mm (0.77"x 0.4"x 0.24")
- Case size (15V&24V input):
19.5 x 10.2 x 7.1 mm (0.77"x 0.4"x 0.28")

Safety & Reliability

- MTBF > 2MHours

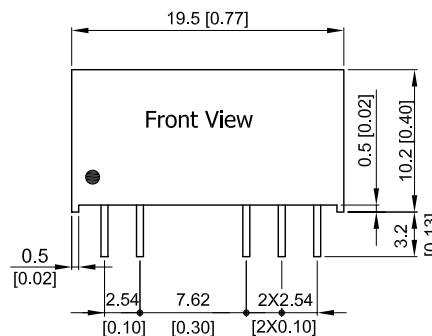
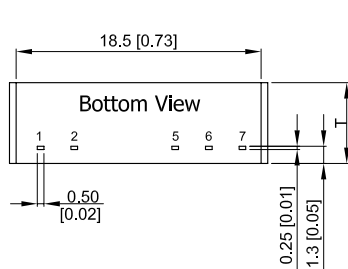


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PD01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2.0mA*	100uF*	72%
PD01D0509A		±9V	56mA*	1.0mA*	100uF*	77%
PD01D0512A		±12V	42mA*	0.8mA*	100uF*	78%
PD01D0515A		±15V	34mA*	0.7mA*	100uF*	79%
PD01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2.0mA*	100uF*	74%
PD01D1209A		±9V	56mA*	1.0mA*	100uF*	79%
PD01D1212A		±12V	42mA*	0.8mA*	100uF*	81%
PD01D1215A		±15V	34mA*	0.7mA*	100uF*	81%
PD01D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	2.0mA*	100uF*	72%
PD01D2409A		±9V	56mA*	1.0mA*	100uF*	76%
PD01D2412A		±12V	42mA*	0.8mA*	100uF*	79%
PD01D2415A		±15V	34mA*	0.7mA*	100uF*	80%

* for each output

MECHANICAL DRAWING



Pin	Function
1	+Vin
2	-Vin
5	-Vout
6	Common
7	+Vout

PE01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 88.5%
- Semi-regulated output voltage
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5&12V input):
19.5x6.1x10.2mm (0.77"x0.24"x0.40")
- Case size (24V input):
19.5x7.1x10.2mm (0.77"x0.28"x0.40")

Safety & Reliability

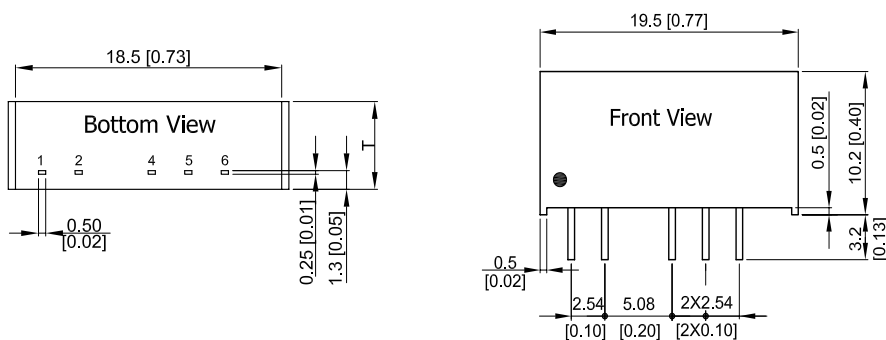
- CSA60950-1 safety approval
- MTBF > 2MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PE01S0505A	5V (4.5 ~ 5.5V)	5V	200mA	4mA	220uF	84.0%
PE01S0509A		9V	110mA	2mA	220uF	87.0%
PE01S0512A		12V	84mA	1.5mA	220uF	87.0%
PE01S0515A	12V (10.8 ~ 13.2V)	15V	67mA	1mA	220uF	87.5%
PE01S1205A		5V	200mA	4mA	220uF	84.0%
PE01S1209A		9V	110mA	2mA	220uF	86.5%
PE01S1212A	24V (21.6 ~ 26.4V)	12V	84mA	1.5mA	220uF	88.5%
PE01S1215A		15V	67mA	1mA	220uF	88.0%
PE01S2405A		5V	200mA	4mA	220uF	84.0%
PE01S2409A	24V (21.6 ~ 26.4V)	9V	110mA	2mA	220uF	86.5%
PE01S2412A		12V	84mA	1.5mA	220uF	87.5%
PE01S2415A		15V	67mA	1mA	220uF	87.5%

MECHANICAL DRAWING



Pin	Function
1	+Vin
2	-Vin
4	-Vout
5	No Pin
6	+Vout

PE01D Series

FEATURES

Electrical

- 1W output
- Efficiency up to 88.5%
- Semi-regulated output voltage
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5&12V input):
19.5x6.1x10.2mm (0.77"x0.24"x0.40")
- Case size (24V input):
19.5x7.1x10.2mm (0.77"x0.28"x0.40")

Safety & Reliability

- CSA60950-1 safety approval
- MTBF > 2MHours

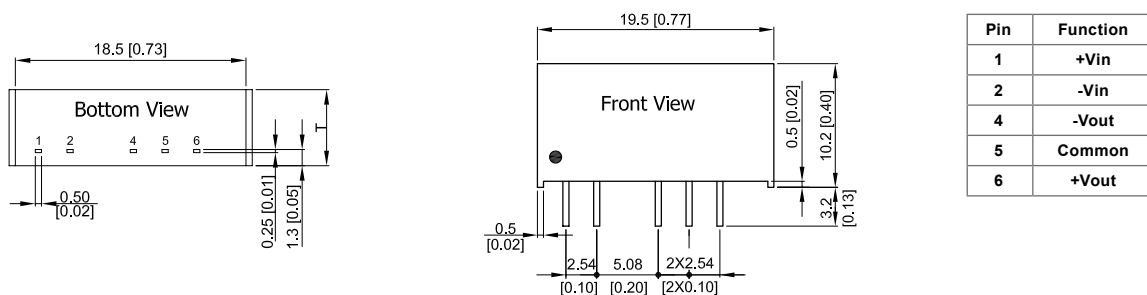


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PE01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2.0mA*	100uF*	84.5%
PE01D0509A		±9V	56mA*	1.0mA*	100uF*	86.0%
PE01D0512A		±12V	42mA*	0.8mA*	100uF*	86.5%
PE01D0515A	12V (10.8 ~ 13.2V)	±15V	34mA*	0.7mA*	100uF*	86.5%
PE01D1205A		±5V	100mA*	2.0mA*	100uF*	84.5%
PE01D1209A		±9V	56mA*	1.0mA*	100uF*	86.0%
PE01D1212A	24V (21.6 ~ 26.4V)	±12V	42mA*	0.8mA*	100uF*	88.5%
PE01D1215A		±15V	34mA*	0.7mA*	100uF*	87.5%
PE01D2405A		±5V	100mA*	2.0mA*	100uF*	83.5%
PE01D2409A	24V (21.6 ~ 26.4V)	±9V	56mA*	1.0mA*	100uF*	86.0%
PE01D2412A		±12V	42mA*	0.8mA*	100uF*	87.0%
PE01D2415A		±15V	34mA*	0.7mA*	100uF*	87.0%

* for each output

MECHANICAL DRAWING



PF01S Series

FEATURES

Electrical

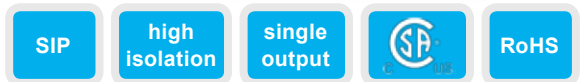
- 1W output
- Efficiency up to 88%
- Semi-regulated output voltage
- High isolation voltage 3000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size (5V&12V input):
19.5x10.2x6.1 mm (0.77"x 0.4"x 0.24")
- Case size (15V&24V input):
19.5x10.2x7.1 mm (0.77"x 0.4"x 0.28")

Safety & Reliability

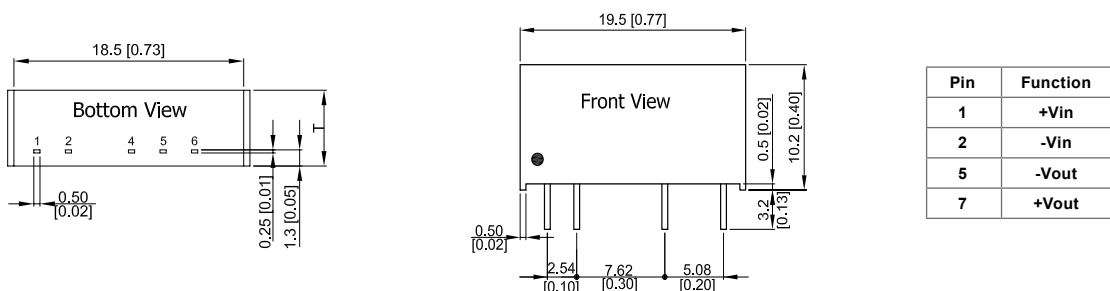
- UL/IEC/EN 60950-1 Safety
- CSA / NRTL60950-1 safety approval
- MTBF > 2MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PF01S0505A	5V (4.5 ~ 5.5V)	5V	200mA	4mA	220uF	84.0%
PF01S0509A		9V	110mA	2mA	220uF	86.5%
PF01S0512A		12V	84mA	1.5mA	220uF	87.0%
PF01S0515A	12V (10.8 ~ 13.2V)	15V	67mA	1mA	220uF	87.5%
PF01S1205A		5V	200mA	4mA	220uF	84.0%
PF01S1209A		9V	110mA	2mA	220uF	86.0%
PF01S1212A	24V (21.6 ~ 26.4V)	12V	84mA	1.5mA	220uF	88.0%
PF01S1215A		15V	67mA	1mA	220uF	88.0%
PF01S2405A		5V	200mA	4mA	220uF	84.0%
PF01S2409A		9V	110mA	2mA	220uF	86.5%
PF01S2412A		12V	84mA	1.5mA	220uF	87.5%
PF01S2415A		15V	67mA	1mA	220uF	87.5%

MECHANICAL DRAWING



PI01S/PI01D Series

FEATURES

Electrical

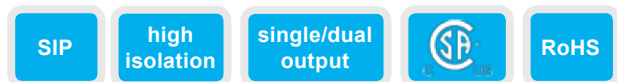
- 1W output
- Efficiency up to 75%
- High isolation voltage 3000VACrms
- Low isolation capacitance
- Operating temperature range -25°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size: 22x7.5x12.5 mm

Safety & Reliability

- CSA60950-1 safety approval
- MTBF > 2MHours



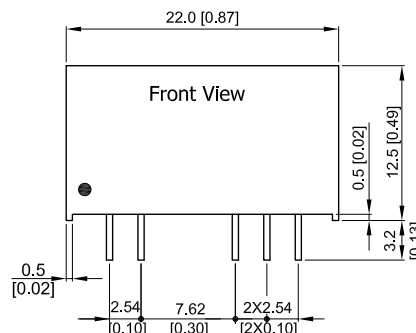
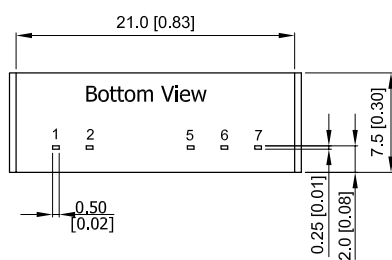
SPECIFICATIONS

Number Number	Input Voltage Range	Output Voltage	Output Current		Max. capacitive Load	Efficiency
			Max.	Min.		
PI01S0505A	5V (4.5 ~ 5.5V)	5V	200mA	4mA	680uF	66%
PI01S0512A		12V	80mA	2mA	680uF	66%
PI01S0515A		15V	65mA	1mA	680uF	66%
PI01S1205A	12V (10.8 ~ 13.2V)	5V	200mA	4mA	680uF	66%
PI01S1212A		12V	80mA	2mA	680uF	66%
PI01S1215A		15V	65mA	1mA	680uF	66%

Number Number	Input Voltage Range	Output Voltage	Output Current		Max. capacitive Load	Efficiency
			Max.	Min.		
PI01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2mA*	220uF*	66%
PI01D0512A		±12V	40mA*	1mA*	220uF*	72%
PI01D0515A		±15V	35mA*	1mA*	220uF*	73%
PI01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2mA*	220uF*	66%
PI01D1212A		±12V	40mA*	1mA*	220uF*	74%
PI01D1215A		±15V	35mA*	1mA*	220uF*	75%

* for each output

MECHANICAL DRAWING



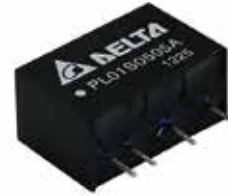
Pin Functions		
Pin	Single Output	Dual Outputs
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Common
7	+Vout	+Vout

PL01S/PL01D Series

FEATURES

Electrical

- 1W output
- Efficiency up to 80%
- Wide 2:1 input range
- Fully regulated outputs
- Isolation voltage 1500VDC
- Low ripple and noise
- Short circuit protection
- Operating temperature range -40°C to +85°C

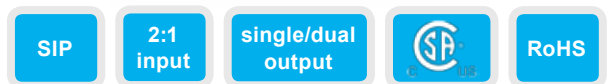


Mechanical

- SIP package with industry standard pinout
- Case size: 17.0x7.62x11.0mm (0.67"x0.30"x0.43")

Safety & Reliability

- CSA60950-1 safety approval

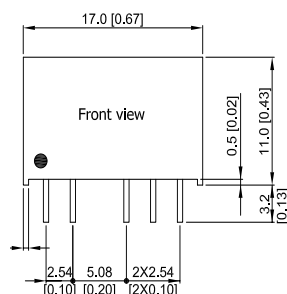
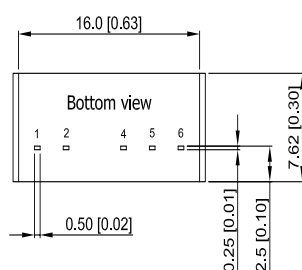


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PL01S0505A	5V (4.5 ~ 9V)	5V	200mA	0mA	1680uF	76%
PL01S0512A		12V	83mA	0mA	820uF	77%
PL01S0515A		15V	67mA	0mA	680uF	79%
PL01S1205A	12V (9 ~ 18V)	5V	200mA	0mA	1680uF	77%
PL01S1212A		12V	83mA	0mA	820uF	77%
PL01S1215A		15V	67mA	0mA	680uF	80%
PL01S2405A	24V (18 ~ 36V)	5V	200mA	0mA	1680uF	77%
PL01S2412A		12V	83mA	0mA	820uF	80%
PL01S2415A		15V	67mA	0mA	680uF	80%
PL01S4805A	48V (36 ~ 75V)	5V	200mA	0mA	1680uF	77%
PL01S4812A		12V	83mA	0mA	820uF	78%
PL01S4815A		15V	67mA	0mA	680uF	78%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PL01D0512A	5V (4.5 ~ 9V)	±12V	42mA*	0mA	470uF*	77%
PL01D0515A		±15V	33mA*	0mA	330uF*	78%
PL01D1212A	12V (9 ~ 18V)	±12V	42mA*	0mA	470uF*	79%
PL01D1215A		±15V	33mA*	0mA	330uF*	78%
PL01D2412A	24V (18 ~ 36V)	±12V	42mA*	0mA	470uF*	80%
PL01D2415A		±15V	33mA*	0mA	330uF*	80%
PL01D4812A	48V (36 ~ 75V)	±12V	42mA*	0mA	470uF*	79%
PL01D4815A		±15V	33mA*	0mA	330uF*	79%

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	+Vin	+Vin
4	+Vout	+Vout
5	No Pin	Common
6	-Vout	-Vout

* for each output



SA01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 82%
- Isolation voltage 1000VDC
- Low ripple and noise
- Operating temperature range -40° to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size (5V&12V input):
12.7x8.0x6.8mm (0.50"x0.31"x0.27")
- Case size (24V input):
12.7x8.3x7.8mm (0.50"x0.33"x0.31")

Safety & Reliability

- Moisture sensitivity level (MSL) 3



SMD

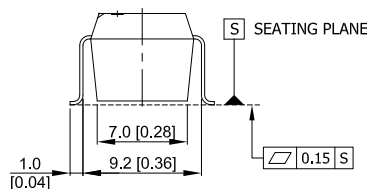
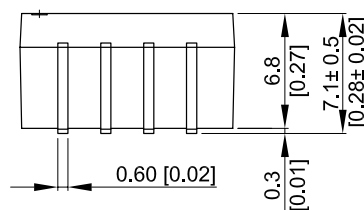
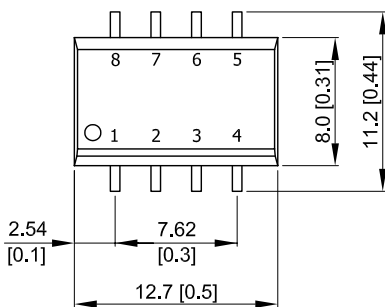
single output

RoHS

SPECIFICATIONS

Model Number	Input Voltage	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SA01S0503A	5V (4.5 ~ 5.5V)	3.3V	300mA	6mA	33uF	75%
SA01S0505A		5V	200mA	4mA	33uF	80%
SA01S0509A		9V	110mA	2mA	33uF	78%
SA01S0512A		12V	84mA	1.5mA	33uF	80%
SA01S0515A		15V	67mA	1mA	33uF	81%
SA01S1203A	12V (10.8 ~ 13.2V)	3.3V	300mA	6mA	33uF	75%
SA01S1205A		5V	200mA	4mA	33uF	81%
SA01S1209A		9V	110mA	2mA	33uF	78%
SA01S1212A		12V	84mA	1.5mA	33uF	81%
SA01S1215A		15V	67mA	1mA	33uF	82%
SA01S2403A	24V (21.6 ~ 26.4V)	3.3V	300mA	6mA	33uF	73%
SA01S2405A		5V	200mA	4mA	33uF	79%
SA01S2409A		9V	110mA	2mA	33uF	77%
SA01S2412A		12V	84mA	1.5mA	33uF	80%
SA01S2415A		15V	67mA	1mA	33uF	80%

MECHANICAL DRAWING



Pin Functions	
Pin	Function
1	-Vin
2	+Vin
3	NA
4	-Vout
5	+Vout
6	NA
7	NA
8	NA
NA : Not Available for Electrical Connection	

SA01D Series

FEATURES

Electrical

- 1W output
- Efficiency up to 80%
- Isolation voltage 1000VDC
- Low ripple and noise
- Operating temperature range -40° to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size (5V&12V input):
15.24x8.0x6.8mm (0.60"x0.31"x0.27")
- Case size (24V input):
15.24x8.3x7.8mm (0.60"x0.33"x0.31")

Safety & Reliability

- Moisture sensitivity level (MSL) 3



SMD

dual outputs

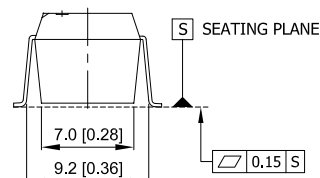
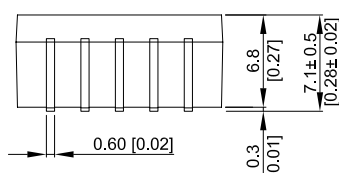
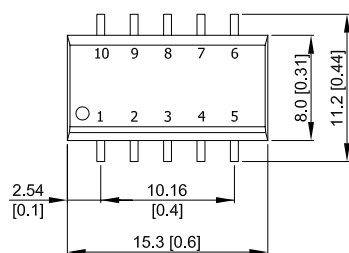
RoHS

SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SA01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2mA*	33uF*	75%
SA01D0509A		±9V	55mA*	1mA*	33uF*	76%
SA01D0512A		±12V	42mA*	0.8mA*	33uF*	79%
SA01D0515A		±15V	33mA*	0.7mA*	33uF*	79%
SA01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2mA*	33uF*	75%
SA01D1209A		±9V	55mA*	1mA*	33uF*	76%
SA01D1212A		±12V	42mA*	0.8mA*	33uF*	80%
SA01D1215A		±15V	33mA*	0.7mA*	33uF*	80%
SA01D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	2mA*	33uF*	74%
SA01D2409A		±9V	55mA*	1mA*	33uF*	75%
SA01D2412A		±12V	42mA*	0.8mA*	33uF*	79%
SA01D2415A		±15V	33mA*	0.7mA*	33uF*	79%

* for each output

MECHANICAL DRAWING



Pin Functions	
Pin	Function
1	-Vin
2	+Vin
3	NA
4	Common
5	-Vout
6	NA
7	+Vout
8	NA
9	NA
10	NA

NA : Not Available for Electrical Connection

SB01S/SB01D Series

FEATURES

Electrical

- 1W output
- Efficiency up to 81%
- High isolation voltage 3000VDC
- Low ripple and noise
- Operating temperature range -40° to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 15.3x8.0x6.75mm (0.60"x0.31"x0.27")

Safety & Reliability

- Moisture sensitivity level (MSL) 3

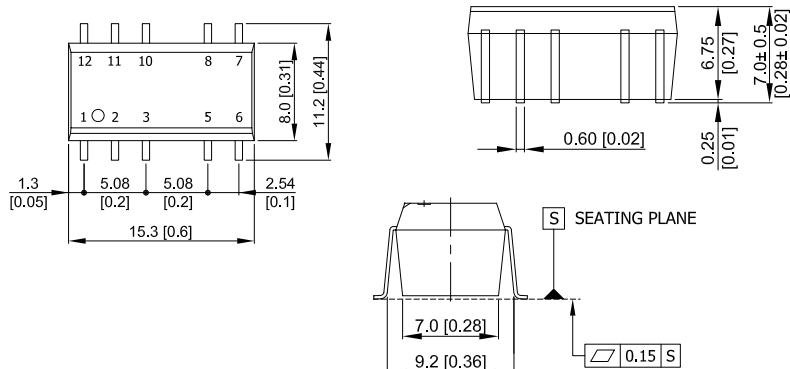


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SB01S0505A	5V (4.5 ~ 5.5V)	5V	200mA	4mA	33uF	71%
SB01S0512A		12V	84mA	1.5mA	4.7uF	78%
SB01S0515A		15V	67mA	1mA	4.7uF	78%
SB01S1205A	12V (10.8 ~ 13.2V)	5V	200mA	4mA	33uF	71%
SB01S1212A		12V	84mA	1.5mA	4.7uF	79%
SB01S1215A		15V	67mA	1mA	4.7uF	80%
SB01S2405A	24V (21.6 ~ 26.4V)	5V	200mA	4mA	33uF	71%
SB01S2412A		12V	84mA	1.5mA	4.7uF	78%
SB01S2415A		15V	67mA	1mA	4.7uF	79%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SB01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2.0mA*	10uF*	72%
SB01D0512A		±12V	42mA*	0.8mA*	2.2uF*	78%
SB01D0515A		±15V	34mA*	0.7mA*	2.2uF*	79%
SB01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2.0mA*	10uF*	74%
SB01D1212A		±12V	42mA*	0.8mA*	2.2uF*	80%
SB01D1215A		±15V	34mA*	0.7mA*	2.2uF*	81%
SB01D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	2.0mA*	10uF*	72%
SB01D2412A		±12V	42mA*	0.8mA*	2.2uF*	79%
SB01D2415A		±15V	34mA*	0.7mA*	2.2uF*	80%

MECHANICAL DRAWING



* for each output

Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	+Vin	+Vin
3	NA	NA
5	-Vout	Common
6	NA	-Vout
7	NA	NA
8	+Vout	+Vout
10	NA	NA
11	NA	NA
12	NA	NA

NA : Not Available for Electrical Connection

SH01S Series

FEATURES

Electrical

- 1W output
- Efficiency up to 80%
- Isolation voltage 1500VDC
- High accuracy of Pin planarity
- Operating temperature range -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 13.7x8.0x6.7 mm (0.54"x0.31"x0.26")

Safety & Reliability

- Moisture sensitivity level (MSL) 2



SMD

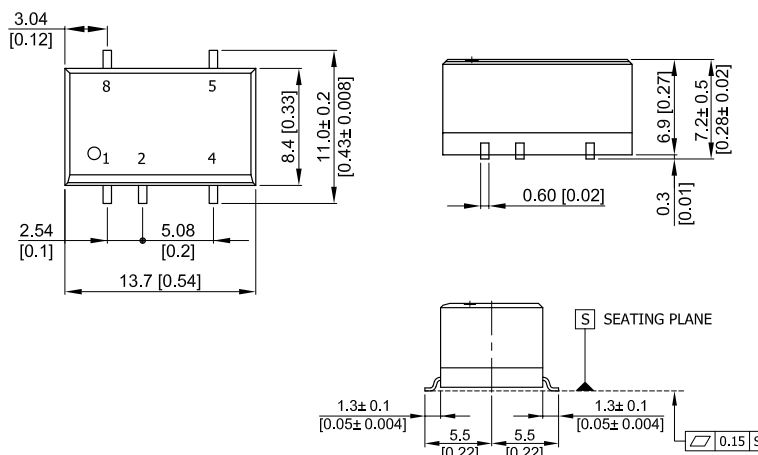
single output

RoHS

SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SH01S0503A	5V (4.5 ~ 5.5V)	3.3V	300mA	6mA	33uF	73%
SH01S0505A		5V	200mA	4mA	33uF	78%
SH01S0509A		9V	110mA	2mA	33uF	78%
SH01S0512A		12V	84mA	1.5mA	33uF	78%
SH01S0515A		15V	67mA	1mA	33uF	79%
SH01S1203A	12V (10.8 ~ 13.2V)	3.3V	300mA	6mA	33uF	74%
SH01S1205A		5V	200mA	4mA	33uF	76%
SH01S1209A		9V	110mA	2mA	33uF	78%
SH01S1212A		12V	84mA	1.5mA	33uF	79%
SH01S1215A		15V	67mA	1mA	33uF	80%
SH01S1512A	15V (13.5 ~ 16.5V)	12V	84mA	1.5mA	33uF	78%
SH01S1515A		15V	67mA	1mA	33uF	78%
SH01S2403A		3.3V	300mA	6mA	33uF	72%
SH01S2405A	24V (21.6 ~ 26.4V)	5V	200mA	4mA	33uF	78%
SH01S2409A		9V	110mA	2mA	33uF	77%
SH01S2412A		12V	84mA	1.5mA	33uF	77%
SH01S2415A		15V	67mA	1mA	33uF	79%

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	+Vin	+Vin
3	No Pin	No Pin
4	-Vout	Common
5	+Vout	-Vout
6	No Pin	No Pin
7	No Pin	+Vout
8	NA	No Pin
9	---	No Pin
10	---	NA

NA : Not Available for Electrical Connection

SH01D Series

FEATURES

Electrical

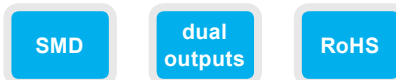
- 1W output
- Efficiency up to 79%
- Isolation voltage 1500VDC
- High accuracy of Pin planarity
- Operating temperature range -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 16.24x8.0x6.7 mm (0.64"x0.31"x0.26")

Safety & Reliability

- Moisture sensitivity level (MSL) 2

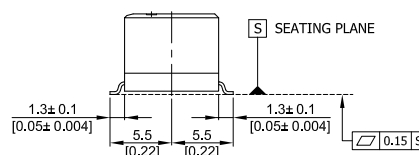
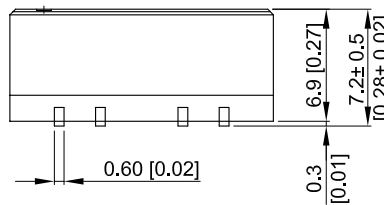
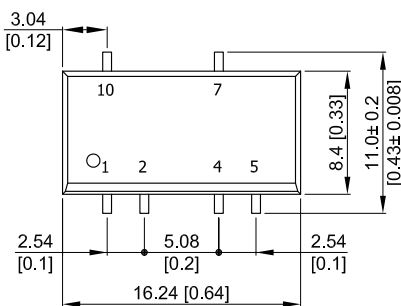


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SH01D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	2.0mA*	33uF*	74%
SH01D0512A		±12V	42mA*	0.8mA*	33uF*	78%
SH01D0515A		±15V	33mA*	0.7mA*	33uF*	78%
SH01D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	2.0mA*	33uF*	74%
SH01D1212A		±12V	42mA*	0.8mA*	33uF*	78%
SH01D1215A		±15V	33mA*	0.7mA*	33uF*	79%
SH01D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	2.0mA*	33uF*	73%
SH01D2412A		±12V	42mA*	0.8mA*	33uF*	78%
SH01D2415A		±15V	33mA*	0.7mA*	33uF*	78%

* for each output

MECHANICAL DRAWING



Pin Functions	
Pin	Dual Output
1	-Vin
2	+Vin
3	No Pin
4	Common
5	-Vout
6	No Pin
7	+Vout
8	No Pin
9	No Pin
10	NA
NA : Not Available for Electrical Connection	

SK01S/SK01D Series

FEATURES

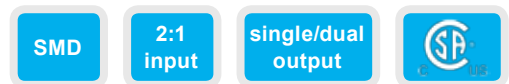
Electrical

- 1W output
- Efficiency up to 82%
- Isolation voltage 1500VDC
- Wide 2:1 input range
- Fully regulated outputs
- Low ripple and noise
- Operating temperature range -40°C to +85°C
- Continuous short-circuit protection
- Remote On/Off control



Mechanical

- Ultra compact SMD package
- Case size: 18.9x13.7x8.45mm (0.74"x0.54"x0.33")



Safety & Reliability

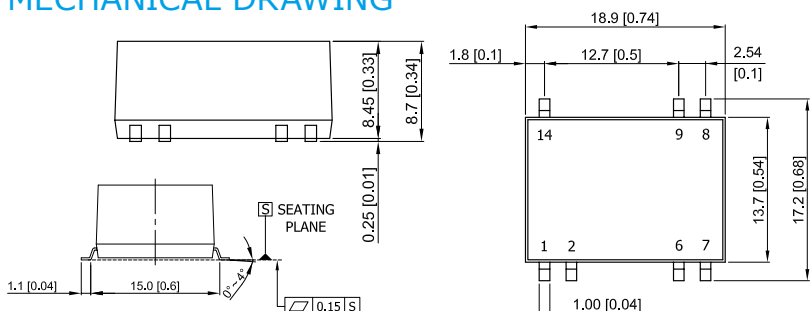
- CSA60950-1 safety approval

SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SK01S0505A	5V (4.5~9V)	5V	0.200mA	0mA	1680uF	78%
SK01S0512A		12V	0.083mA	0mA	820uF	79%
SK01S0515A		15V	0.067mA	0mA	680uF	81%
SK01S1205A	12V (9 ~ 18V)	5V	0.200mA	0mA	1680uF	79%
SK01S1212A		12V	0.083mA	0mA	820uF	79%
SK01S1215A		15V	0.067mA	0mA	680uF	82%
SK01S2405A	24V (18 ~ 36V)	5V	0.200mA	0mA	1680uF	79%
SK01S2412A		12V	0.083mA	0mA	820uF	82%
SK01S2415A		15V	0.067mA	0mA	680uF	82%
SK01S4805A	48V (36~75V)	5V	0.200mA	0mA	1680uF	79%
SK01S4812A		12V	0.083mA	0mA	820uF	80%
SK01S4815A		15V	0.067mA	0mA	680uF	80%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SK01D0512A	5V	±12V	0.042mA*	0mA	470uF*	79%
SK01D0515A	(4.5 ~ 5.5V)	±15V	0.033mA*	0mA	330uF*	80%
SK01D1212A	12V	±12V	0.042mA*	0mA	470uF*	81%
SK01D1215A	(9 ~ 18V)	±15V	0.033mA*	0mA	330uF*	80%
SK01D2412A	24V	±12V	0.042mA*	0mA	470uF*	82%
SK01D2415A	(18 ~ 36V)	±15V	0.033mA*	0mA	330uF*	82%
SK01D4812A	48V	±12V	0.042mA*	0mA	470uF*	81%
SK01D4815A	(36~75V)	±15V	0.033mA*	0mA	330uF*	81%

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	Remote On/Off	Remote On/Off
6	NC	Common
7	NC	-Vout
8	+Vout	+Vout
9	-Vout	Common
14	+Vin	+Vin

NC: No Connection

* for each output



DB02S Series

FEATURES

Electrical

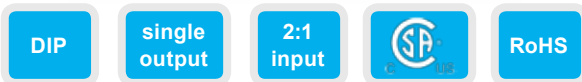
- 2W output
- Efficiency up to 81%
- Fully regulated output
- Isolation voltage 1500VDC
- Low ripple and noise
- Wide 2:1 input range
- Operating temperature range -40°C to +80°C

Mechanical

- DIP package with industry standard pinout
- Case size: 23.8x13.7x8.0 mm (0.94"x0.54"x0.31")

Safety & Reliability

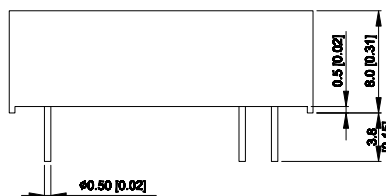
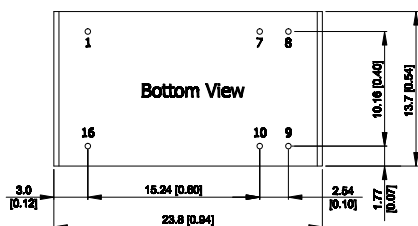
- CSA60950-1 safety approval
- Complies EN55022 class A



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DB02S0503A	5V (4.5 ~ 9V)	3.3V	500mA	125mA	2200uF	70%
DB02S0505A		5V	400mA	100mA	1000uF	73%
DB02S0512A		12V	167mA	42mA	170uF	75%
DB02S0515A		15V	134mA	33mA	110uF	73%
DB02S1203A	12V (9 ~ 18V)	3.3V	500mA	125mA	2200uF	73%
DB02S1205A		5V	400mA	100mA	1000uF	77%
DB02S1212A		12V	167mA	42mA	170uF	80%
DB02S1215A		15V	134mA	33mA	110uF	80%
DB02S2403A	24V (18 ~ 36V)	3.3V	500mA	125mA	2200uF	72%
DB02S2405A		5V	400mA	100mA	1000uF	77%
DB02S2412A		12V	167mA	42mA	170uF	80%
DB02S2415A		15V	134mA	33mA	110uF	81%
DB02S4803A	48V (36 ~ 75V)	3.3V	500mA	125mA	2200uF	71%
DB02S4805A		5V	400mA	100mA	1000uF	73%
DB02S4812A		12V	167mA	42mA	170uF	79%
DB02S4815A		15V	134mA	33mA	110uF	79%

MECHANICAL DRAWING



Pin	Function
1	-Vin
7	NC
8	NC
9	+Vout
10	-Vout
16	+Vin
NC: No Connection	

DB02D Series

FEATURES

Electrical

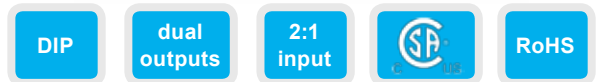
- 2W output
- Efficiency up to 80%
- Fully regulated output
- Isolation voltage 1500VDC
- Low ripple and noise
- 2:1 wide input range
- Operating temperature range -40°C to +80°C

Mechanical

- DIP package with industry standard pinout
- Case size: 23.8x13.7x8.0mm (0.94"x0.54"x0.31")

Safety & Reliability

- CSA60950-1 safety approval
- Complies EN55022 class A

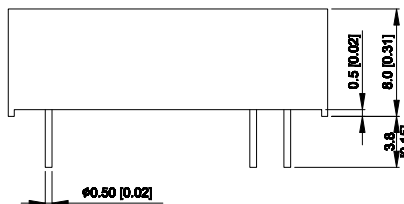
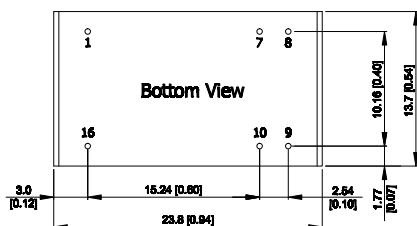


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DB02D0505A	5V (4.5 ~ 9V)	±5V	200mA*	50mA*	470uF*	64%
DB02D0512A		±12V	83mA*	21mA*	100uF*	69%
DB02D0515A		±15V	67mA*	17mA*	47uF*	71%
DB02D1205A	12V (9 ~ 18V)	±5V	200mA*	50mA*	470uF*	73%
DB02D1212A		±12V	83mA*	21mA*	100uF*	78%
DB02D1215A		±15V	67mA*	17mA*	47uF*	78%
DB02D2405A	24V (18 ~ 36V)	±5V	200mA*	50mA*	470uF*	74%
DB02D2412A		±12V	83mA*	21mA*	100uF*	78%
DB02D2415A		±15V	67mA*	17mA*	47uF*	80%
DB02D4805A	48V (36 ~ 75V)	±5V	200mA*	50mA*	470uF*	71%
DB02D4812A		±12V	83mA*	21mA*	100uF*	77%
DB02D4815A		±15V	67mA*	17mA*	47uF*	77%

* for each output

MECHANICAL DRAWING



Pin	Functions
1	-Vin
7	NC
8	Common
9	+Vout
10	-Vout
16	+Vin
NC: No Connection	

DC02S/DC02D Series

FEATURES

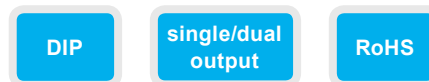
Electrical

- 2W output
- Efficiency up to 64%
- Regulated outputs
- High isolation voltage 6000VDC
- Low ripple & noise
- Low leakage current
- Low isolation capacitance
- Short circuit protection
- Operating temperature range -25°C to +75°C



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.8"x0.40")



Safety & Reliability

- Complies with EN55022 Class A

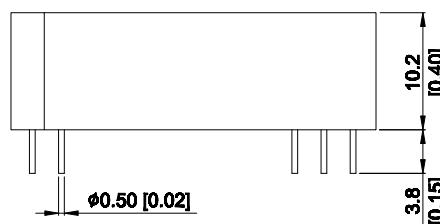
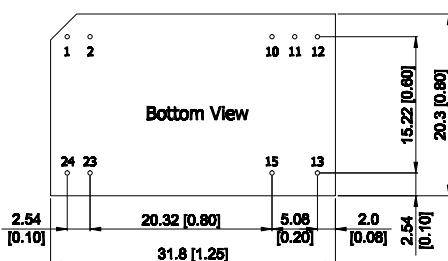
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DC02S0505A	5V (4.5 ~ 5.5V)	5V	400mA	0mA	680uF	62%
DC02S0512A		12V	165mA	0mA	680uF	63%
DC02S0515A		15V	133mA	0mA	680uF	64%
DC02S1205A	12V (10.8 ~ 13.2V)	5V	400mA	0mA	680uF	62%
DC02S1212A		12V	165mA	0mA	680uF	63%
DC02S1215A		15V	133mA	0mA	680uF	64%
DC02S2405A	24V (21.6 ~ 26.4V)	5V	400mA	0mA	680uF	62%
DC02S2412A		12V	165mA	0mA	680uF	63%
DC02S2415A		15V	133mA	0mA	680uF	64%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency (typ.) @maxload
			Max.	Min.		
DC02D0505A	5V (4.5 ~ 5.5V)	±5V	100mA*	0mA	270uF*	42%
DC02D0512A		±12V	83mA*	0mA	270uF*	57%
DC02D0515A		±15V	66mA*	0mA	270uF*	57%
DC02D1205A	12V (10.8 ~ 13.2V)	±5V	100mA*	0mA	270uF*	45%
DC02D1212A		±12V	83mA*	0mA	270uF*	59%
DC02D1215A		±15V	66mA*	0mA	270uF*	59%
DC02D2405A	24V (21.6 ~ 26.4V)	±5V	100mA*	0mA	270uF*	45%
DC02D2412A		±12V	83mA*	0mA	270uF*	58%
DC02D2415A		±15V	66mA*	0mA	270uF*	58%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Output
1	+Vin	+Vin
2	+Vin	+Vin
10	No Pin	Common
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

DK02S/DK02D Series

FEATURES

Electrical

- 2W output
- Efficiency up to 75%
- Reinforced insulation rated for 300VAC working voltage
- High isolation voltage 4000VACrms
- Low isolation capacitance
- Low leakage current
- Operating temperature range -25°C to +80°C

Mechanical

- Standard DIP-16 package
- Case size: 23.8x13.4x8.6mm (0.94"x0.53"x0.34")

Safety & Reliability

- UL60950-1 & UL60601-1 safety approval



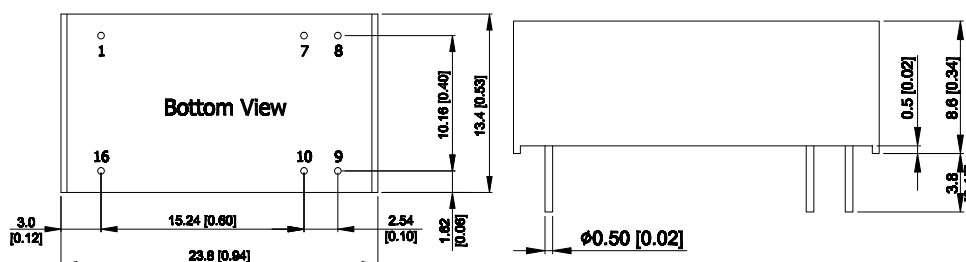
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DK02S0505A	5V (4.5 ~ 5.5V)	5V	400mA	8mA	330uF	66%
DK02S0512A		12V	165mA	3mA	330uF	66%
DK02S0515A		15V	133mA	2.5mA	330uF	66%
DK02S1205A	12V (10.8 ~ 13.2V)	5V	400mA	8mA	330uF	66%
DK02S1212A		12V	165mA	3mA	330uF	66%
DK02S1215A		15V	133mA	2.5mA	330uF	66%
DK02S2405A	24V (21.6 ~ 26.4V)	5V	400mA	8mA	330uF	66%
DK02S2412A		12V	165mA	3mA	330uF	66%
DK02S2415A		15V	133mA	2.5mA	330uF	66%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DK02D0512A	5V	±12V	83mA*	1.5mA*	100uF*	72%
DK02D0515A	(4.5 ~ 5.5V)	±15V	66mA*	1.0mA*	100uF*	73%
DK02D1212A	12V	±12V	83mA*	1.5mA*	100uF*	74%
DK02D1215A	(10.8 ~ 13.2V)	±15V	66mA*	1.0mA*	100uF*	75%
DK02D2412A	24V	±12V	83mA*	1.5mA*	100uF*	74%
DK02D2415A	(21.6 ~ 26.4V)	±15V	66mA*	1.0mA*	100uF*	75%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

NC: No Connection

PC02S/PC02D Series

FEATURES

Electrical

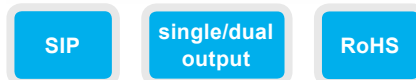
- 2W output
- Efficiency up to 83%
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SIP package with industry standard pinout
- Case size: 19.5x10.2x7.6 mm (0.77"x 0.4"x 0.3")

Safety & Reliability

- MTBF > 2MHours



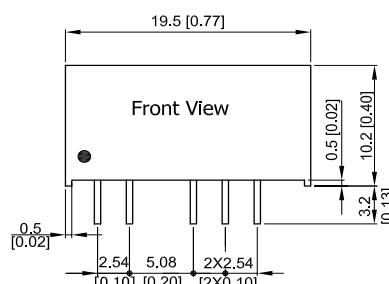
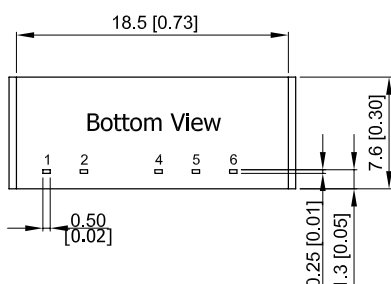
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PC02S0503A	5V (4.5 ~ 5.5V)	3.3V	500mA	10mA	470uF	73%
PC02S0505A		5V	400mA	8mA	470uF	76%
PC02S0512A		12V	165mA	3mA	470uF	80%
PC02S0515A		15V	133mA	2.5mA	470uF	80%
PC02S1203A	12V (10.8 ~ 13.2V)	3.3V	500mA	10mA	470uF	74%
PC02S1205A		5V	400mA	8mA	470uF	78%
PC02S1212A		12V	165mA	3mA	470uF	82%
PC02S1215A		15V	133mA	2.5mA	470uF	83%
PC02S2403A	24V (21.6 ~ 26.4V)	3.3V	500mA	10mA	470uF	74%
PC02S2405A		5V	400mA	8mA	470uF	77%
PC02S2412A		12V	165mA	3mA	470uF	81%
PC02S2415A		15V	133mA	2.5mA	470uF	82%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PC02D0505A	5V (4.5 ~ 5.5V)	±5V	200mA*	4.0mA*	390uF*	77%
PC02D0512A		±12V	83mA*	1.5mA*	390uF*	79%
PC02D0515A		±15V	66mA*	1.0mA*	390uF*	79%
PC02D1205A	12V (10.8 ~ 13.2V)	±5V	200mA*	4.0mA*	390uF*	79%
PC02D1212A		±12V	83mA*	1.5mA*	390uF*	82%
PC02D1215A		±15V	66mA*	1.0mA*	390uF*	82%
PC02D2405A	24V (21.6 ~ 26.4V)	±5V	200mA*	4.0mA*	390uF*	79%
PC02D2412A		±12V	83mA*	1.5mA*	390uF*	81%
PC02D2415A		±15V	66mA*	1.0mA*	390uF*	82%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	+Vin	+Vin
2	-Vin	-Vin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout

PG02S Series

FEATURES

Electrical

- 2W output
- Efficiency up to 81%
- Wide 2:1 input range
- Fully regulated output
- Isolation voltage 1000VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C

Mechanical

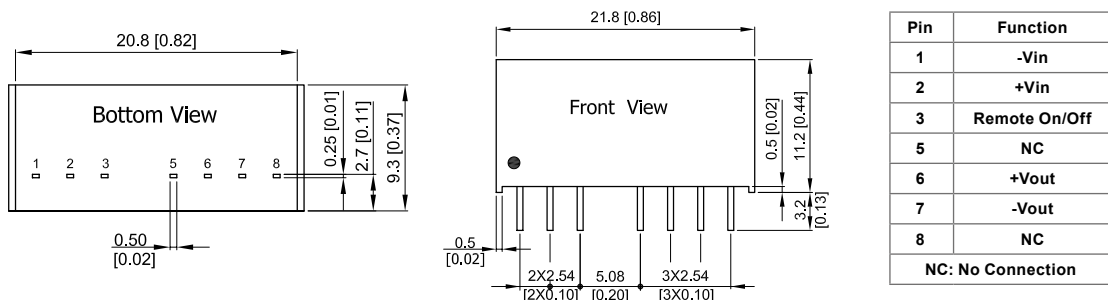
- SIP package with industry pinout
- Case size: 21.8x9.3x11.2 mm (0.86"x0.37"x0.44")



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PG02S0503A	5V (4.5 ~ 9V)	3.3V	500mA	125mA	2200uF	70%
PG02S0505A		5V	400mA	100mA	1000uF	73%
PG02S0512A		12V	167mA	42mA	170uF	75%
PG02S1203A	12V (9 ~ 18V)	3.3V	500mA	125mA	2200uF	73%
PG02S1205A		5V	400mA	100mA	1000uF	77%
PG02S1212A		12V	167mA	42mA	170uF	80%
PG02S2403A	24V (18 ~ 36V)	3.3V	500mA	125mA	2200uF	72%
PG02S2405A		5V	400mA	100mA	1000uF	77%
PG02S2412A		12V	167mA	42mA	170uF	81%
PG02S4803A	48V (36 ~ 75V)	3.3V	500mA	125mA	2200uF	71%
PG02S4805A		5V	400mA	100mA	1000uF	73%
PG02S4812A		12V	167mA	42mA	170uF	79%

MECHANICAL DRAWING



PH02S/PH02D Series

FEATURES

Electrical

- 2W output
- Efficiency up to 80%
- Ultra-wide 4:1 input range
- Fully regulated output
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C



Mechanical

- SIP package with standard pinout
- Case size: 25.95x9.25x12.45 mm (1.02"x0.36"x0.49")

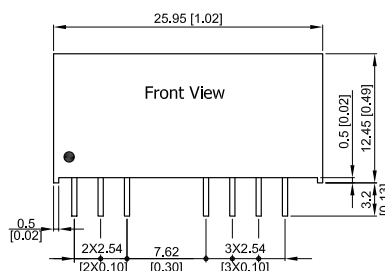
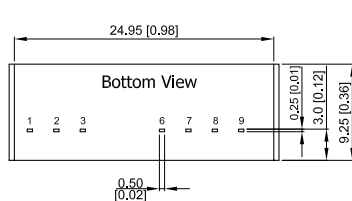


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PH02S2403A	24V (9 ~ 36V)	3.3V	500mA	125mA	2200uF	71%
PH02S2405A		5V	400mA	100mA	1000uF	76%
PH02S2412A		12V	167mA	42mA	170uF	79%
PH02S2415A		15V	134mA	33mA	110uF	80%
PH02S4803A	48V (18 ~ 75V)	3.3V	500mA	125mA	2200uF	70%
PH02S4805A		5V	400mA	100mA	1000uF	72%
PH02S4812A		12V	167mA	42mA	170uF	78%
PH02S4815A		15V	134mA	33mA	110uF	78%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PH02D2405A	24V (9 ~ 36V)	±5V	200mA*	50mA*	470uF*	73%
PH02D2412A		±12V	83mA*	21mA*	100uF*	77%
PH02D2415A		±15V	67mA*	17mA*	47uF*	79%
PH02D4805A	48V (18 ~ 75V)	±5V	200mA*	50mA*	470uF*	70%
PH02D4812A		±12V	83mA*	21mA*	100uF*	76%
PH02D4815A		±15V	67mA*	17mA*	47uF*	76%

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
6	+Vout	+Vout
7	NC	Common
8	NC	NC
9	-Vout	-Vout
NC: No Connection		

SC02S/SC02D Series

FEATURES

Electrical

- 2W output
- Efficiency up to 82%
- Isolation voltage 1000VDC
- Operating temperature range -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size (single output):
12.7x9.3x8.9mm (0.5"x 0.37"x 0.35")
- Case size (dual outputs):
15.3x9.3x8.9mm (0.6"x 0.37"x 0.35")



SMD

single/dual
output

RoHS

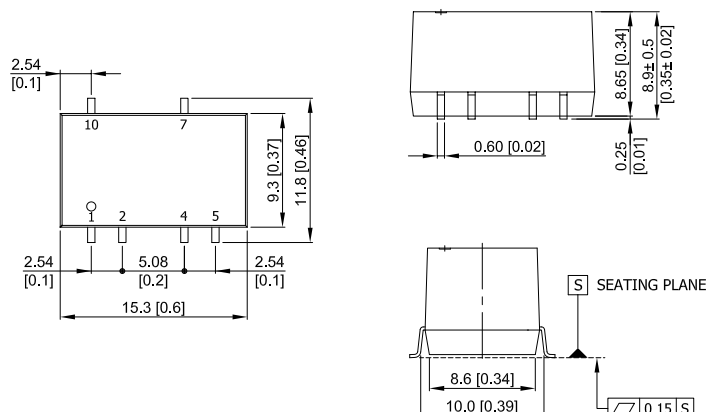
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SC02S0505A	5V	5V	400mA	8mA	47uF	77%
SC02S0512A	(4.5 ~ 5.5V)	12V	165mA	3mA	10uF	81%
SC02S1205A	12V	5V	400mA	8mA	47uF	78%
SC02S1212A	(10.8 ~ 13.2V)	12V	165mA	3mA	10uF	82%
SC02S2405A	24V	5V	400mA	8mA	47uF	78%
SC02S2412A	(21.6 ~ 26.4V)	12V	165mA	3mA	10uF	81%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SC02D0505A	5V (4.5 ~ 5.5V)	±5V	200mA*	4.0mA*	10uF*	77%
SC02D0512A		±12V	83mA*	1.5mA*	4.7uF*	79%
SC02D0515A	12V (10.8 ~ 13.2V)	±15V	66mA*	1.0mA*	4.7uF*	79%
SC02D1212A		±12V	83mA*	1.5mA*	4.7uF*	82%
SC02D1215A	24V (21.6 ~ 26.4V)	±15V	66mA*	1.0mA*	4.7uF*	82%
SC02D2412A		±12V	83mA*	1.5mA*	4.7uF*	81%
SC02D2415A		±15V	66mA*	1.0mA*	4.7uF*	82%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	-Vin	-Vin
2	+Vin	+Vin
4	-Vout	Common
5	+Vout	-Vout
7	No Pin	+Vout
8	N/A	No Pin
10	No Pin	NA

N/A : Not Available for Electrical Connection

SD02S Series

FEATURES

Electrical

- 2W output
- Efficiency up to 81%
- Wide 2:1 input range
- Fully regulated output
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C

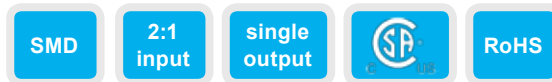


Mechanical

- SMD package with industry standard pinout
- Case size: 24.0x13.7x8.0mm (0.94"x0.54"x0.31")

Safety & Reliability

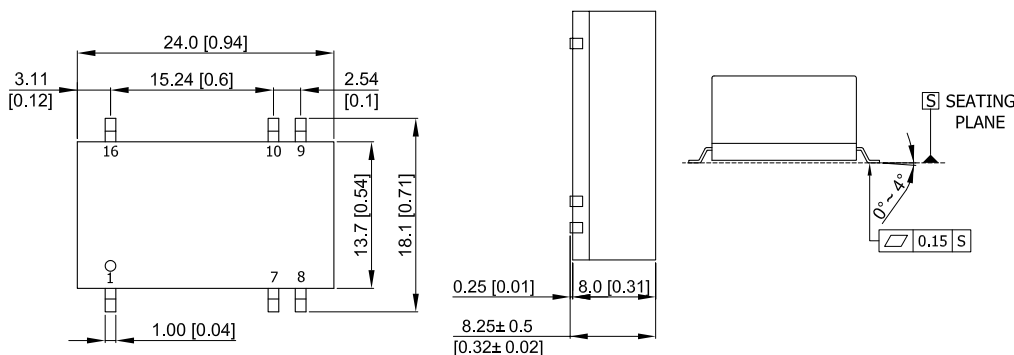
- CSA60950-1 safety approval
- Moisture sensitivity level (MSL) 2
- Complies with EN55022, class A



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SD02S0503A	5V (4.5 ~ 9V)	3.3V	500mA	125mA	2200uF	70%
SD02S0505A		5V	400mA	100mA	1000uF	73%
SD02S0512A		12V	167mA	42mA	170uF	75%
SD02S0515A		15V	134mA	33mA	110uF	73%
SD02S1203A	12V (9 ~ 18V)	3.3V	500mA	125mA	2200uF	73%
SD02S1205A		5V	400mA	100mA	1000uF	77%
SD02S1212A		12V	167mA	42mA	170uF	80%
SD02S1215A		15V	134mA	33mA	110uF	80%
SD02S2403A	24V (18 ~ 36V)	3.3V	500mA	125mA	2200uF	72%
SD02S2405A		5V	400mA	100mA	1000uF	77%
SD02S2412A		12V	167mA	42mA	170uF	80%
SD02S2415A		15V	134mA	33mA	110uF	81%
SD02S4803A	48V (36 ~ 75V)	3.3V	500mA	125mA	2200uF	71%
SD02S4805A		5V	400mA	100mA	1000uF	73%
SD02S4812A		12V	167mA	42mA	170uF	79%
SD02S4815A		15V	134mA	33mA	110uF	79%

MECHANICAL DRAWING



Pin	Function
1	-Vin
7	NC
8	NC
9	+Vout
10	-Vout
16	+Vin

NC : No Connection

SD02D Series

FEATURES

Electrical

- 2W output
- Efficiency up to 80%
- Wide 2:1 input range
- Fully regulated output
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C

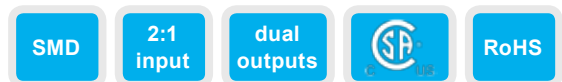


Mechanical

- SMD package with industry standard pinout
- Case size: 24.0x13.7x8.0mm (0.94"x0.54"x0.31")

Safety & Reliability

- CSA60950-1 safety approval
- Moisture sensitivity level (MSL) 2
- Complies with EN55022, class A

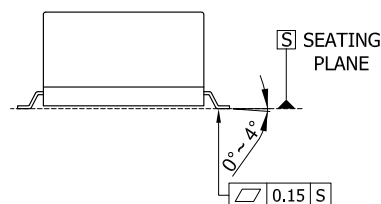
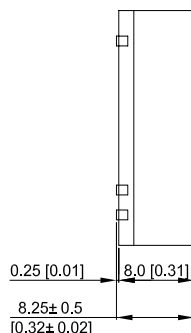
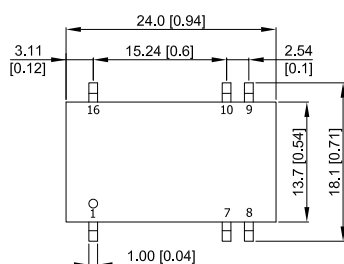


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SD02D0505A	5V (4.5 ~ 9V)	±5V	200mA*	50mA*	470uF*	64%
SD02D0512A		±12V	83mA*	21mA*	100uF*	69%
SD02D0515A		±15V	67mA*	17mA*	47uF*	71%
SD02D1205A	12V (9 ~ 18V)	±5V	200mA*	50mA*	470uF*	73%
SD02D1212A		±12V	83mA*	21mA*	100uF*	78%
SD02D1215A		±15V	67mA*	17mA*	47uF*	78%
SD02D2405A	24V (18 ~ 36V)	±5V	200mA*	50mA*	470uF*	74%
SD02D2412A		±12V	83mA*	21mA*	100uF*	78%
SD02D2415A		±15V	67mA*	17mA*	47uF*	80%
SD02D4805A	48V (36 ~ 75V)	±5V	200mA*	50mA*	470uF*	71%
SD02D4812A		±12V	83mA*	21mA*	100uF*	77%
SD02D4815A		±15V	67mA*	17mA*	47uF*	77%

* for each output

MECHANICAL DRAWING



Pin	Function
1	-Vin
7	NC
8	Common
9	+Vout
10	-Vout
16	+Vin
NC : No Connection	

SG02S/SG02D Series

FEATURES

Electrical

- 2W output
- Efficiency up to 75%
- Isolation voltage 4000VDC
- Reinforced insulation rated for 300VAC working voltage
- Reflow solder temperature up to 245°C
- Operating temperature range -25°C to +80°C



Mechanical

- SMD package with industry standard pinout
- Case size: 24.0x13.7x9.0mm (0.94"x0.54"x0.35")

Safety & Reliability

- UL60601-1 2xMOOP & CSA60950-1 Safety Approval



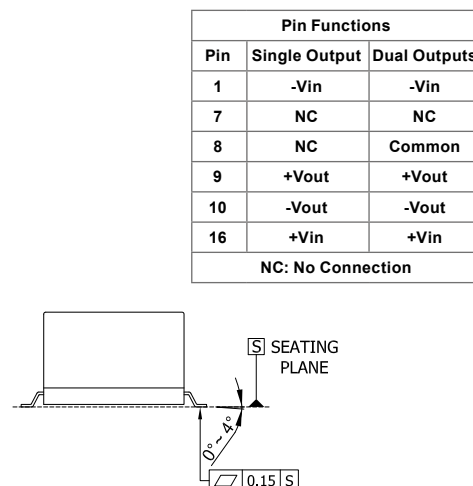
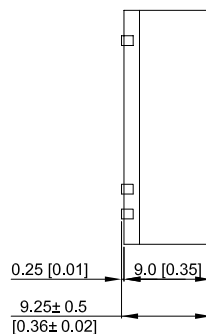
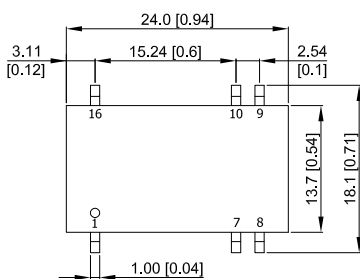
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SG02S0505A	5V (4.5 ~ 5.5V)	5V	400mA	8mA	330uF	66%
SG02S0512A		12V	165mA	3mA	330uF	66%
SG02S0515A		15V	133mA	2.5mA	330uF	66%
SG02S1205A	12V (10.8 ~ 13.2V)	5V	400mA	8mA	330uF	66%
SG02S1212A		12V	165mA	3mA	330uF	66%
SG02S1215A		15V	133mA	2.5mA	330uF	66%
SG02S2405A	24V (21.6 ~ 26.4V)	5V	400mA	8mA	330uF	66%
SG02S2412A		12V	165mA	3mA	330uF	66%
SG02S2415A		15V	133mA	2.5mA	330uF	66%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SG02D0512A	5V	±12V	83mA*	1.5mA*	100uF*	72%
SG02D0515A	(4.5 ~ 5.5V)	±15V	66mA*	1.0mA*	100uF*	73%
SG02D1212A	12V	±12V	83mA*	1.5mA*	100uF*	74%
SG02D1215A	(10.8 ~ 13.2V)	±15V	66mA*	1.0mA*	100uF*	75%
SG02D2412A	24V	±12V	83mA*	1.5mA*	100uF*	74%
SG02D2415A	(21.6 ~ 26.4V)	±15V	66mA*	1.0mA*	100uF*	75%

* for each output

MECHANICAL DRAWING



DD03S/DD03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 81%
- Isolation voltage 1500VDC
- Operating temperature range -40°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- UL60950-1 safety approval
- CSA60950-1 safety approval
- Complies with EN55022, Class A



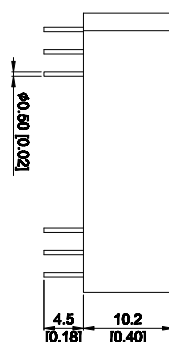
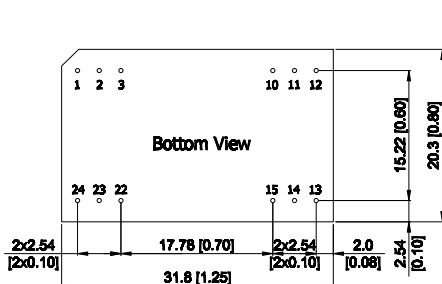
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DD03S0505A	5V (4.5 ~ 9V)	5V	600mA	60mA	2000uF	70%
DD03S0512A		12V	250mA	25mA	2000uF	74%
DD03S0515A		15V	200mA	20mA	2000uF	74%
DD03S1205A	12V (9 ~ 18V)	5V	600mA	60mA	2000uF	76%
DD03S1212A		12V	250mA	25mA	2000uF	80%
DD03S1215A		15V	200mA	20mA	2000uF	80%
DD03S2405A	24V (18 ~ 36V)	5V	600mA	60mA	2000uF	77%
DD03S2412A		12V	250mA	25mA	2000uF	81%
DD03S2415A		15V	200mA	20mA	2000uF	81%
DD03S4805A	48V (36 ~ 75V)	5V	600mA	60mA	2000uF	77%
DD03S4812A		12V	250mA	25mA	2000uF	81%
DD03S4815A		15V	200mA	20mA	2000uF	81%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	EfEfficiency
			Max.	Min.		
DD03D0512A	5V (4.5 ~ 9V)	±12V	125mA*	12.5mA*	1000uF*	74%
DD03D0515A		±15V	100mA*	10mA*	1000uF*	74%
DD03D1212A	12V (9 ~ 18V)	±12V	125mA*	12.5mA*	1000uF*	80%
DD03D1215A		±15V	100mA*	10mA*	1000uF*	80%
DD03D2412A	24V (18 ~ 36V)	±12V	125mA*	12.5mA*	1000uF*	81%
DD03D2415A		±15V	100mA*	10mA*	1000uF*	81%
DD03D4812A	48V (36 ~ 75V)	±12V	125mA*	12.5mA*	1000uF*	81%
DD03D4815A		±15V	100mA*	10mA*	1000uF*	81%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Output
1	+Vin	+Vin
2	NC	-Vout
3	NC	Common
10	-Vout	Common
11	+Vout	+Vout
12	-Vin	-Vin
NC: No Connection		

Pin Functions		
Pin	Single Output	Dual Outputs
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Common
22	NC	Common
23	NC	-Vout
24	+Vin	+Vin
NC: No Connection		

DE03S Series

FEATURES

Electrical

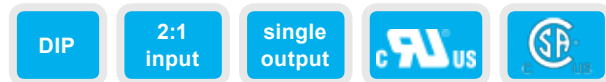
- 3W output
- Efficiency up to 84%
- 2:1 input range
- Isolation voltage 1500VDC
- Temperature performance -25°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

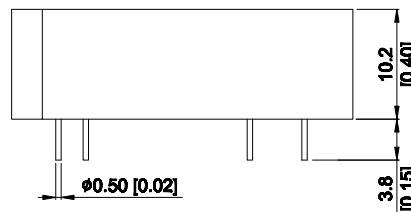
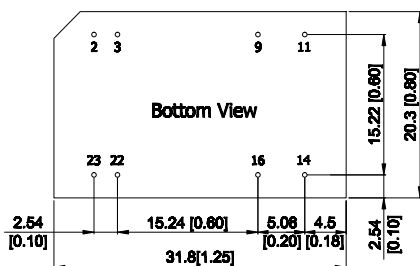
- UL60950-1 safety approval
- MTBF > 1MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DE03S0503A	5V (4.5 ~ 9V)	3.3V	600mA	60mA	4000uF	70%
DE03S0505A		5V	500mA	50mA	4000uF	73%
DE03S0512A		12V	250mA	25mA	4000uF	77%
DE03S0515A		15V	200mA	20mA	4000uF	77%
DE03S1203A	12V (9 ~ 18V)	3.3V	600mA	60mA	4000uF	74%
DE03S1205A		5V	500mA	50mA	4000uF	78%
DE03S1212A		12V	250mA	25mA	4000uF	82%
DE03S1215A		15V	200mA	20mA	4000uF	82%
DE03S2403A	24V (18 ~ 36V)	3.3V	600mA	60mA	4000uF	76%
DE03S2405A		5V	500mA	50mA	4000uF	79%
DE03S2412A		12V	250mA	25mA	4000uF	84%
DE03S2415A		15V	200mA	20mA	4000uF	84%
DE03S4803A	48V (36 ~ 75V)	3.3V	600mA	60mA	4000uF	76%
DE03S4805A		5V	500mA	50mA	4000uF	79%
DE03S4812A		12V	250mA	25mA	4000uF	84%
DE03S4815A		15V	200mA	20mA	4000uF	84%

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	No Pin
11	NC
14	+Vout
16	-Vout
22	+Vin
23	+Vin
NC: No Connection	

DE03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 84%
- 2:1 input range
- Isolation voltage 1500VDC
- Temperature performance -25°C to +85°C



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- UL60950-1 safety approval
- MTBF > 1MHours

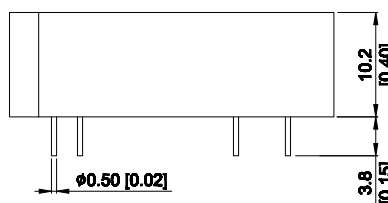
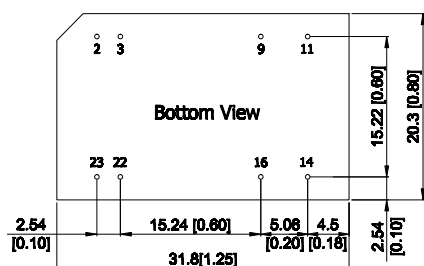


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DE03D0505A	5V (4.5 ~ 9V)	±5V	250mA*	25mA*	1000uF*	72%
DE03D0512A		±12V	125mA*	12.5mA*	1000uF*	75%
DE03D0515A		±15V	100mA*	10mA*	1000uF*	75%
DE03D1205A	12V (9 ~ 18V)	±5V	250mA*	25mA*	1000uF*	77%
DE03D1212A		±12V	125mA*	12.5mA*	1000uF*	80%
DE03D1215A		±15V	100mA*	10mA*	1000uF*	80%
DE03D2405A	24V (18 ~ 36V)	±5V	250mA*	25mA*	1000uF*	79%
DE03D2412A		±12V	125mA*	12.5mA*	1000uF*	82%
DE03D2415A		±15V	100mA*	10mA*	1000uF*	82%
DE03D4805A	48V (36 ~ 75V)	±5V	250mA*	25mA*	1000uF*	80%
DE03D4812A		±12V	125mA*	12.5mA*	1000uF*	84%
DE03D4815A		±15V	100mA*	10mA*	1000uF*	84%

* for each output

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	Common
11	-Vout
14	+Vout
16	Common
22	+Vin
23	+Vin
NC: No Connection	

DK03S Series

FEATURES

Electrical

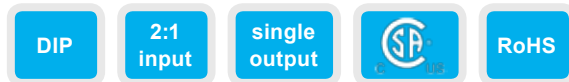
- 3W output
- Efficiency up to 86%
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -25°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

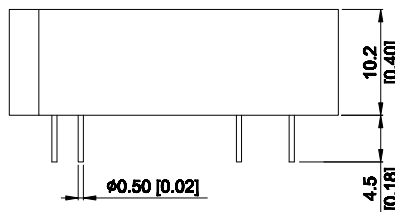
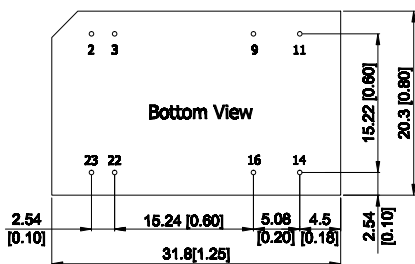
- Complies with EN55022 Class A
- CSA60950-1 safety approval
- MTBF > 1MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DK03S1203A	12V (9 ~ 18V)	3.3V	600mA	60mA	4000uF	75%
DK03S1205A		5V	500mA	50mA	4000uF	78%
DK03S1212A		12V	250mA	25mA	4000uF	82%
DK03S1215A		15V	200mA	20mA	4000uF	81%
DK03S2403A	24V (18 ~ 36V)	3.3V	600mA	60mA	4000uF	76%
DK03S2405A		5V	500mA	50mA	4000uF	80%
DK03S2412A		12V	250mA	25mA	4000uF	83%
DK03S2415A		15V	200mA	20mA	4000uF	84%
DK03S4803A	48V (36 ~ 75V)	3.3V	600mA	60mA	4000uF	78%
DK03S4805A		5V	500mA	50mA	4000uF	82%
DK03S4812A		12V	250mA	25mA	4000uF	85%
DK03S4815A		15V	200mA	20mA	4000uF	86%

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	No Pin
11	NC
14	+Vout
16	-Vout
22	+Vin
23	+Vin
NC: No Connection	

DK03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 84%
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -25°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- Complies with EN55022 Class A
- CSA60950-1 safety approval
- MTBF > 1MHours

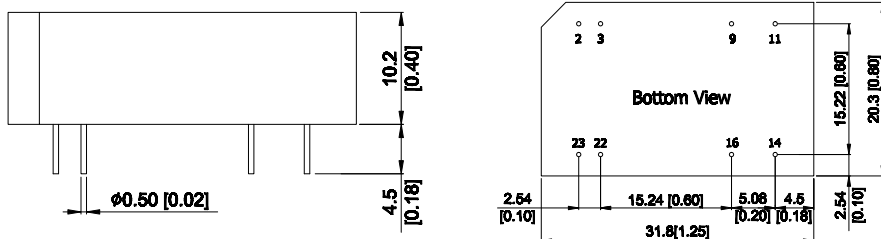


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DK03D1205A	12V (9 ~ 18V)	±5V	250mA*	25mA*	1000uF*	76%
DK03D1212A		±12V	125mA*	12.5mA*	1000uF*	80%
DK03D1215A		±15V	100mA*	10mA*	1000uF*	78%
DK03D2405A	24V (18 ~ 36V)	±5V	250mA*	25mA*	1000uF*	78%
DK03D2412A		±12V	125mA*	12.5mA*	1000uF*	82%
DK03D2415A		±15V	100mA*	10mA*	1000uF*	82%
DK03D4805A	48V (36 ~ 75V)	±5V	250mA*	25mA*	1000uF*	80%
DK03D4812A		±12V	125mA*	12.5mA*	1000uF*	84%
DK03D4815A		±15V	100mA*	10mA*	1000uF*	83%

* for each output

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	Common
11	-Vout
14	+Vout
16	Common
22	+Vin
23	+Vin
NC: No Connection	

DL03S/DL03D Series

FEATURES

Electrical

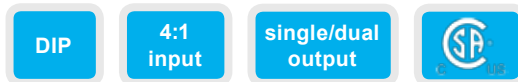
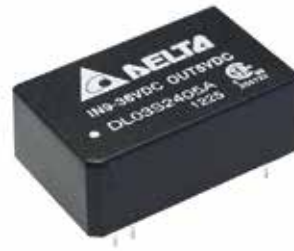
- 3W output
- Efficiency up to 84%
- Wide 4:1 input range
- Isolation voltage 1500VDC
- Operating temperature range -40°C to +85°C
- Short circuit protection

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- Complies with EN55022 Class A
- CSA 60950-1 safety approval



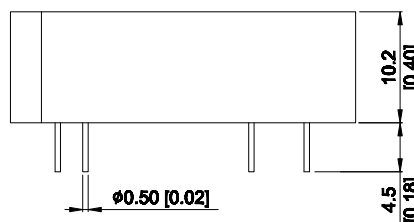
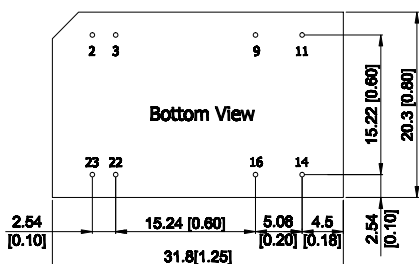
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DL03S2403A	24V (9 ~ 36V)	3.3V	750mA	93mA	680uF	75%
DL03S2405A		5V	600mA	75mA	470uF	79%
DL03S2412A		12V	250mA	32mA	330uF	81%
DL03S2415A		15V	200mA	25mA	220uF	82%
DL03S4803A	48V (18 ~ 75V)	3.3V	750mA	93mA	680uF	76%
DL03S4805A		5V	600mA	75mA	470uF	80%
DL03S4812A		12V	250mA	32mA	330uF	83%
DL03S4815A		15V	200mA	25mA	220uF	84%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DL03D2412A	24V	±12V	125mA*	16mA*	150uF*	80%
DL03D2415A	(9 ~ 36V)	±15V	100mA*	13mA*	100uF*	80%
DL03D4812A	48V	±12V	125mA*	16mA*	150uF*	82%
DL03D4815A	(18 ~ 75V)	±15V	100mA*	13mA*	100uF*	82%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

NC: No Connection

DM03S Series

FEATURES

Electrical

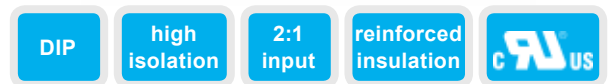
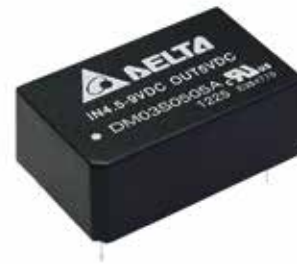
- 3W output
- Efficiency up to 84%
- 2:1 input range
- Reinforced insulation rated for 300VAC working voltage
- High isolation voltage 4000VACrms
- Low leakage current
- Operating temperature range -40°C to +85 °C
- Overload protection

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.5mm (1.25"x0.8"x0.41")

Safety & Reliability

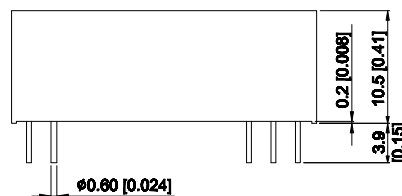
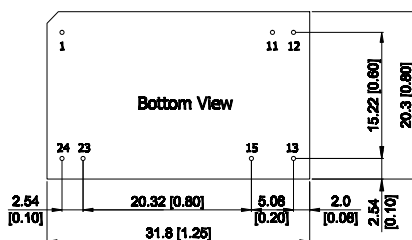
- UL60601-1 & UL60950-1 safety approval
- Complies with EN55022 Class A
- MTBF > 1MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DM03S0505A	5V (4.5 ~ 9V)	5V	600mA	90.0mA	1000uF	70%
DM03S0512A		12V	250mA	37.5mA	470uF	75%
DM03S0524A		24V	125mA	18.8mA	470uF	76%
DM03S1205A	12V (9 ~ 18V)	5V	600mA	90.0mA	1000uF	74%
DM03S1212A		12V	250mA	37.5mA	470uF	80%
DM03S1224A		24V	125mA	18.8mA	470uF	81%
DM03S2405A	24V (18 ~ 36V)	5V	600mA	90.0mA	1000uF	78%
DM03S2412A		12V	250mA	37.5mA	470uF	83%
DM03S2424A		24V	125mA	18.8mA	470uF	84%
DM03S4805A	48V (36 ~ 75V)	5V	600mA	90.0mA	1000uF	78%
DM03S4812A		12V	250mA	37.5mA	470uF	83%
DM03S4824A		24V	125mA	18.8mA	470uF	84%

MECHANICAL DRAWING



Pin	Function
1	+Vin
11	No Pin
12	-Vout
13	+Vout
15	No Pin
23	-Vin
24	-Vin

DM03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 83%
- 2:1 input range
- Reinforced insulation rated for 300VAC working voltage
- High isolation voltage 4000VACrms
- Low leakage current
- Operating temperature range -40°C to +85 °C
- Overload protection



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.5mm (1.25"x0.8"x0.41")

Safety & Reliability

- UL60601-1 & UL60950-1 safety approval
- Complies with EN5022 Class A
- MTBF > 1MHours

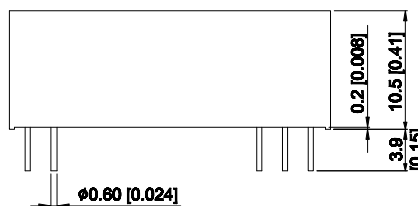
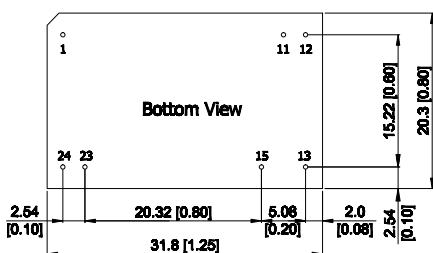


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DM03D0512A	5V	±12V	125mA*	18.8mA*	220uF*	75%
DM03D0515A	(4.5 ~ 9V)	±15V	100mA*	15.0mA*	220uF*	75%
DM03D1212A	12V	±12V	125mA*	18.8mA*	220uF*	80%
DM03D1215A	(9 ~ 18V)	±15V	100mA*	15.0mA*	220uF*	80%
DM03D2412A	24V	±12V	125mA*	18.8mA*	220uF*	83%
DM03D2415A	(18 ~ 36V)	±15V	100mA*	15.0mA*	220uF*	83%
DM03D4812A	48V	±12V	125mA*	18.8mA*	220uF*	83%
DM03D4815A	(36 ~ 75V)	±15V	100mA*	15.0mA*	220uF*	83%

* for each output

MECHANICAL DRAWING



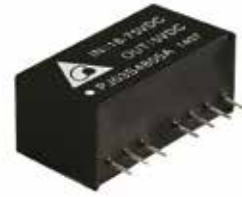
Pin	Function
1	+Vin
11	Common
12	No Pin
13	-Vout
15	+Vout
23	-Vin
24	-Vin

PJ03S Series

FEATURES

Electrical

- 3W output
- Efficiency up to 81%
- Wide 4:1 input range
- Fully regulated output voltage
- Isolation voltage 1600VDC
- Overload protection
- Remote On/Off control
- Operating temperature range -40°C to +85°C

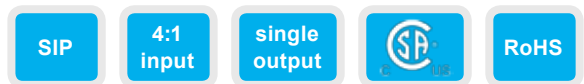


Mechanical

- SIP package with industry standard pinout
- Case size: 21.8x9.3x11.2mm (0.86"x0.37"x0.44")

Safety & Reliability

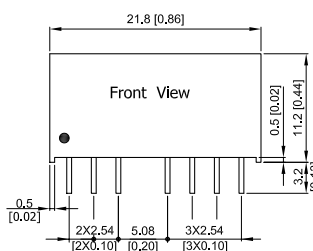
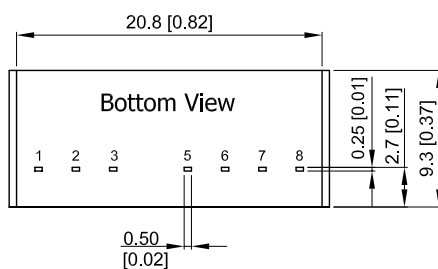
- CSA60950-1 safety approval



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PJ03S1203A	12V (4.5 ~ 18V)	3.3V	700mA	175mA	1760uF	74%
PJ03S1205A		5V	600mA	150mA	1000uF	78%
PJ03S1212A		12V	250mA	63mA	170uF	80%
PJ03S1215A	24V (9 ~ 36V)	15V	200mA	50mA	110uF	80%
PJ03S2403A		3.3V	700mA	175mA	1760uF	75%
PJ03S2405A		5V	600mA	150mA	1000uF	80%
PJ03S2412A	48V (18 ~ 75V)	12V	250mA	63mA	170uF	81%
PJ03S2415A		15V	200mA	50mA	110uF	81%
PJ03S4803A		3.3V	700mA	175mA	1760uF	74%
PJ03S4805A	12V	5V	600mA	150mA	1000uF	79%
PJ03S4812A		12V	250mA	63mA	170uF	79%
PJ03S4815A		15V	200mA	50mA	110uF	79%

MECHANICAL DRAWING



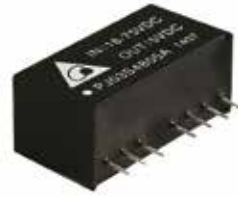
Pin	Function
1	-Vin
2	+Vin
3	Remote On/Off
5	NC
6	+Vout
7	-Vout
8	NC
NC: No Connection	

PJ03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 81%
- Wide 4:1 input range
- Fully regulated output voltage
- Isolation voltage 1600VDC
- Overload protection
- Remote On/Off control
- Operating temperature range -40°C to +85°C

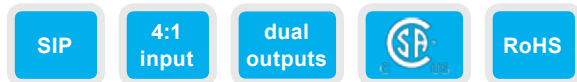


Mechanical

- SIP package with industry standard pinout
- Case size: 21.8x9.3x11.2 mm (0.86"x0.37"x0.44")

Safety & Reliability

- CSA60950-1 safety approval

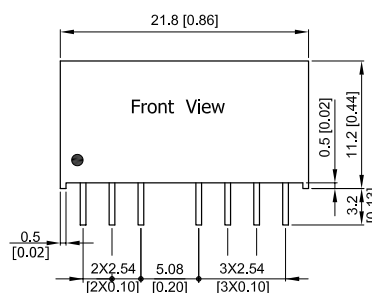
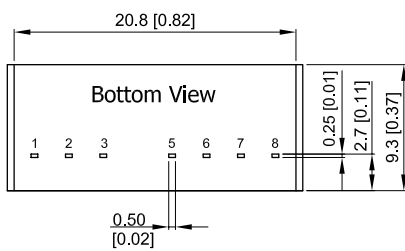


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
PJ03D1205A	12V (4.5 ~ 18V)	±5V	300mA*	75mA*	470uF*	80%
PJ03D1212A		±12V	125mA*	31mA*	100uF*	80%
PJ03D1215A		±15V	100mA*	25mA*	47uF*	80%
PJ03D2405A	24V (9 ~ 36V)	±5V	300mA*	75mA*	470uF*	79%
PJ03D2412A		±12V	125mA*	31mA*	100uF*	80%
PJ03D2415A		±15V	100mA*	25mA*	47uF*	81%
PJ03D4805A	48V (18 ~ 75V)	±5V	300mA*	75mA*	470uF*	79%
PJ03D4812A		±12V	125mA*	31mA*	100uF*	79%
PJ03D4815A		±15V	100mA*	25mA*	47uF*	80%

* for each output

MECHANICAL DRAWING



Pin	Function
1	-Vin
2	+Vin
3	Remote On/Off
5	NC
6	+Vout
7	Common
8	-Vout
NC: No Connection	

SE03S Series

FEATURES

Electrical

- 3W output
- Efficiency up to 83%
- 2:1 input range
- Isolation voltage 1500VDC
- Low ripple and noise
- Short circuit protection
- Temperature performance -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 32.3x14.8x10.2mm (1.27"x0.58"x0.4")

Safety & Reliability

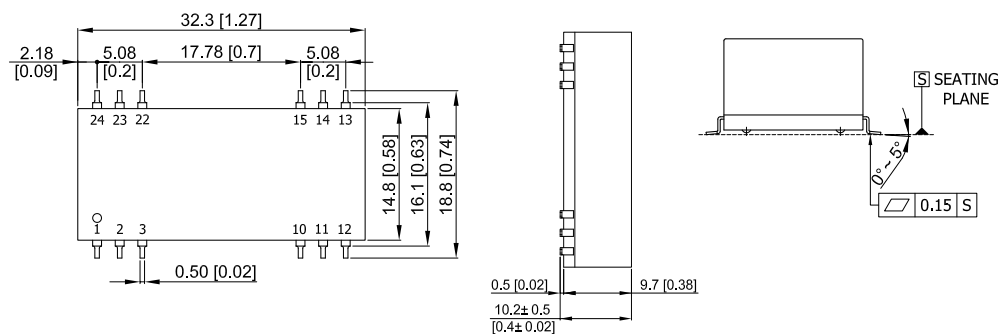
- CSA60950-1 & UL60950-1 safety approval
- MTBF > 1MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	EEfficiency
			Max.	Min.		
SE03S1203A	12V (9 ~ 18V)	3.3V	700mA	70mA	4700uF	75%
SE03S1205A		5V	600mA	60mA	4700uF	79%
SE03S1212A		12V	250mA	25mA	4700uF	82%
SE03S1215A		15V	200mA	20mA	4700uF	82%
SE03S2403A	24V (18 ~ 36V)	3.3V	700mA	70mA	4700uF	76%
SE03S2405A		5V	600mA	60mA	4700uF	80%
SE03S2412A		12V	250mA	25mA	4700uF	83%
SE03S2415A		15V	200mA	20mA	4700uF	83%
SE03S4803A	48V (36 ~ 75V)	3.3V	700mA	70mA	4700uF	76%
SE03S4805A		5V	600mA	60mA	4700uF	80%
SE03S4812A		12V	250mA	25mA	4700uF	83%
SE03S4815A		15V	200mA	20mA	4700uF	83%

MECHANICAL DRAWING



Pin	Function
1,2	-Vin
3,11,14,22	NC
10	NC
12	NC
13	+Vout
15	-Vout
23,24	+Vin
NC : No Connection	

SE03D Series

FEATURES

Electrical

- 3W output
- Efficiency up to 82%
- Wide 2:1 input range
- Isolation voltage 1500VDC
- Low ripple and noise
- Short circuit protection
- Temperature performance -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 32.3x14.8x10.2mm (1.27"x0.58"x0.4")

Safety & Reliability

- CSA60950-1 & UL60950-1 Safety Approval
- MTBF > 1MHours

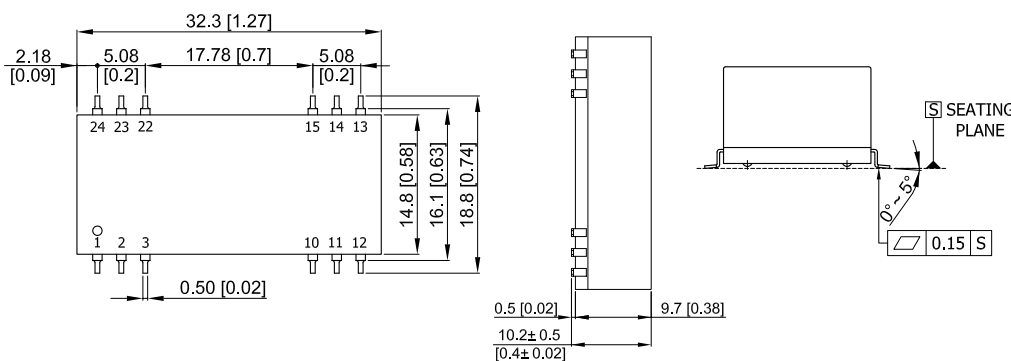


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SE03D1205A	12V (9 ~ 18V)	±5V	300mA*	30mA*	180uF*	78%
SE03D1212A		±12V	125mA*	12.5mA*	180uF*	81%
SE03D1215A		±15V	100mA*	10mA*	180uF*	81%
SE03D2405A	24V (18 ~ 36V)	±5V	300mA*	30mA*	180uF*	79%
SE03D2412A		±12V	125mA*	12.5mA*	180uF*	82%
SE03D2415A		±15V	100mA*	10mA*	180uF*	82%
SE03D4805A	48V (36 ~ 75V)	±5V	300mA*	30mA*	180uF*	79%
SE03D4812A		±12V	125mA*	12.5mA*	180uF*	82%
SE03D4815A		±15V	100mA*	10mA*	180uF*	82%

* for each output

MECHANICAL DRAWING



Pin	Function
1,2	-Vin
3,11,14,22	NC
10	Common
12	-Vout
13	+Vout
15	Common
23,24	+Vin
NC : No Connection	

DF04S/DF04D Series

FEATURES

Electrical

- 4W output
- Efficiency up to 85%
- Wide 4:1 input range
- Isolation voltage 1500VDC
- Short circuit protection
- Temperature performance -40°C to +85°C

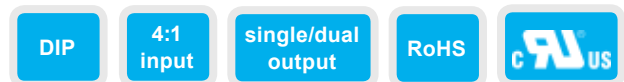


Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- UL60950-1 safety approval
- Complies with EN55022 Class A



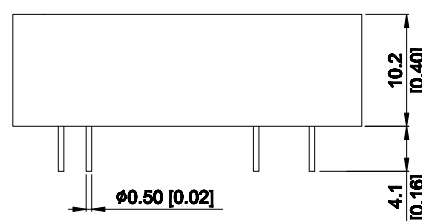
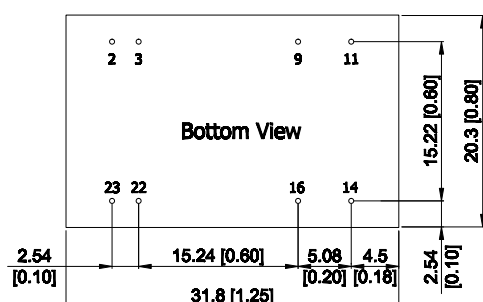
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DF04S2403A	24V (9 ~ 36V)	3.3V	900mA	90mA	3000uF	77%
DF04S2405A		5V	660mA	66mA	3000uF	81%
DF04S2412A		12V	333mA	33mA	3000uF	83%
DF04S2415A		15V	267mA	27mA	3000uF	83%
DF04S4803A	48V (18 ~ 75V)	3.3V	900mA	90mA	3000uF	78%
DF04S4805A		5V	660mA	66mA	3000uF	82%
DF04S4812A		12V	333mA	33mA	3000uF	85%
DF04S4815A		15V	267mA	27mA	3000uF	85%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DF04D2405A	24V (9 ~ 36V)	±5V	300mA*	30mA*	680uF*	80%
DF04D2412A		±12V	167mA*	17mA*	680uF*	83%
DF04D2415A		±15V	133mA*	13mA*	680uF*	83%
DF04D4805A	48V (18 ~ 75V)	±5V	300mA*	30mA*	680uF*	82%
DF04D4812A		±12V	167mA*	17mA*	680uF*	85%
DF04D4815A		±15V	133mA*	13mA*	680uF*	85%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Output
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin
NC: No Connection		

SF05S Series

FEATURES

Electrical

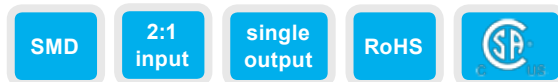
- 5W output
- Efficiency up to 85%
- 2:1 input range
- Isolation voltage 1500VDC
- Short circuit protection
- Remote on/off control
- Operating temperature range -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 33.4x20.8x10.2mm (1.31"x0.82"x0.4")

Safety & Reliability

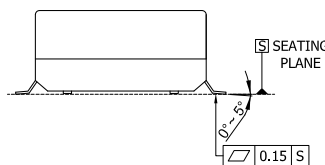
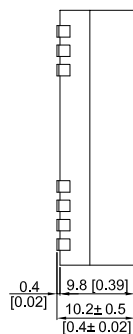
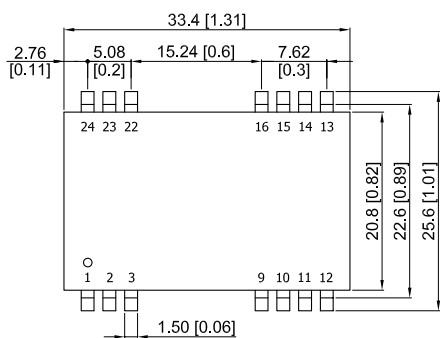
- CSA60950-1 safety approval
- Complies with EN55022 Class A
- Moisture sensitivity level (MSL) 2
- MTBF > 1MHours



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SF05S1203A	12V (9 ~ 18V)	3.3V	1200mA	120mA	680uF	76%
SF05S1205A		5V	1000mA	100mA	680uF	80%
SF05S1212A		12V	417mA	41.7mA	680uF	83%
SF05S1215A	24V (18 ~ 36V)	15V	333mA	33.3mA	680uF	83%
SF05S2403A		3.3V	1200mA	120mA	680uF	78%
SF05S2405A		5V	1000mA	100mA	680uF	82%
SF05S2412A	48V (36 ~ 75V)	12V	417mA	41.7mA	680uF	85%
SF05S2415A		15V	333mA	33.3mA	680uF	85%
SF05S4803A		3.3V	1200mA	120mA	680uF	78%
SF05S4805A	48V (36 ~ 75V)	5V	1000mA	100mA	680uF	82%
SF05S4812A		12V	417mA	41.7mA	680uF	85%
SF05S4815A		15V	333mA	33.3mA	680uF	85%

MECHANICAL DRAWING



Pin	Function
1	Remote On/Off
2	-Vin
3	-Vin
9	NC
10	NC
11	NC
12	NC
13	NC
14	+Vout
15	NC
16	-Vout
22	+Vin
23	+Vin
24	NC
NC : No Connection	

SF05D Series

FEATURES

Electrical

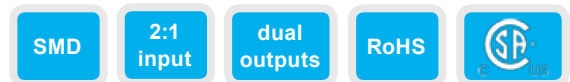
- 5W output
- Efficiency up to 85%
- 2:1 input range
- Isolation voltage 1500VDC
- Short circuit protection
- Remote on/off control
- Operating temperature range -40°C to +85°C

Mechanical

- SMD package with industry standard pinout
- Case size: 33.4x20.8x10.2mm (1.31"x0.82"x0.4")

Safety & Reliability

- CSA60950-1 safety approval
- Complies with EN55022 Class A
- Moisture sensitivity level (MSL) 2
- MTBF > 1MHours

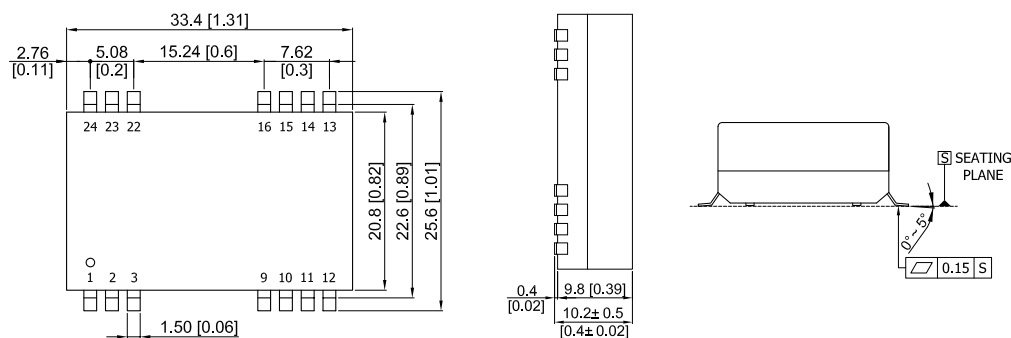


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
SF05D1205A	12V (9 ~ 18V)	±5V	500mA*	50mA*	100uF*	80%
SF05D1212A		±12V	208mA*	20.8mA*	100uF*	83%
SF05D1215A		±15V	167mA*	16.7mA*	100uF*	83%
SF05D2405A	24V (18 ~ 36V)	±5V	500mA*	50mA*	100uF*	82%
SF05D2412A		±12V	208mA*	20.8mA*	100uF*	85%
SF05D2415A		±15V	167mA*	16.7mA*	100uF*	85%
SF05D4805A	48V (36 ~ 75V)	±5V	500mA*	50mA*	100uF*	82%
SF05D4812A		±12V	208mA*	20.8mA*	100uF*	85%
SF05D4815A		±15V	167mA*	16.7mA*	100uF*	85%

* for each output

MECHANICAL DRAWING



Pin	Function
1	Remote On/Off
2	-Vin
3	-Vin
9	Common
10	NC
11	-Vout
12	NC
13	NC
14	+Vout
15	NC
16	Common
22	+Vin
23	+Vin
24	NC

NC : No Connection

DG06S Series

FEATURES

Electrical

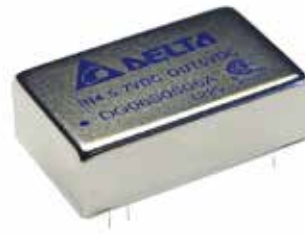
- 6W Output
- Efficiency up to 86%
- Isolation voltage 1500VDC
- Low ripple and noise
- Short circuit protection
- Temperature performance -40°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

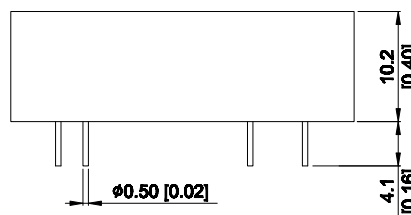
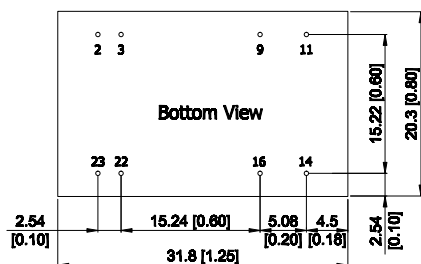
- CSA60950-1 safety approval
- Complies with EN55022 Class A



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DG06S0503A	5V (4.5 ~ 7V)	3.3V	1200mA	60mA	6800uF	75%
DG06S0505A		5V	1000mA	50mA	6800uF	79%
DG06S0512A		12V	500mA	25mA	6800uF	82%
DG06S0515A		15V	400mA	20mA	6800uF	82%
DG06S1203A	12V (9 ~ 18V)	3.3V	1200mA	60mA	6800uF	77%
DG06S1205A		5V	1000mA	50mA	6800uF	81%
DG06S1212A		12V	500mA	25mA	6800uF	84%
DG06S1215A		15V	400mA	20mA	6800uF	84%
DG06S2403A	24V (18 ~ 36V)	3.3V	1200mA	60mA	6800uF	79%
DG06S2405A		5V	1000mA	50mA	6800uF	83%
DG06S2412A		12V	500mA	25mA	6800uF	86%
DG06S2415A		15V	400mA	20mA	6800uF	86%
DG06S4803A	48V (36 ~ 75V)	3.3V	1200mA	60mA	6800uF	79%
DG06S4805A		5V	1000mA	50mA	6800uF	83%
DG06S4812A		12V	500mA	25mA	6800uF	86%
DG06S4815A		15V	400mA	20mA	6800uF	86%

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	No Pin
11	NC
14	+Vout
16	-Vout
22	+Vin
23	+Vin
NC: No Connection	

DG06D Series

FEATURES

Electrical

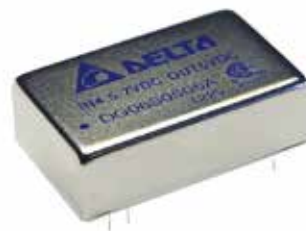
- 6W output
- Efficiency up to 86%
- Isolation voltage 1500VDC
- Low ripple and noise
- Short circuit protection
- Temperature performance -40°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- CSA60950-1 safety approval
- Complies with EN55022 Class A

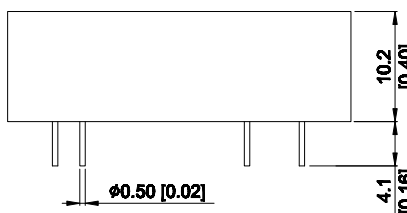
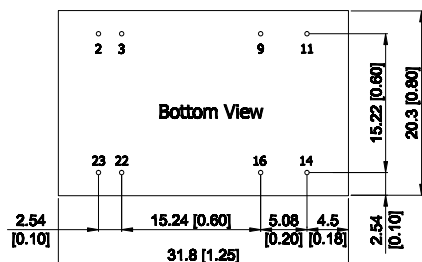


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DG06D0505A	5V (4.5 ~ 7V)	±5V	500mA*	25mA*	1000µF*	79%
DG06D0512A		±12V	250mA*	12.5mA*	1000µF*	82%
DG06D0515A		±15V	200mA*	10mA*	1000µF*	82%
DG06D1205A	12V (9 ~ 18V)	±5V	500mA*	25mA*	1000µF*	81%
DG06D1212A		±12V	250mA*	12.5mA*	1000µF*	84%
DG06D1215A		±15V	200mA*	10mA*	1000µF*	84%
DG06D2405A	24V (18 ~ 36V)	±5V	500mA*	25mA*	1000µF*	83%
DG06D2412A		±12V	250mA*	12.5mA*	1000µF*	86%
DG06D2415A		±15V	200mA*	10mA*	1000µF*	86%
DG06D4805A	48V (36 ~ 75V)	±5V	500mA*	25mA*	1000µF*	83%
DG06D4812A		±12V	250mA*	12.5mA*	1000µF*	86%
DG06D4815A		±15V	200mA*	10mA*	1000µF*	86%

* for each output

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	Common
11	-Vout
14	+Vout
16	Common
22	+Vin
23	+Vin

DH06S Series

FEATURES

Electrical

- 6W output
- Efficiency up to 84%
- 2:1 input range
- Isolation voltage (optional)
1500VDC for DH06SXXXXA
3000VDC for DH06SXXXXH
- Short circuit protection
- Overload protection
- Operating temperature range -40°C to +85°C



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

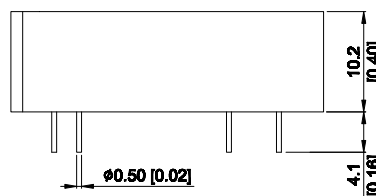
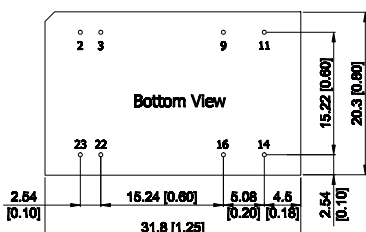
- Complies with EN 55022 Class A



SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency	
			Max.	Min.			
DH06S1203A DH06S1203H	12V (9 ~ 18V)	3.3V	1200mA	0mA	470uF	75%	
DH06S1205A DH06S1205H		5V	1200mA	0mA	470uF	78%	
DH06S1212A DH06S12012H		12V	500mA	0mA	100uF	82%	
DH06S1215A DH06S1215H		15V	400mA	0mA	100uF	82%	
DH06S1224A DH06S1224H		24V	250mA	0mA	47uF	84%	
DH06S2403A DH06S2403H		24V (18 ~ 36V)	3.3V	1200mA	0mA	470uF	77%
DH06S2405A DH06S2405H			5V	1200mA	0mA	470uF	80%
DH06S2412A DH06S2412H			12V	500mA	0mA	100uF	84%
DH06S2415A DH06S2415H			15V	400mA	0mA	100uF	84%
DH06S2424A DH06S2424H			24V	250mA	0mA	47uF	84%
DH06S4803A DH06S4803H	48V (36 ~ 75V)		3.3V	1200mA	0mA	470uF	77%
DH06S4805A DH06S4805H			5V	1200mA	0mA	470uF	80%
DH06S4812A DH06S4812H			12V	500mA	0mA	100uF	84%
DH06S4815A DH06S4815H			15V	400mA	0mA	100uF	84%
DH06S4824A DH06S4824A			24V	250mA	0mA	47uF	84%

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	No Pin
11	NC
14	+Vout
16	-Vout
22	+Vin
23	+Vin
NC: No Connection	

DH06D Series

FEATURES

Electrical

- 6W output
- Efficiency up to 84%
- 2:1 input range
- Isolation voltage (optional)
1500VDC for DH06DXXXXA
3000VDC for DH06DXXXXH
- Short circuit protection
- Overload protection
- Operating temperature range -40°C to +85°C



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- Complies with EN 55022 Class A

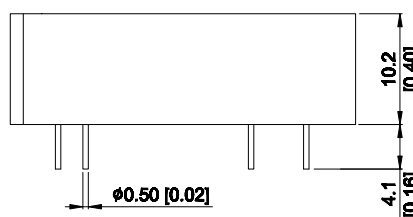
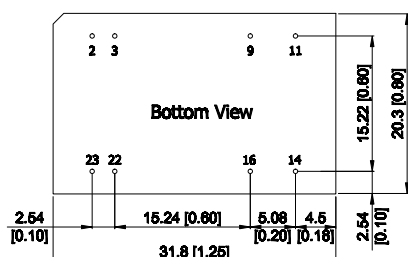


SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DH06D1205A DH06D1205H	12V (9 ~ 18V)	±5V	500mA*	0mA	100uF*	78%
DH06D1212A DH06D1212H		±12V	250mA*	0mA	100uF*	82%
DH06D1215A DH06D1215H	24V (18 ~ 36V)	±15V	200mA*	0mA	100uF*	82%
DH06D2405A DH06D2405H		±5V	500mA*	0mA	100uF*	80%
DH06D2412A DH06D2412H	48V (36 ~ 75V)	±12V	250mA*	0mA	100uF*	84%
DH06D2415A DH06D2415H		±15V	200mA*	0mA	100uF*	84%
DH06D4805A DH06D4805H	31.8 [1.25]	±5V	500mA*	0mA	100uF*	80%
DH06D4812A DH06D4812H		±12V	250mA*	0mA	100uF*	84%
DH06D4815A DH06D4815H		±15V	200mA*	0mA	100uF*	84%

* for each output

MECHANICAL DRAWING



Pin	Function
2	-Vin
3	-Vin
9	Common
11	-Vout
14	+Vout
16	Common
22	+Vin
23	+Vin
NC: No Connection	

DJ06S/DJ06D Series

FEATURES

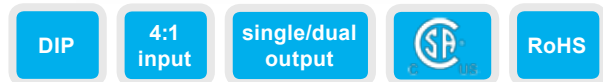
Electrical

- 6W output
- Efficiency up to 84%
- Wide 4:1 input range
- Isolation voltage (optional)
1500VDC for DH06DXXXXA
3000VDC for DH06DXXXXH
- Short circuit protection
- Overload protection
- Operating temperature range -40°C to +85°C



Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")



Safety & Reliability

- CSA60950-1 safety approval
- Complies with EN 55022 Class A

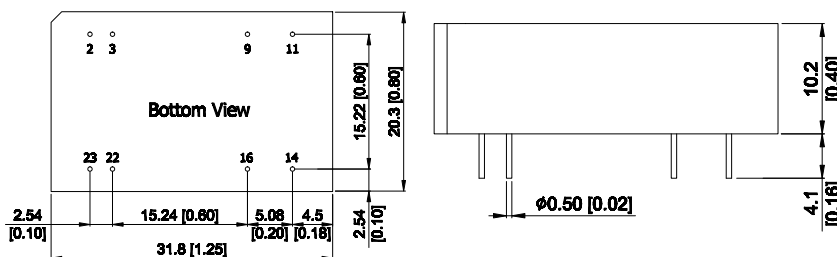
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DJ06S2403A/DJ06S2403H	24V (9 ~ 36V)	3.3V	1200mA	0mA	470uF	77%
DJ06S2405A/DJ06S2405H		5V	1200mA	0mA	470uF	80%
DJ06S2412A/DJ06S2412H		12V	500mA	0mA	100uF	84%
DJ06S2415A/DJ06S2415H		15V	400mA	0mA	100uF	84%
DJ06S2424A/DJ06S2424H		24V	250mA	0mA	47uF	84%
DJ06S4803A/DJ06S4803H	48V (18 ~ 75V)	3.3V	1200mA	0mA	470uF	77%
DJ06S4805A/DJ06S4805H		5V	1200mA	0mA	470uF	80%
DJ06S4812A/DJ06S4812H		12V	500mA	0mA	100uF	84%
DJ06S4815A/DJ06S4815H		15V	400mA	0mA	100uF	84%
DJ06S4824A/DJ06S4824H		24V	250mA	0mA	47uF	84%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DJ06D2405A	24V (9 ~ 36V)	±5V	500mA*	0mA	100uF*	80%
DJ06D2412A		±12V	250mA*	0mA	100uF*	84%
DJ06D2415A		±15V	200mA*	0mA	100uF*	84%
DJ06D4805A	48V (18 ~ 75V)	±5V	500mA*	0mA	100uF*	80%
DJ06D4812A		±12V	250mA*	0mA	100uF*	84%
DJ06D4815A		±15V	200mA*	0mA	100uF*	84%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

NC: No Connection

DP06S/DP06D Series

FEATURES

Electrical

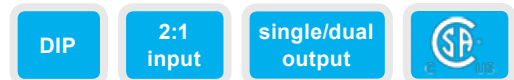
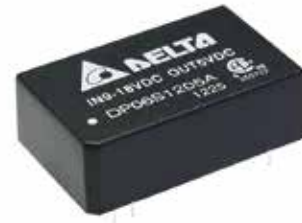
- 6W output
- Efficiency up to 86%
- 2:1 input range
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- CSA60950-1 safety approval



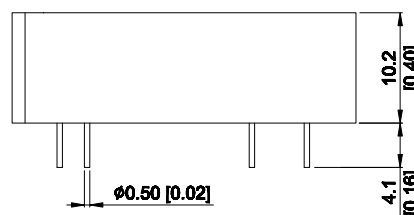
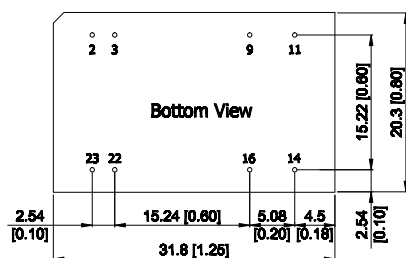
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DP06S1203A	12V (9 ~ 18V)	3.3V	1200mA	60mA	6800uF	77%
DP06S1205A		5V	1000mA	50mA	6800uF	81%
DP06S1212A		12V	500mA	25mA	6800uF	84%
DP06S2403A	24V (18 ~ 36V)	3.3V	1200mA	60mA	6800uF	79%
DP06S2405A		5V	1000mA	50mA	6800uF	83%
DP06S2412A		12V	500mA	25mA	6800uF	86%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DP06D1212A	12V	±12V	250mA*	12.5mA*	1000uF*	84%
DP06D1215A	(9 ~ 18V)	±15V	200mA*	10mA*	1000uF*	84%
DP06D2412A	24V	±12V	250mA*	12.5mA*	1000uF*	86%
DP06D2415A	(18 ~ 36V)	±15V	200mA*	10mA*	1000uF*	86%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin
NC: No Connection		

DR06S/DR06D Series

FEATURES

Electrical

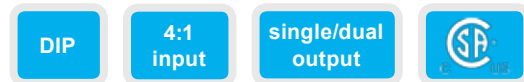
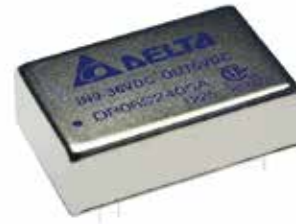
- 6W output
- Efficiency up to 86%
- Wide 4:1 input range
- Isolation voltage 1500VDC
- Temperature performance -25°C to +85°C

Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- Complies with EN55022 Class A
- CSA60950-1 safety approval
- MTBF > 1MHours



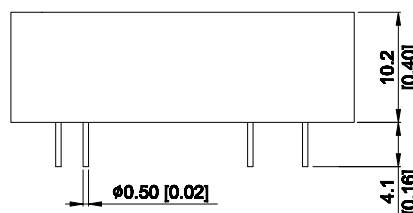
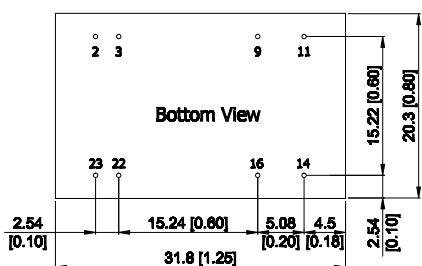
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DR06S2403A	24V (9 ~ 36V)	3.3V	1200mA	120mA	3000uF	78%
DR06S2405A		5V	1000mA	100mA	3000uF	81%
DR06S2412A		12V	500mA	50mA	3000uF	86%
DR06S2415A		15V	400mA	40mA	3000uF	85%
DR06S4803A	48V (18 ~ 75V)	3.3V	1200mA	120mA	3000uF	78%
DR06S4805A		5V	1000mA	100mA	3000uF	81%
DR06S4812A		12V	500mA	50mA	3000uF	86%
DR06S4815A		15V	400mA	40mA	3000uF	85%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DR06D2405A	24V (9 ~ 36V)	±5V	500mA*	50mA*	680uF*	81%
DR06D2412A		±12V	250mA*	25mA*	680uF*	86%
DR06D2415A		±15V	200mA*	20mA*	680uF*	85%
DR06D4805A	48V (18 ~ 75V)	±5V	500mA*	50mA*	680uF*	81%
DR06D4812A		±12V	250mA*	25mA*	680uF*	86%
DR06D4815A		±15V	200mA*	20mA*	680uF*	85%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

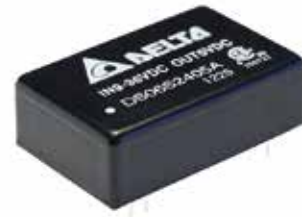
NC: No Connection

DS06S/DS06D Series

FEATURES

Electrical

- 6W output
- Efficiency up to 83%
- Wide 4:1 input range
- Isolation voltage 1500VDC
- Short circuit protection
- Operating temperature range -40°C to +85°C

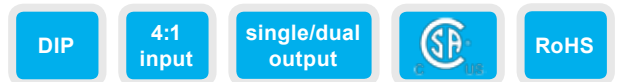


Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x10.2mm (1.25"x0.80"x0.40")

Safety & Reliability

- CSA60950-1 safety approval
- Complies with EN55022 Class A



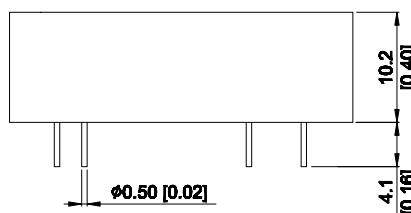
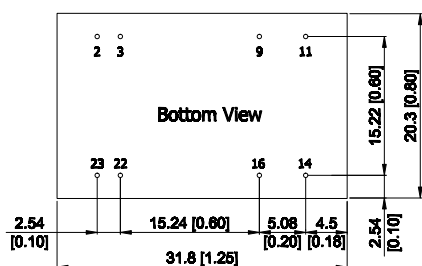
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DS06S2403A	24V (9 ~ 36V)	3.3V	1200mA	120mA	470uF	75%
DS06S2405A		5V	1000mA	100mA	470uF	78%
DS06S2412A		12V	500mA	50mA	100uF	83%
DS06S2415A		15V	400mA	40mA	100uF	82%
DS06S4803A	48V (18 ~ 75V)	3.3V	1200mA	120mA	470uF	75%
DS06S4805A		5V	1000mA	100mA	470uF	78%
DS06S4812A		12V	500mA	50mA	100uF	83%
DS06S4815A		15V	400mA	40mA	100uF	82%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DS06D2405A	24V (9 ~ 36V)	±5V	500mA*	50mA*	100uF*	78%
DS06D2412A		±12V	250mA*	25mA*	100uF*	83%
DS06D2415A		±15V	200mA*	20mA*	100uF*	82%
DS06D4805A	48V (18 ~ 75V)	±5V	500mA*	50mA*	100uF*	78%
DS06D4812A		±12V	250mA*	25mA*	100uF*	83%
DS06D4815A		±15V	200mA*	20mA*	100uF*	82%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin
NC: No Connection		

DU06S/DU06D Series

FEATURES

Electrical

- 6W output
- Efficiency up to 80%
- Fully regulated output voltage
- Reinforced insulation rated for 300VAC working voltage
- Isolation voltage 4000VACrms
- Low leakage current
- Overload protection
- Operating temperature range -40°C to +75 °C

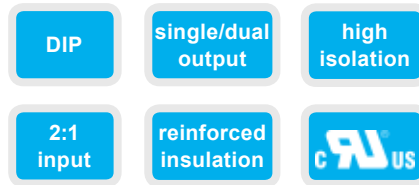


Mechanical

- DIP package with industry standard pinout
- Case size: 31.8x20.3x12.0mm (1.25"x0.8"x0.47")

Safety & Reliability

- UL60601-1 & UL60950-1 safety approval
- Complies with EN55022, class A



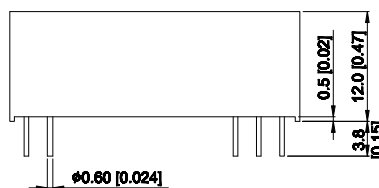
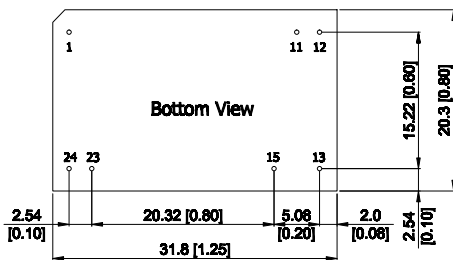
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DU06S1205A	12V	5V	1000mA	200mA	1000uF	75%
DU06S1212A	(9 ~ 18V)	12V	500mA	100mA	470uF	78%
DU06S2405A	24V	5V	1000mA	200mA	1000uF	77%
DU06S2412A	(18 ~ 36V)	12V	500mA	100mA	470uF	80%
DU06S4805A	48V	5V	1000mA	200mA	1000uF	77%
DU06S4812A	(36 ~ 75V)	12V	500mA	100mA	470uF	80%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DU06D1212A	12V	±12V	250mA*	50mA*	220uF*	78%
DU06D1215A	(9 ~ 18V)	±15V	200mA*	40mA*	220uF*	78%
DU06D2412A	24V	±12V	250mA*	50mA*	220uF*	80%
DU06D2415A	(18 ~ 36V)	±15V	200mA*	40mA*	220uF*	80%
DU06D4812A	48V	±12V	250mA*	50mA*	220uF*	80%
DU06D4815A	(36 ~ 75V)	±15V	200mA*	40mA*	220uF*	80%

* for each output

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	+Vin	+Vin
11	No Pin	Common
12	-Vout	No Pin
13	+Vout	-Vout
15	No Pin	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

DT10S/DT10D Series

FEATURES

Electrical

- 10W output
- Efficiency up to 82%
- 2:1 input voltage range
- Fully regulated output voltage
- 4200VAC reinforced insulation
- Insulation rated for 300VAC working voltage
- Low leakage current
- Overload protection
- Operating temperature range -40°C to +75 °C



Mechanical

- 2"x 1" plastic package
- Case size: 50.8x25.4x12.0mm (2.0"x1.0"x0.47")

Safety & Reliability

- Medical safety to UL/CSA/EN/IEC 60601-1 3rd edition 2 MOOP rated
- Input filter meets EN 55022, class A and FCC, level A



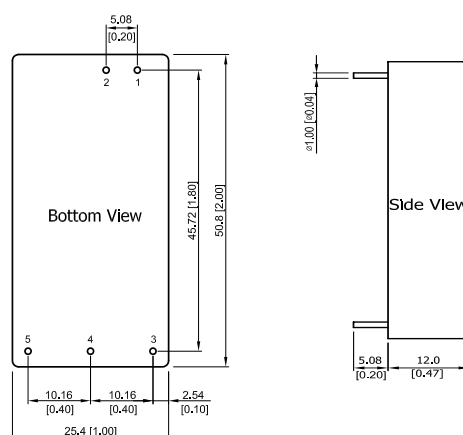
SPECIFICATIONS

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DT10S1205A	12V (9 ~ 18V)	5V	1600mA	0mA	1000uF	76%
DT10S12051A		5.1V	1600mA	0mA	1000uF	75%
DT10S1212A		12V	835mA	0mA	470uF	80%
DT10S2405A	24V (18 ~ 36V)	5V	2000mA	0mA	1000uF	77%
DT10S24051A		5.1V	2000mA	0mA	1000uF	76%
DT10S2412A		12V	835mA	0mA	470uF	81%
DT10S4805A	48V (36 ~ 75V)	5V	2000mA	0mA	1000uF	77%
DT10S48051A		5.1V	2000mA	0mA	1000uF	76%
DT10S4812A		12V	835mA	0mA	470uF	81%

Model Number	Input Voltage Range	Output Voltage	Output Current		Max Capacitive Load	Efficiency
			Max.	Min.		
DT10D1212A	12V (9 ~ 18V)	±12V	417mA*	0mA	220uF*	80%
DT10D1215A		±15V	333mA*	0mA	220uF*	81%
DT10D2412A	24V (18 ~ 36V)	±12V	417mA*	0mA	220uF*	81%
DT10D2415A		±15V	333mA*	0mA	220uF*	82%
DT10D4812A	48V (36 ~ 75V)	±12V	417mA*	0mA	220uF*	81%
DT10D4815A		±15V	333mA*	0mA	220uF*	82%

* for each output

MECHANICAL DRAWING



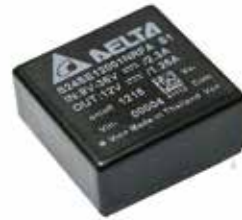
Pin Functions		
Pin	Single Output	Dual Outputs
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout

S24SE Series

FEATURES

Electrical

- High efficiency
- Industry standard footprint and pinout
- Wide 4:1 input range
- Fixed frequency operation
- OTP, input UVLO, output OCP, OVP
- Positive or negative remote ON/OFF
- Without tantalum capacitor inside module



Safety & Reliability

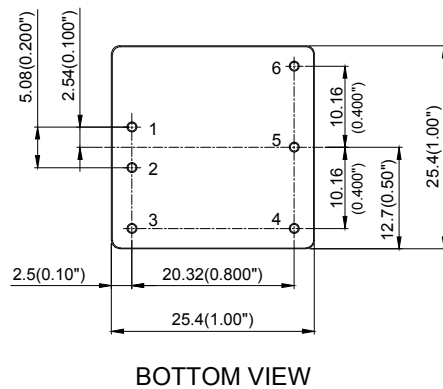
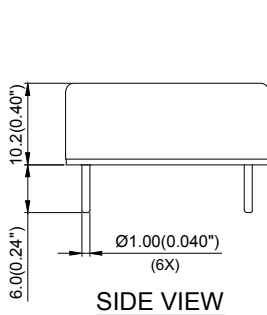
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC/EN 60950-1
- EN 50155



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S24SE3R303	9~36V	3.3V	3A	10W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE3R305	9~36V	3.3V	4.5A	15W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE3R306	9~36V	3.3V	6A	20W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE3R307	9~36V	3.3V	7.5A	30W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE05002	9~36V	5V	2A	10W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE05003	9~36V	5V	3A	15W	89.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE05004	9~36V	5V	4A	20W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE05006	9~36V	5V	6A	30W	89.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE12001	9~36V	12V	1.25A	15W	87.5%	1600V	25.4 x 25.4 x 10.2 mm
S24SE12002	9~36V	12V	1.67A	20W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE12003	9~36V	12V	2.5A	30W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE120R8	9~36V	12V	0.83A	10W	86.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE15001	9~36V	15V	1.33A	20W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE15002	9~36V	15V	2A	30W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE150R6	9~36V	15V	0.67A	10W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24SE150R9	9~36V	15V	1A	15W	87.5%	1600V	25.4 x 25.4 x 10.2 mm

MECHANICAL DRAWING



PIN	Single	Dual
1	Vin(+)	Vin(+)
2	Vin(-)	Vin(-)
3	ON/OFF	ON/OFF
4	Vout(-)	Vout(-)
5	Trim	Comm
6	Vout(+)	Vout(+)

S24DE Series

FEATURES

Electrical

- High efficiency
- Industry standard footprint and pinout
- Wide 4:1 input range
- Fixed frequency operation
- OTP, input UVLO, output OCP, OVP
- Positive or negative remote ON/OFF
- Without tantalum capacitor inside module



Safety & Reliability

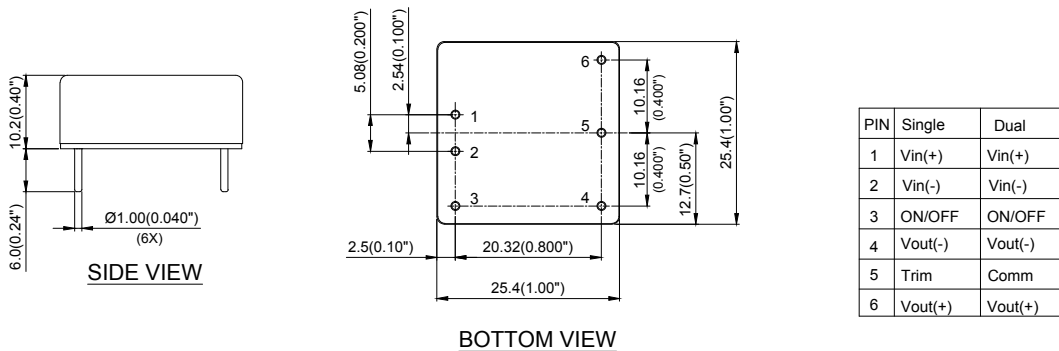
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC/EN 60950-1
- EN 50155



SPECIFICATIONS

Part Number	Input Voltage	Outputs		Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S24DE120R4	9~36V	12V/0.42A	-12V/0.42A	10W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24DE120R6	9~36V	12V/0.625A	-12V/0.625A	15W	87.5%	1600V	25.4 x 25.4 x 10.2 mm
S24DE120R8	9~36V	12V/0.83A	-12V/0.83A	20W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24DE12001	9~36V	12V/1.25A	-12V/1.25A	30W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24DE150R3	9~36V	15V/0.33A	-15V/0.33A	10W	87.0%	1600V	25.4 x 25.4 x 10.2 mm
S24DE150R5	9~36V	15V/0.5A	-15V/0.5A	15W	87.5%	1600V	25.4 x 25.4 x 10.2 mm
S24DE150R6	9~36V	15V/0.67A	-15V/0.67A	20W	88.0%	1600V	25.4 x 25.4 x 10.2 mm
S24DE15001	9~36V	15V/1.33A	-15V/1.33A	30W	88.0%	1600V	25.4 x 25.4 x 10.2 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

S	24	S	E	050	02	P	D	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
S - Small Power	24 - 9~36V	S - Single D - Dual	E - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V or ±12V 150 - 15V or ±15V	02 - 2A 03 - 3A 04 - 4A 06 - 6A etc.	N - Negative P - Positive	R - 0.17\"	F - RoHS 6/6 (Lead Free)	A - Standard (with metal case) H - With metal case and heat sink

S24SP Series

FEATURES

Electrical

- High efficiency
- Industry standard footprint and pinout
- Wide 4:1 input range
- Fixed frequency operation
- OTP, input UVLO, output OCP, OVP
- Positive or negative remote ON/OFF
- Without tantalum capacitor inside module

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- EN 50155



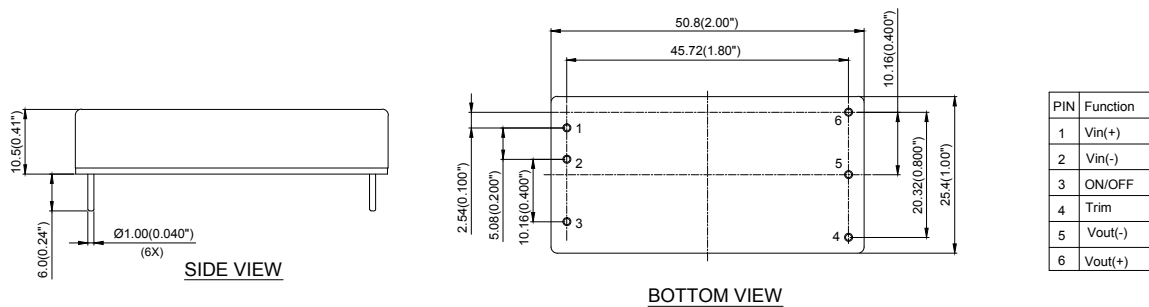
2" x 1"

4:1
input

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S24SP05012	9~36V	5V	4.5~5.5V	12A	60W	92.4%	1500V	50.8 x 25.4 x 10.5 mm
S24SP12005	9~36V	12V	10.8~13.2V	5A	60W	92.8%	1500V	50.8 x 25.4 x 10.5 mm
S24SP15004	9~36V	15V	13.5~16.5V	4A	60W	93.3%	1500V	50.8 x 25.4 x 10.5 mm
S24SP24003	9~36V	24V	21.6~26.4V	2.5A	60W	93.3%	1500V	50.8 x 25.4 x 10.5 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

S	24	S	P	050	12	P	D	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
S - Small Power	24 - 9~36V	S - Single	P - Family Name	050 - 5V 120 - 12V 150 - 15V 240 - 24V	03 - 2.5A 04 - 4A 05 - 5A 12 - 12A	N - Negative P - Positive	R - 0.17" T - 0.22" D - 0.24"	F - RoHS 6/6 (Lead Free)	A - Standard (with metal case) H - With metal case and heat sink

S36SE Series

FEATURES

Electrical

- High efficiency
- 4:1 input range
- Fixed frequency operation
- OTP, input UVLO, output OCP, OVP
- Isolation and basic insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF



Safety & Reliability

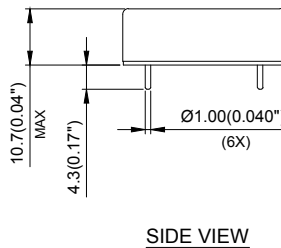
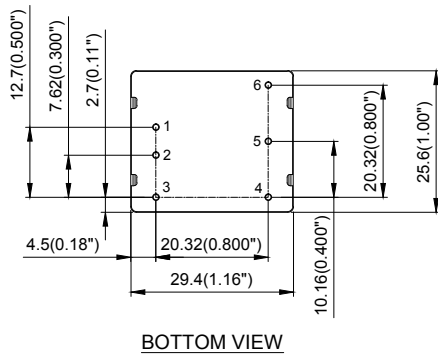
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC 60950-1



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
S36SE3R305	18~75V	3.3V	2.7~3.63V	5A	16.5W	86.5%	2250V	29.4 x 25.6 x 10.7 mm
S36SE05003	18~75V	5V	4.4~5.5V	3A	15W	83.5%	2250V	29.4 x 25.6 x 10.7 mm
S36SE12001	18~75V	12V	10.8~13.2V	1.3A	15.5W	87.0%	2250V	29.4 x 25.6 x 10.7 mm

MECHANICAL DRAWING



Pin#	Function
1	VIN(+)
2	VIN(-)
3	ON/OFF
4	VOUT(-)
5	TRIM
6	VOUT(+)

PART NUMBERING SYSTEM

S	36	S	E	050	03	N	R	F	G
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
S - Small Power	36- 18~75V	S - Single	E - Family Name	3R3 - 3.3V 050 - 5.0V 120 - 12V	01 - 1.3A 03 - 3A 05 - 5A	N - Negative P - Positive E - No remote on/off control pin	K - 0.110" N - 0.145" R - 0.170"	F- RoHS 6/6 (Lead Free)	G - Encapsulated

HA1SV Series

FEATURES

Electrical

- High efficiency
- Industry standard footprint and pinout
- Wide input range
- Fixed frequency operation
- OTP, Input UVLO, OVP, Output OCP, OVP
- Isolation and reinforce insulation
- Pre-biased startup
- No minimum load required
- Positive or negative remote ON/OFF
- Remote sense



Safety & Reliability

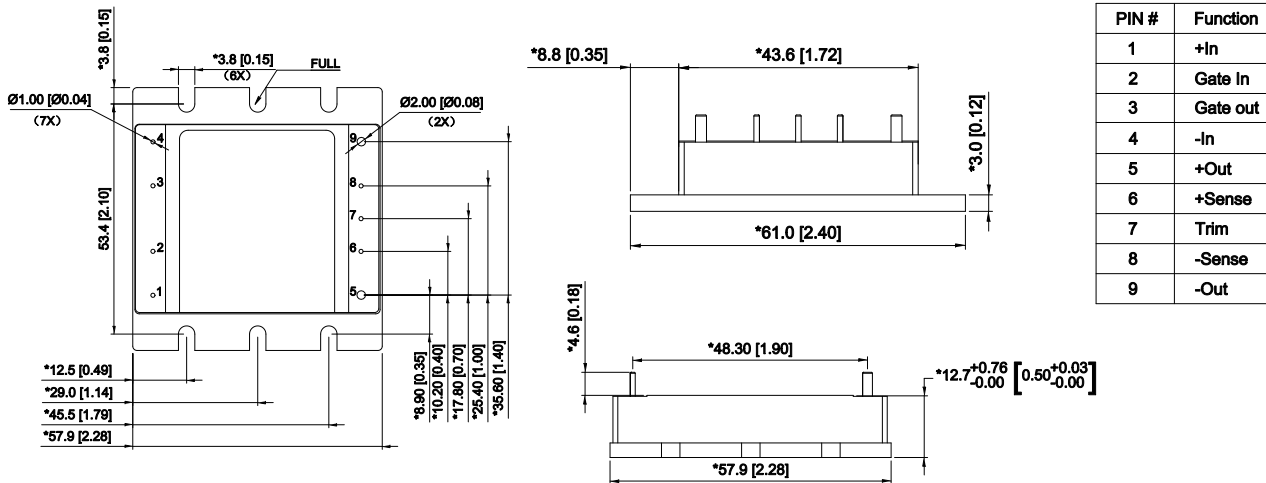
- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC/EN 60950-1
- EN 50155



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
HA1SV12004	53~154V	12V	10.8~13.2V	4.2A	50W	86%	3000V	61 x 57.9 x 12.7 mm
HA1SV12008	53~154V	12V	10.8~13.2V	8.3A	100W	86%	3000V	61 x 57.9 x 12.7 mm
HA1SV15007	53~154V	15V	13.5~16.5V	6.7A	100W	88.5%	3000V	61 x 57.9 x 12.7 mm
HA1SV24002	53~154V	24V	21.6~26.4V	2.1A	50W	87%	3000V	61 x 57.9 x 12.7 mm
HA1SV24005	53~154V	24V	21.6~26.4V	5A	120W	89%	3000V	61 x 57.9 x 12.7 mm

MECHANICAL DRAWING



PART NUMBERING SYSTEM

H	A1	S	V	120	04	P	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length Pin Type	RoHS	Option Code
H - Half Brick	110 - 53V~154V	S - Single	V - Family Name	120 - 12V 150 - 15V 240 - 24V	02 - 2.1A 04 - 4.2A 05 - 5.0A 07 - 6.7A 08 - 8.3A	N - Negative P - Positive	N - 0.145" R - 0.170" M - SMD pin	F - RoHS 6/6 (Lead Free) Space - RoHS5/6	A - With baseplate

HD0SR Series

FEATURES

Electrical

- High efficiency: 94%
- Parallelable application
- Monotonic startup into normal and pre-biased loads
- PMBus Rev.1.2 compliance
- OTP, Input UVLO, Output OCP & OVP
- Reinforce insulation
- 4242V isolation voltage
- No minimum load required

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07



1/2
brick

digital
control

high
isolation

reinforced
insulation

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Vo trim range	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
HD0SR48013	200~400V	48V	38.4~57.6V	13A	600W	94%	4242V	72.5 x 65.6 x 12.7 mm
HD0SR24025	200~400V	24V	19.2~28.8V	25A	600W	94%	4242V	72.5 x 65.6 x 12.7 mm
HD0SR12050	200~400V	12V	9.6~14.4V	50A	600W	94%	4242V	72.5 x 65.6 x 12.7 mm

MECHANICAL DRAWING

TOP VIEW
 Dimensions: 66.00(2.602"), 3.30(0.130"), 2.60(0.102"), 67.70(2.667"), 72.90(2.871"), 15.00(0.591"), 18.00(0.713"), 36.00(1.417"), 15.24(0.603")

BOTTOM VIEW
 Dimensions: 12.30(0.484"), 48.26(1.900"), 3.50(0.138"), 35.56(1.400"), 25.40(1.000"), 10.16(0.400"), 15.24(0.603"), 17.78(0.700"), 2.00(0.079") (8X)

SIDE VIEW
 Dimensions: 4.80(0.192"), 3.00(0.122"), 12.70(0.500"), 1.00(0.039") (4X), 1.50(0.063") (2X), sq.0.50(0.020") (9X)

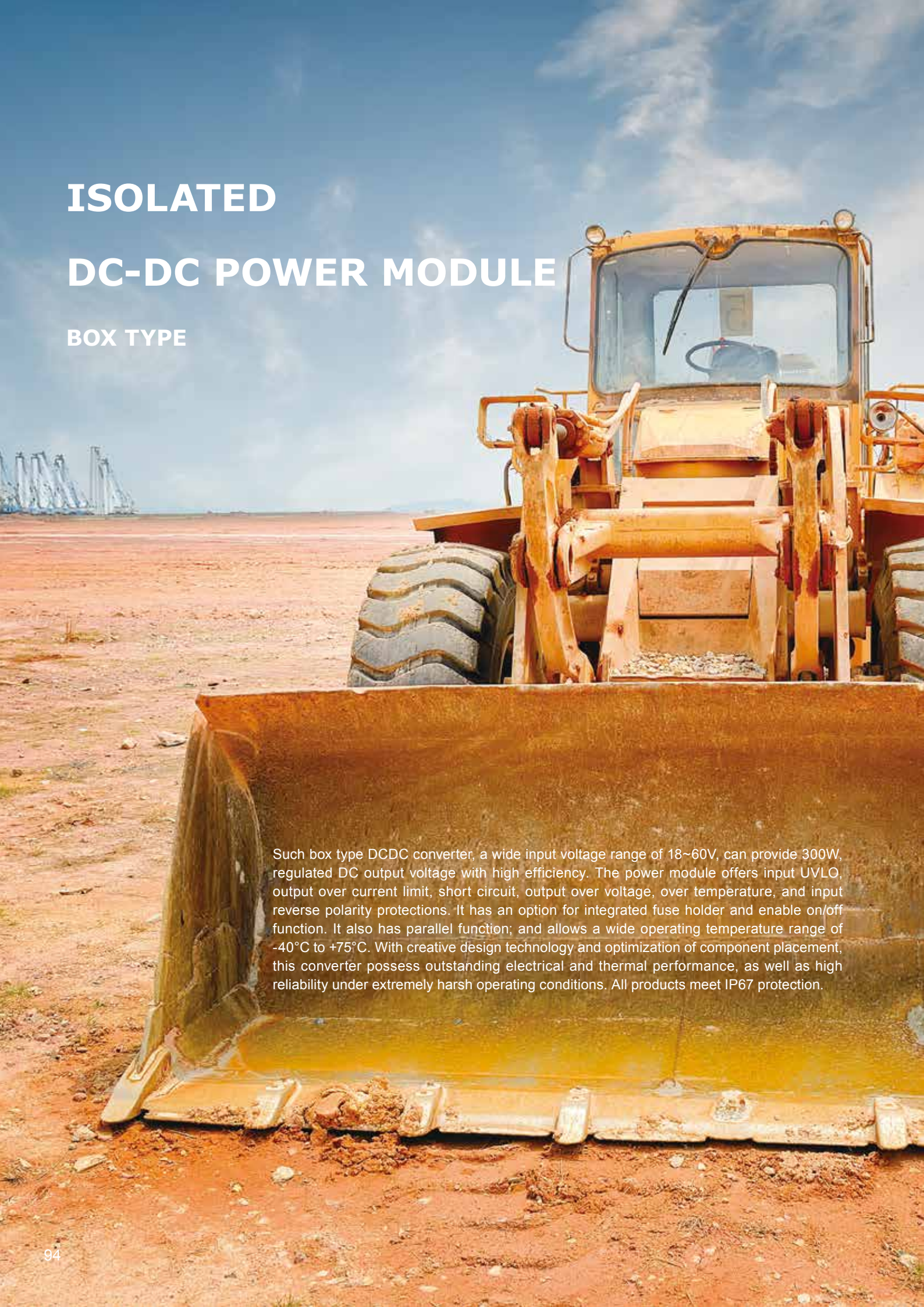
Pin	Function
1	INPUT+
2	ON/OFF
3	BCAP
4	INPUT-
5	OUTPUT-
6	OUTPUT+
7	IO
8	ON/OFF
9	SGND
10	DATA
11	ALERT
12	CLK
13	ADDR1
14	ADDR0
15	TRIM

PART NUMBERING SYSTEM

H	D0	S	R	480	13	N	R	F	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	ON/OFF Logic	Pin Length	RoHS	Option Code
H - Half Brick	D0 - 200~400V	S - Single	R - Family Name	120 - 12V 480 - 48V	13 - 13A 50 - 50A	N - Negative	K - 0.110" N - 0.145" R - 0.170"	F - RoHS 6/6 (Lead Free)	A - With heat spreader and potting

ISOLATED DC-DC POWER MODULE

BOX TYPE

A yellow bulldozer is shown from a rear-quarter perspective, parked on a vast, flat, reddish-brown desert landscape under a blue sky with scattered white clouds. The bulldozer's large, treaded tires and heavy-duty metal blade are prominent. In the far distance, some industrial structures are visible on the horizon.

Such box type DCDC converter, a wide input voltage range of 18~60V, can provide 300W, regulated DC output voltage with high efficiency. The power module offers input UVLO, output over current limit, short circuit, output over voltage, over temperature, and input reverse polarity protections. It has an option for integrated fuse holder and enable on/off function. It also has parallel function; and allows a wide operating temperature range of -40°C to +75°C. With creative design technology and optimization of component placement, this converter possess outstanding electrical and thermal performance, as well as high reliability under extremely harsh operating conditions. All products meet IP67 protection.

B40SR/B62SR/B70SR Series

FEATURES

Electrical

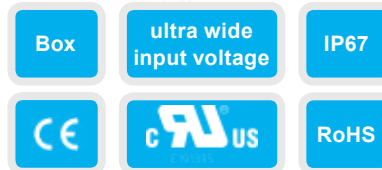
- Ultra wide input voltage range 18~106V
- Intergrated fuse holder (optional)
- Parallel connection of multiple units
- Operating temperature range -40°C to +75°C
- Minimized inrush current
- Input reverse polarity protection
- OTP, input UVLO, output OCL, SCP, OVP
- Enable on/off (option)
- Isolation voltage 2250VDC

Mechanical

- Box type package with metal base plate
- Package dimension: 190x76x44mm
- IP67 protection

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07
- IEC/EN 60950-1



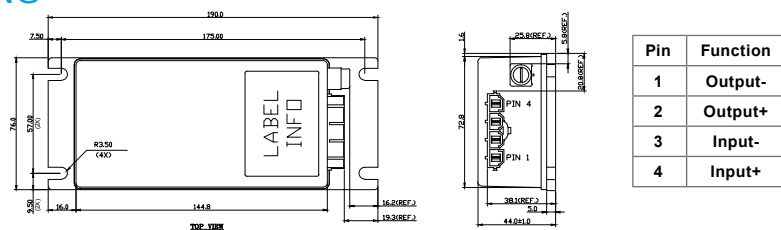
SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency
B40SR12424DP	18~60V	12.4V	24A	300W	88.3%
B40SR12424A/B/C/D	18~60V	12.4V	24A	200W @18~27Vin	88.3%
B40SR13722A/B/C/D	18~60V	13.7V	22A	300W @27~60Vin	88.5%
B62SR12424A/B/C/D	18~106V	12.4V	24A	200W @18~27Vin	88.0%
B62SR13722A/B/C/D	18~106V	13.7V	22A	300W @27~106Vin	88.5%
B62SR24125A/B/C/D	18~106V	24V	12.5A		91.0%
B70SR12424A/B/C/D	36~106V	12.4V	24A		89.5%
B70SR13722A/B/C/D	36~106V	13.7V	22A	300W	90.2%
B70SR24125A/B/C/D	36~106V	24V	12.5A		92.5%

MECHANICAL DRAWING

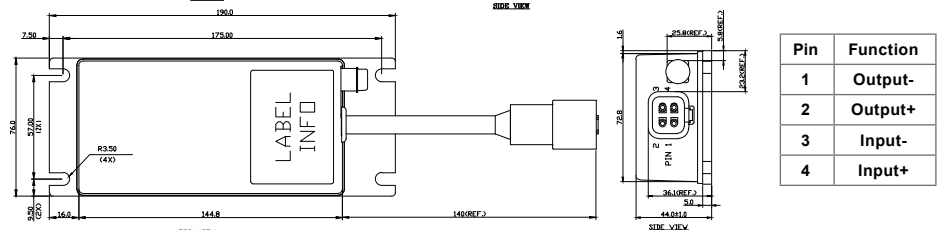
BXXSRXXXXXA

- With built-in fuse holder
- No enable pin



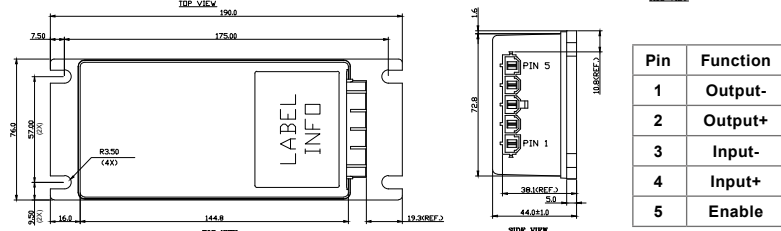
BXXSRXXXXXB

- With built-in fuse holder
- No enable pin
- With sealed connector & fuse holder



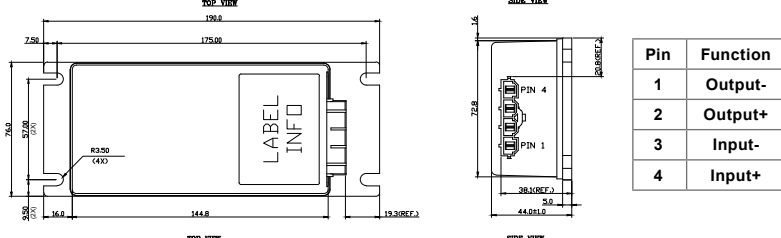
BXXSRXXXXXC


- No built-in fuse holder
- With enable pin



BXXSRXXXXXD

- No built-in fuse holder
- No enable pin





**NON-ISOLATED
POINT-OF-LOAD
DC-DC POWER MODULE**

Product Overview

Digital POL

DGQ25A is a digital non-isolated POL power module that can achieve high efficiency, automatic compensation, fast transient response, PMBus communication and parallel operation. It can provide a programmable output voltage by using an external resistor or through PMBus command.

Page 98



Power Block

Power block DC-DC power modules are developed to address the ever-growing demands of increased current and power densities in networking applications while providing maximum flexibility for system configuration. Power block modules, containing all necessary power components with high power density, work with either digital or analog controllers. Multiple modules can be applied to power system, in parallel.

Page 99



Integrated POL

Integrated Point-of-Load power modules are designed in an industry standard, compact, IC-like, molded package. They are highly integrated and do not require external components to provide the point-of-load function. A copper pad on the back of the module, in close contact with the internal heat dissipation components, provides excellent thermal performance. All integrated POL power modules are manufactured by fully automatic assembly.

Page 102-103



DOSA Standard POL

DOSA POL power modules are designed in an industry standard footprint and pinout. Each provides programmable output voltage by using an external resistor. Some series have flexible and programmable tracking and sequencing features to enable a variety of startup voltage as well as sequencing and tracking between power modules. DOSA I POL power modules are available in SIP and SMD package. DOSA II POL power modules are packaged by SMD.

Page 100-101



Datacom POL

Compared with NC series products, the second generation of datacom POL power modules provide wide input range for more bus voltage point-of-load applications. Datacom POL power converters can cover output current from 3A to 80A to meet various demands.

Page 104-105



Digital POL

DGQ Series

FEATURES

Electrical

- High efficiency
- Digital controller with auto compensation
- PMBUS compatibility
- Fast transient response
- Wide input range
- Pre-bias startup
- No minimum load required
- Output voltage programmable via external resistor or PMBUS command
- Default fixed frequency operation;
Frequency can be synchronized with an external clock
- OTP, input UVLO, output OCP, OVP, SCP
- Remote ON/OFF



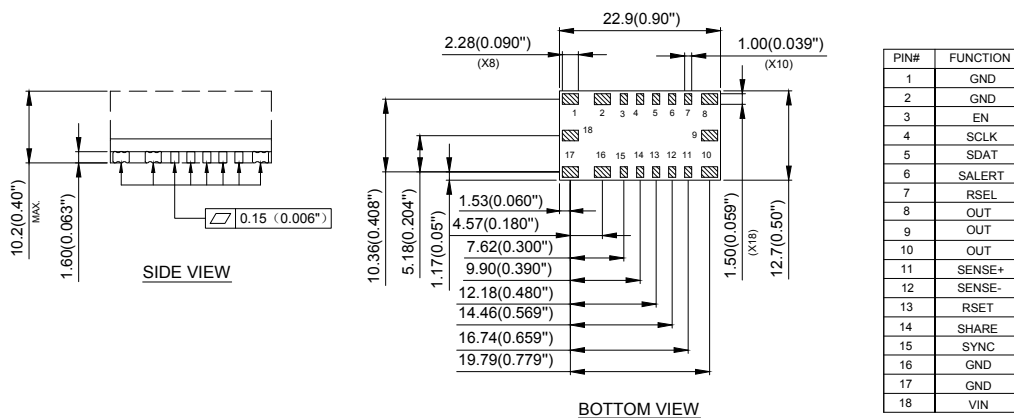
Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
DGQ12S0A0S25PFA	8~12.8V	0.7~3.3V	25A	82.5W	93.7%	SMD	22.9x12.7x10.2 mm

MECHANICAL DRAWING



Power Block

FEATURES

Electrical

- High efficiency
- Small size with SMD package
- Parallelable units
- OTP, Input UVLO, Output OCP, OVP, SCP (determined by controller)

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

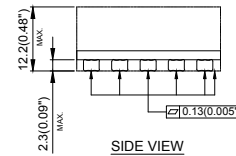
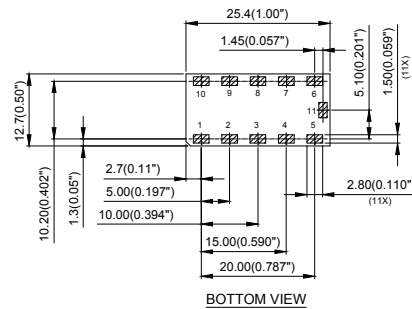


SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
D12S1R830D	7~13.2V	0.8~1.8V	30A	54W	91.5%	SMD	25.4x12.7x12.2 mm
D12S72C	7~13.2V	0.8~1.8V	40A	72W	91.5%	SMD	25.4x15.7x12.7 mm

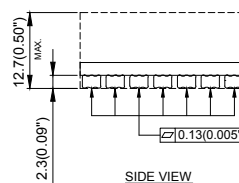
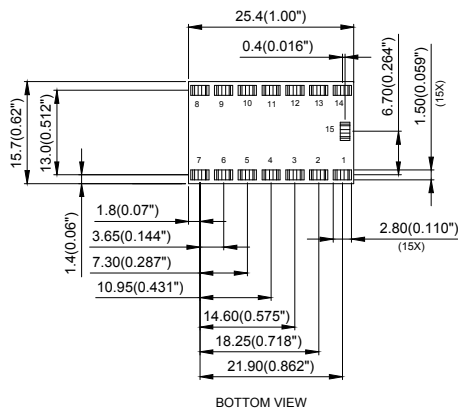
MECHANICAL DRAWING

D12S1R830D



PIN#	Function
1	Vout
2	GND
3	PWM
4	Temperature
5	+7V
6	Vin
7	-Cs
8	+Cs
9	GND
10	Vout
11	GND

D12S72C



PIN#	Function	PIN#	Function
1	Vin	9	GND
2	GND	10	Cs-
3	+7Vin	11	Vout
4	PWML	12	Vout
5	PWMH	13	GND
6	GND	14	Temp-
7	Vin	15	Temp+
8	Cs+		

DOSA Standard POL

DOSA I

FEATURES

Electrical

- High efficiency
- Pre-bias startup
- No minimum load required
- Output voltage programmable via external resistor
- Fixed frequency operation
- Output voltage tracking (optional)
- Current sharing (optional)
- Input UVLO, Output OCP
- Output OTP (optional)
- Remote ON/OFF
- Remote sense (optional)



Mechanical

- Standard footprint with SIP or SMD package

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
DNT04S0A0R03NFA	2.4~5.5V	0.75~3.63V	3A	11W	93.5%	SIP	22.86x10.16x6.35 mm
DNT04S0A0S03NFA						SMD	20.32x11.43x6.86 mm
DNT12S0A0R03NFA	8.3~14V	0.75~5V	3A	15W	92.5%	SIP	22.86x10.16x6.35 mm
DNT12S0A0S03NFA						SMD	20.32x11.43x6.86 mm
DNT04S0A0R05NFA	2.4~5.5V	0.75~3.63V	5A	18W	93.5%	SIP	22.86x10.16x6.35 mm
DNT04S0A0S05NFA						SMD	20.32x11.43x6.86 mm
DNT12S0A0R05NFA	8.3~14V	0.75~5V	5A	25W	92.5%	SIP	22.86x10.16x6.35 mm
DNT12S0A0S05NFA						SMD	20.32x11.43x6.86 mm
DNS04S0A0R06PFD	2.8~5.5V	0.75~3.63V	6A	22W	94.0%	SIP	25.4x12.7x6.7 mm
DNS04S0A0S06PFD						SMD	27.9x11.4x7.1 mm
DNS10S0A0R06PFD	8.3~14V	0.75~5V	6A	30W	89.5%	SIP	25.4x12.7x6.7 mm
DNS10S0A0S06PFD						SMD	27.9x11.4x7.1 mm
DNM04S0A0R10PFD	2.8~5.5V	0.75~3.63V	10A	36W	96.0%	SIP	50.8x13.4x8.5 mm
DNM04S0A0S10PFD						SMD	33.0x13.5x8.8 mm
DNM10S0A0R10PFD	8.3~14V	0.75~5V	10A	50W	93.0%	SIP	50.8x12.7x9.5 mm
DNM10S0A0S10PFD						SMD	33.0x13.5x8.8 mm
DNL04S0A0R16PFD	2.8~5.5V	0.75~3.63V	16A	58W	95.0%	SIP	50.8x13.4x8.5 mm
DNL04S0A0S16PFD						SMD	33.0x13.5x8.8 mm
DNL10S0A0R16PFD	8.3~14V	0.75~5V	16A	80W	92.0%	SIP	50.8x12.7x9.5 mm
DNL10S0A0S16PFD						SMD	33.0x13.5x9.7 mm
DNK05S0A0R30NFA	4.5~5.5V	0.8~3.63V	30A	109W	95.0%	SIP	50.8x12.7x14.0 mm
DNK12S0A0R30NFA	6~14V	0.8~5V	30A	150W	95%	SIP	50.8x12.7x14.0 mm

DOSA Standard POL

DOSA II

FEATURES

Electrical

- High efficiency
- Pre-bias startup
- No minimum load required
- Output voltage programmable via external resistor
- Fixed frequency operation
- Output voltage tracking (optional)
- Current sharing (optional)
- Input UVLO, Output OCP
- Output OTP (optional)
- Remote ON/OFF
- Remote sense (optional)

Mechanical

- Standard footprint with SIP or SMD package

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07



DCT12S0A0S03PFA



DCM12S0A0S12NFA



DCL12S0A0S20NFA

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
DCT04S0A0S03NFA	2.4~5.5V	0.6~3.3V	3A	10W	96.5%	SMD	12.2x12.2x7.45 mm
DCT12S0A0S03PFA	4.5~14V	0.59~5V	3A	16.5W	94.9%	SMD	12.2x12.2x7.45 mm
DCS04S0A0S06NFA	2.4~5.5V	0.6~3.63V	6A	22W	94.0%	SMD	12.2x12.2x7.45 mm
DCS12S0A0S06NFA	4.5~14V	0.59~5V	6A	33W	94.3%	SMD	12.2x12.2x7.45 mm
DCM04S0A0S12PFA	2.4~5.5V	0.6~3.3V	12A	40W	95.0%	SMD	20.3x11.4x8.50 mm
DCM12S0A0S12NFA	4.5~14V	0.69~5.5V	12A	66W	95.4%	SMD	20.3x11.4x8.50 mm
DCK12S0A0S30NFA	6~14V	0.8~3.3V	30A	99W	92.8%	SMD	33.0x13.5x10.0 mm
DCL12S0A0S20NFA	4.5~14V	0.69~5V	20A	100W	93.0%	SMD	33.0x13.5x8.50 mm

Integrated POL

IPM Series

FEATURES

Electrical

- High efficiency
- Monotonic startup into normal and pre-bias startup
- Output voltage adjustment
- No minimum load required
- Fixed frequency operation
- Copper pad to provide excellent thermal performance
- Input UVLO, Output OCP, SCP
- Remote ON/OFF



Mechanical

- Small size with SIP or SMD package

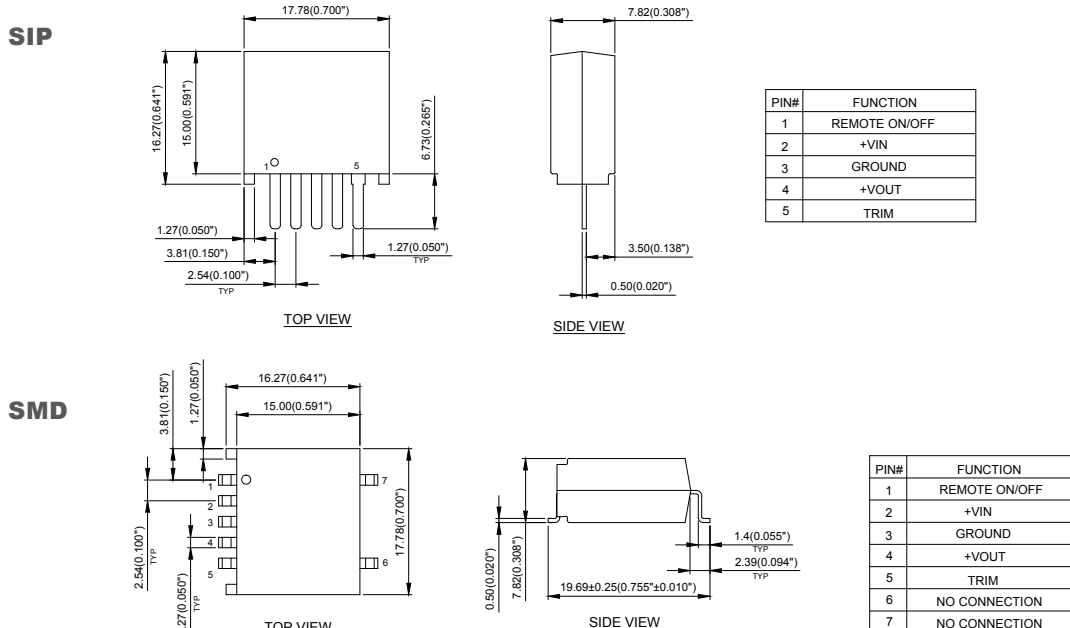
Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
IPM04C0A0R06FA	3~5.5V	0.8~3.3V	6A	19.8W	93%	SIP	17.8x15.0x7.8 mm
IPM04C0A0S06FA						SMD	
IPM04S0A0R10FA	3~5.5V	0.8~3.3V	10A	33W	94%	SIP	17.8x15.0x7.8 mm
IPM04S0A0S10FA						SMD	
IPM12C0A0R04FA	8~14V	0.8~5V	4A	20W	91%	SIP	17.8x15.0x7.8 mm
IPM12C0A0S04FA						SMD	
IPM12S0A0R08FA	8~14V	0.8~5V	8A	40W	93%	SIP	17.8x15.0x7.8 mm
IPM12S0A0S08FA						SMD	
IPM24S0A0R03FA	8~36V	1.2~2.5V	3A	7.5W	85%	SIP	17.8x15.0x7.8 mm
IPM24S0A0S03FA						SMD	
IPM24S0B0R03FA	11~36V	3.3~6.5V	3A	19.5W	91%	SIP	17.8x15.0x7.8 mm
IPM24S0B0S03FA						SMD	
IPM24S0C0R03FA	20~36V	8~15V	3A	45W	95%	SIP	17.8x15.0x7.8 mm
IPM24S0C0S03FA						SMD	

MECHANICAL DRAWING



Integrated POL

PM05S Series

FEATURES

Electrical

- Efficiency up to 97%
- Wide input range
- Excellent line/loads regulation
- Operating temperature range -40°C to +80°C
- Low ripple and noise
- Low stand-by current
- Short circuit protection, thermal shutdown



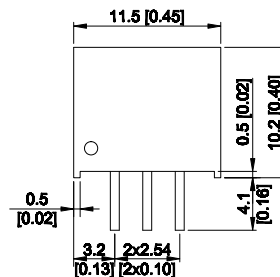
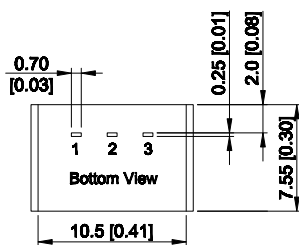
Mechanical

- SIP Package 11.5x7.5x10.2 mm

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
PM05S015A	4.75~32V	1.5V	0.5A	0.75W	73%	SIP	11.5x7.5x10.2 mm
PM05S018A	4.75~32V	1.8V	0.5A	0.9W	82%	SIP	11.5x7.5x10.2 mm
PM05S025A	4.75~32V	2.5V	0.5A	1.25W	87%	SIP	11.5x7.5x10.2 mm
PM05S033A	4.75~32V	3.3V	0.5A	1.65W	91%	SIP	11.5x7.5x10.2 mm
PM05S050A	6.5~32V	5.0V	0.5A	2.5W	94%	SIP	11.5x7.5x10.2 mm
PM05S065A	8~32V	6.5V	0.5A	3.25W	95%	SIP	11.5x7.5x10.2 mm
PM05S090A	11~32V	9.0V	0.5A	4.5W	96%	SIP	11.5x7.5x10.2 mm
PM05S120A	15~32V	12V	0.5A	6W	97%	SIP	11.5x7.5x10.2 mm
PM05S150A	18~32V	15V	0.5A	7.5W	97%	SIP	11.5x7.5x10.2 mm

MECHANICAL DRAWING



Pin	Function
1	+Vin
2	GND
3	+Vout

Datacom POL

Generation I

FEATURES

Electrical

- High efficiency
- No minimum load required
- Output voltage programmable via external resistor
- Fixed frequency operation
- Input UVLO, Output OCP, OVP, SCP
- Remote ON/OFF
- Remote sense

Mechanical

- Small size with vertically or horizontally mounted through-hole package

Safety & Reliability

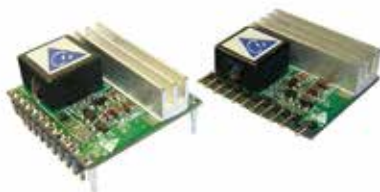
- UL 60950-1 & CSA C22.2 No.60950-1-07



NC12S0A0V06PNFA

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
NC12S0A0H06PNFA	10.2~13.8V	0.9~5V	6A	30W	91%	DIP	30.5x15.5x12.3 mm
NC12S0A0V06PNFA						SIP	30.5x15.5x11.7 mm
NC12S0A0H15PNFA	10.2~13.8V	0.9~5V	15A	75W	91%	DIP	30.5x27.9x12.9 mm
NC12S0A0V15PNFA						SIP	30.5x27.9x11.4 mm
NC12S0A0H20PNFA	10.2~13.8V	0.9~5V	20A	100W	91%	DIP	30.5x27.9x12.9 mm
NC12S0A0V20PNFA						SIP	30.5x27.9x11.4 mm
NC12S0A0H30PNFA	10.2~13.8V	0.9~5V	30A	150W	94%	DIP	61.0x31.8x12.32 mm
NC12S0A0V30PNFA						SIP	61.0x31.8x12.32 mm
NC12S0A0H40PNFA	10.2~13.8V	0.9~5V	40A	200W	92%	DIP	61.0x31.8x12.32 mm
NC12S0A0V40PNFA						SIP	61.0x31.8x12.32 mm
NC12S0A0H60PNFA	11.04~12.6V	0.9~5V	60A	300W	95%	DIP	81.3x32.0x13.5 mm
NC12S0A0V60PNFA						SIP	81.3x32.0x13.5 mm



NC12S0A0H15PNFA

NC12S0A0V15PNFA



NC12S0A0V60PNFA

Datacom POL

Generation II

FEATURES

Electrical

- High efficiency
- No minimum load required
- Output voltage programmable via external resistor
- Fixed frequency operation
- Wide input range
- Input UVLO, Output OCP, OVP, SCP
- Remote ON/OFF
- Remote sense
- Power good function

Mechanical

- Small size with vertically or horizontally mounted through-hole package

Safety & Reliability

- UL 60950-1 & CSA C22.2 No.60950-1-07



D12S05020-1



NE12S0A0V03PNFA



DUS1250E

SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Package	Size (LxWxH)
NE12S0A0H03PNFA NE12S0A0V03PNFA	3~13.8V	0.59~5V	3A	15W	92.5%	DIP SIP	9.4x15.5x7.9 mm 9.4x15.5x6.6 mm
NE12S0A0H06PNFA NE12S0A0V06PNFA	3~13.8V	0.59~5.1V	6A	30.6W	94.5%	DIP SIP	10.4x16.5x11.5 mm 10.4x16.5x11.0 mm
NE12S0A0H10PNFA NE12S0A0V10PNFA	3~13.8V	0.59~5.1V	10A	51W	94.0%	DIP SIP	10.4x16.5x11.5 mm 10.4x16.5x11.0 mm
DUS1250E	2.97~13.2V	0.59~5V	10A	50W	92.0%	SIP	17.15x13.97x8.07 mm
NE12S0A0V20PNFA	4.5~13.8V	0.59~5.1V	20A	102W	94.0%	SIP	30.5x15.5x12.0 mm
D12S05020-1	4.5~13.2V	0.59~5V	20A	100W	93.4%	SIP	30.5x15.5x12.0 mm
D12F200	4.5~13.8V	0.6~5V	40A	200W	94.0%	SIP	30.5x27.9x11.1 mm
ND12S0A0H40PKFA ND12S0A0V40PKFA	8~13.8V	0.9~5V	40A	200W	94.0%	DIP SIP	36.8x32.2x14.8 mm 36.8x32.2x13.0 mm
D12S2R550	4.5~13.8V	0.6~5V	50A	250W	93.6%	SIP	33.0x28.0x20.2 mm
D12S300-1	4.5~13.8V	0.6~5V	60A	300W	94.0%	SIP	65.53x31.75x11 mm
D12S400	10.8~13.2V	0.8375~5V	80A	400W	94.0%	SIP	61.0x31.8x12.3 mm



D12F200



D12S2R550



D12S300-1





**AC-DC
POWER MODULE**

FEATURES

Electrical

- Ultra-compact AC-DC power supply for PCB mounting
- Over load and over voltage protection
- EMI meets EN55022, Class B and EMS compliance to EN61000-4
- Universal input voltage range 85-264 VAC, 47-440 Hz
- High efficiency
- 3kVAC isolation , protection Class II level
- Lead free, RoHs compliant

Safety & Reliability

- UL/IEC/EN 60950-1 certified
- CE Marked



PART NUMBERING SYSTEM

A	A	04	D	12	12	A
Product Type	Family Series	Output Power	Number of Outputs	Output Voltage I	Output Voltage II	Option Code
AC/DC Power Module	Industrial application	04 - 4W 07 - 7W 10 - 10W	S - Single D - Dual	03 - 3.3V 05 - 5V 09 - 9V 12 - 12V 15 - 15V 24 - 24V	00 - not applicable 05 - 5V 12 - 12V 15 - 15V	A - PCB Mount

AA04 Series

SPECIFICATIONS

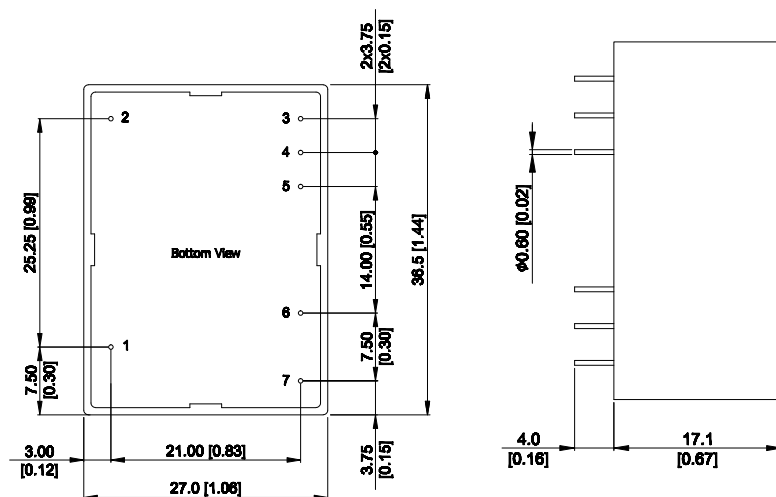
- 4W output
- 3kV isolation voltage
- 27 x 36.5 x 17.1 mm



Part number	Output		Efficiency
AA04S0300A	3.3V / 1.2A	-	70%
AA04S0500A	5V / 0.8A	-	72%
AA04S0900A	9V / 0.444A	-	75%
AA04S1200A	12V / 0.333A	-	76%
AA04S1500A	15V / 0.267A	-	76%
AA04S2400A	24V / 0.167A	-	77%
AA04D0305A	3.3V / 0.15A	5V / 0.6A	72%
AA04D0512A	5V / 0.12A	12V / 0.25A	75%
AA04D1212A	12V / 0.166A	-12V / 0.166A	77%
AA04D1515A	15V / 0.133A	-15V / 0.133A	77%

MECHANICAL DRAWING

Pin	Pin Functions		
	Single Output	Dual Output ±12 / ±15	AA04D0305A AA04D0512A
1		NC	
2		NC	
3	+Vout	+Vout	+Vout1
4	-Vout	Common	Common
5	No Pin	-Vout	+Vout2
6		AC(N)	
7		AC(L)	



AA07 Series



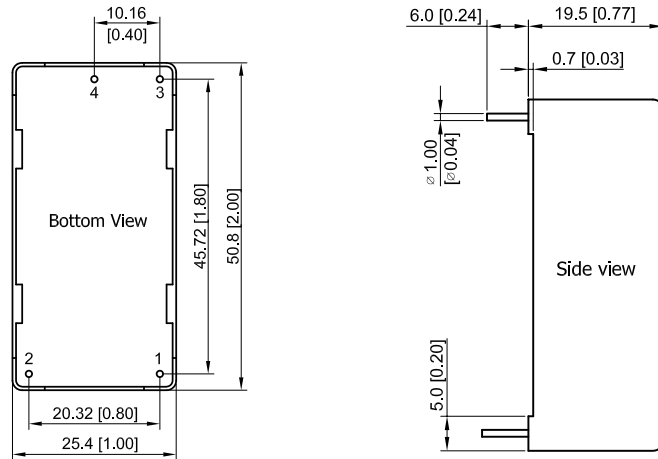
SPECIFICATIONS

- 7W output
- 3kV isolation voltage
- 25.4 x 50.8 x 19.5 mm

Part number	Output	Efficiency
AA07S0300A	3.3V / 1.4A	70%
AA07S0500A	5V / 1.4A	73%
AA07S1200A	12V / 0.583A	78%
AA07S1500A	15V / 0.466A	78%
AA07S2400A	24V / 0.291A	78%

MECHANICAL DRAWING

Pin Functions	
Pin	Function
1	AC(N) – AC Neutral
2	AC(L) – AC Line
3	+Vout
4	-Vout



AA10 Series



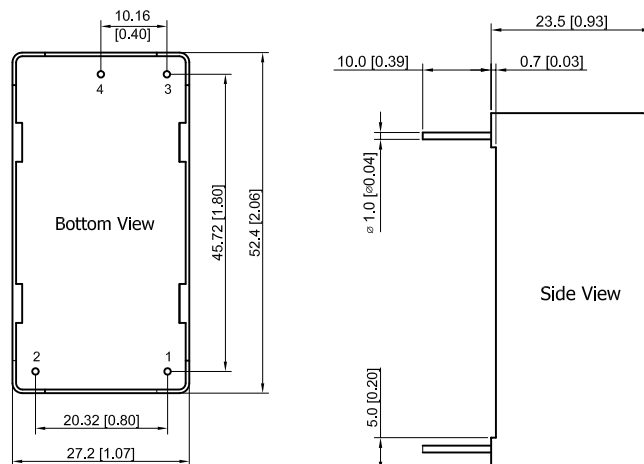
SPECIFICATIONS

- 10W output
- 3kV isolation voltage
- 27.2 x 52.4 x 23.5 mm

Part number	Output	Efficiency
AA10S0300A	3.3V / 2.5A	70%
AA10S0500A	5V / 2A	72%
AA10S1200A	12V / 0.833A	76%
AA10S1500A	15V / 0.667A	75%
AA10S2400A	24V / 0.417A	72%

MECHANICAL DRAWING

Pin Functions	
Pin	Function
1	AC(N) – AC Neutral
2	AC(L) – AC Line
3	+Vout
4	-Vout



FEATURES

Electrical

- Universal Input voltage range 85-264 VAC, 47-440 Hz
- Single-, Dual- and Triple output models
- Over load and over voltage protection
- 3kVAC isolation, protection Class II level

Mechanical

- Encapsulated compact AC-DC power supply
- 3 mounting package versions:
 - Solder pins for direct PCB mount
 - Screw terminal block for chassis mount
 - DIN-Rail mounting

Safety & Reliability

- UL/UL/IEC/EN 60950-1 certified
- CE marked
- UL508 approval (selective)
(AA15S, AA15D1212A, AA15D1515A, AA30S, AA30D1212A, AA30D1515A and AA60S)



PART NUMBERING SYSTEM

A	A	30	T	5	3	12	A
Product Type	Family Series	Output Power	Number of Outputs	Output Voltage I	Output Voltage II	Output Voltage III	Option Code
AC/DC Power Module	Industrial application	15 - 15W 30 - 30W 60 - 60W	S - Single D - Dual T - Triple	03 - 3.3V 05 - 5V 12 - 12V 15 - 15V 24 - 24V 48 - 48V	00 - not applicable 03 - 3.3V 05 - 5V 12 - 12V 15 - 15V	05 - 5V 12 - 12V 15 - 15V	A - PCB Mount C - Chassis Mount D - Din Rail Mount

AA15 Series

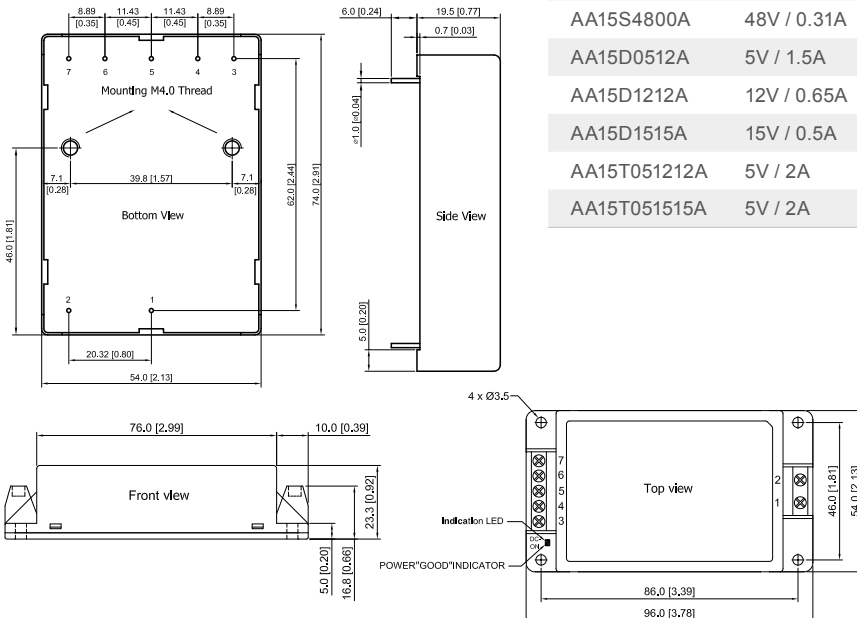


SPECIFICATIONS

- 15W output
- 3kV isolation voltage
- 96 x 54 x 23.3 mm

Part number	Output 1	Output 2	Output 3	Efficiency
AA15S0500A	5V / 3A	-	-	79%
AA15S1200A	12V / 1.25A	-	-	79%
AA15S1500A	15V / 1A	-	-	79%
AA15S2400A	24V / 0.625A	-	-	79%
AA15S4800A	48V / 0.31A	-	-	79%
AA15D0512A	5V / 1.5A	12V / 0.625A	-	72%
AA15D1212A	12V / 0.65A	-12V / 0.65A	-	74%
AA15D1515A	15V / 0.5A	-15V / 0.5A	-	74%
AA15T051212A	5V / 2A	12V / 0.2A	-12V / 0.2A	74%
AA15T051515A	5V / 2A	15V / 0.15A	-15V / 0.15A	74%

MECHANICAL DRAWING



Pin	Single Output	Dual Outputs		Triple Outputs
		±12V, ±15V	5V, 12V	
1	AC(N) – AC Neutral			
2	AC(L) – AC Line			
3	No Pin			-Vout3
4	-Vout	-Vout	-Vout2	Common
5	No Pin	Common	+Vout2	+Vout2
6	+Vout	+Vout	-Vout1	-Vout1
7	No Pin		+Vout1	+Vout1

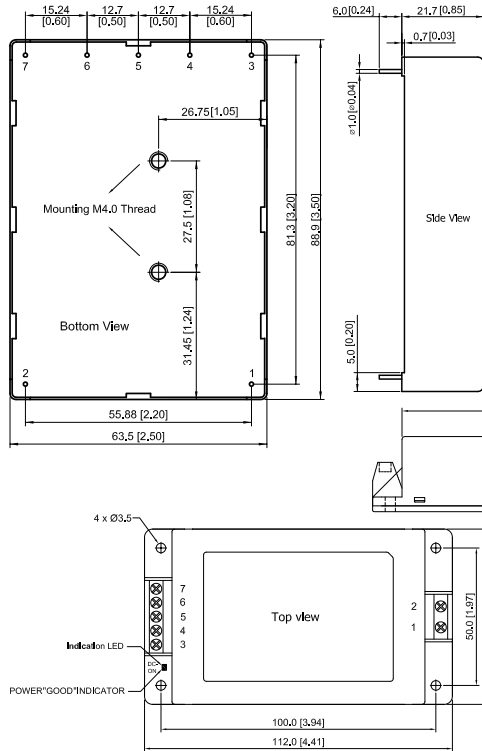
AA30 Series



SPECIFICATIONS

- 30W output
- 3kV isolation voltage
- 112 x 63.8 x 25.6 mm

MECHANICAL DRAWING



Part number	Output 1	Output 2	Output 3	Efficiency
AA30S0500A	5V / 6A	-	-	78%
AA30S1200A	12V / 2.5A	-	-	80%
AA30S1500A	15V / 2A	-	-	80%
AA30S2400A	24V / 1.25A	-	-	80%
AA30S4800A	48V / 0.625A	-	-	80%
AA30D0512A	5V / 3A	12V / 1.25A	-	76%
AA30D1212A	12V / 1.3A	-12V / 1.3A	-	80%
AA30D1515A	15V / 1A	-15V / 1A	-	80%
AA30T030512A	3.3V / 4A	5V / 1.5A	12V / 0.25A	71%
AA30T050312A	5V / 4.5A	3.3V / 1A	12V / 0.25A	71%
AA30T051212A	5V / 2A	12V / 0.6A	-12V / 0.6A	76%
AA30T051515A	5V / 3A	15V / 0.5A	-15V / 0.5A	76%
AA30T121205A	5V / 3A	12V / 1A	-12V / 0.25A	76%

Pin	Pin Functions				
	Single Output	Dual Outputs		Triple Outputs	
	$\pm 12V, \pm 15V$	5V, 12V	050312, 030512	others	
1	AC(N) – AC Neutral				
2	AC(L) – AC Line				
3	+Vout	+Vout	+Vout2	+Vout2	+Vout2
4	No Pin	No Pin	+Vout1	+Vout1	+Vout1
5	-Vout	Common	-Vout2	Com. 2/3	Com. 2/3
6	No Pin	No Pin	-Vout1	-Vout1	-Vout1
7	NC	-Vout	NC	+Vout3	-Vout3

NC: No Connection

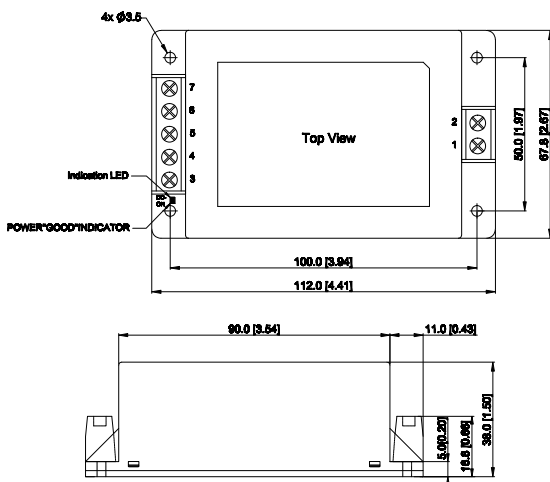
AA60 Series



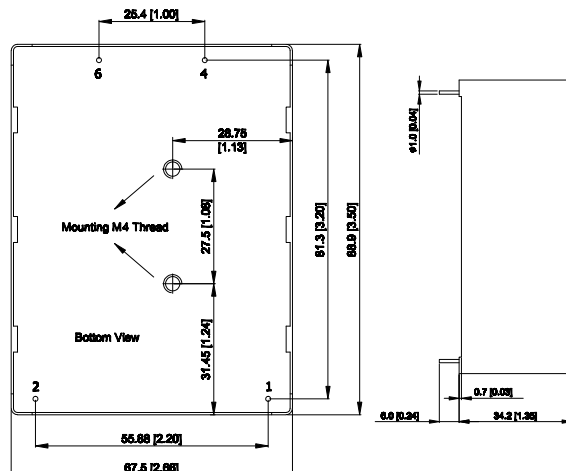
SPECIFICATIONS

- 60W output
- 3kV isolation voltage
- 112 x 67.8 x 38 mm

MECHANICAL DRAWING



Part number	Output	Efficiency
AA60S0500A	5.1V / 10A	79%
AA60S1200A	12V / 5A	82%
AA60S1500A	15V / 4A	83%
AA60S2400A	24V / 2.5A	84%
AA60S3600A	36V / 1.666A	84%
AA60S4800A	48V / 1.25A	84%



Pin	Function
1	AC(N)
2	AC(L)
3	NC
4	+Vout
5	NC
6	-Vout
7	NC

NC: No Connection



FEATURES

Electrical

- Universal Input 85-264VAC, 47-440 Hz
- Protection Class II
- Extended operating temperature Range -40°C to +60°C at full load
- Over load and over temperature protection
- LED output indicator (chassis version models)
- Compliant to Energy Star specification and ErP Directive 2009/125/EC

Safety & Reliability

- Industrial safety to UL/IEC/EN 60950-1 and UL508
- Medical safety approval to UL/IEC/EN 60601-1 3rd edition
- UL 60601-1 2xMOPP

Mechanical

- Fully encapsulated plastic case
- 3 mounting versions:
 - PCB mounting with solder Pins
 - Chassis mounting with screw terminals
 - DIN-Rail mounting



PART NUMBERING SYSTEM

A	B	24	S	05	00	A
Product Type	Family Series	Output Power	Number of Outputs	Output Voltage I	Output Voltage II	Option Code
AC/DC Power Module	Medical application	24 - 24W 40 - 40W 60 - 60W	S - Single D - Dual	05 - 5V 09 - 9V 12 - 12V 15 - 15V 24 - 24V 48 - 48V	00 - not applicable 12 - 12V 15 - 15V	A - PCB Mount C - Chassis Mount D - Din Rail Mount

AB24 Series



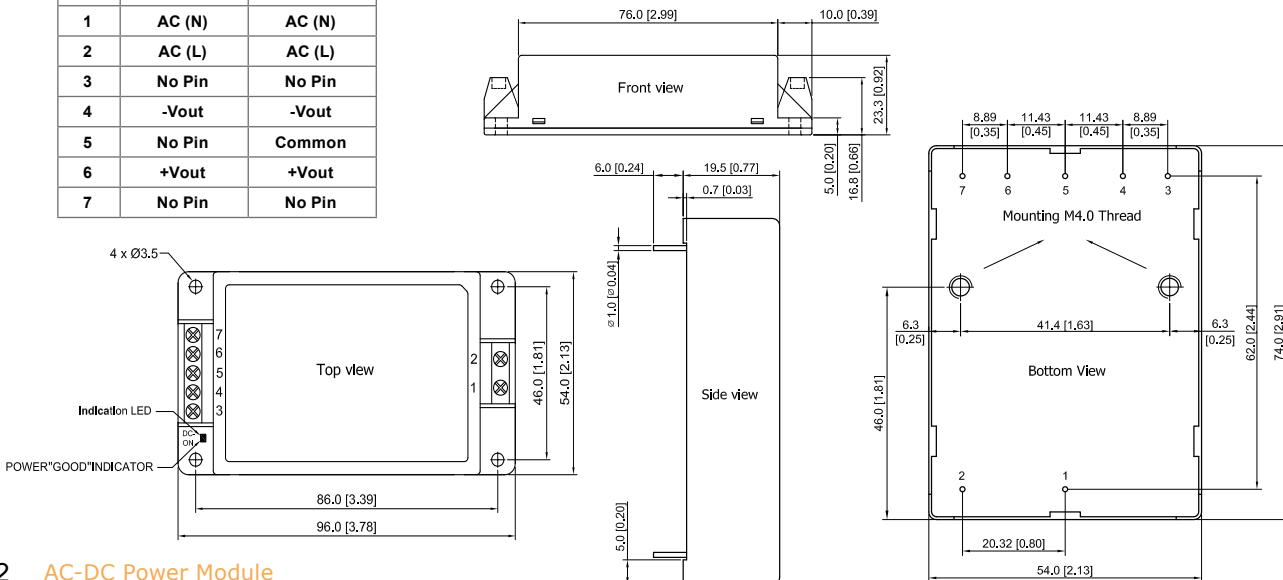
SPECIFICATIONS

- 24W output
- 4kV isolation voltage
- PCB/Chassis/Din-Rail mount
- 96 x 54 x 23.3 mm

Part number	Outputs	Efficiency
AB24S0500A	5V / 3A	76%
AB24S0900A	9V / 2.666A	82%
AB24S1200A	12V / 2A	82%
AB24S1500A	15V / 1.6A	82%
AB24S2400A	24V / 1A	82%
AB24D1212A	12V / 1A -12V / 1A	82%
AB24D1515A	15V / 0.8A -15V / 0.8A	82%

MECHANICAL DRAWING

Pin Functions		
Pin	Single Output	Dual Outputs
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	No Pin	No Pin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout
7	No Pin	No Pin



AB40 Series



SPECIFICATIONS

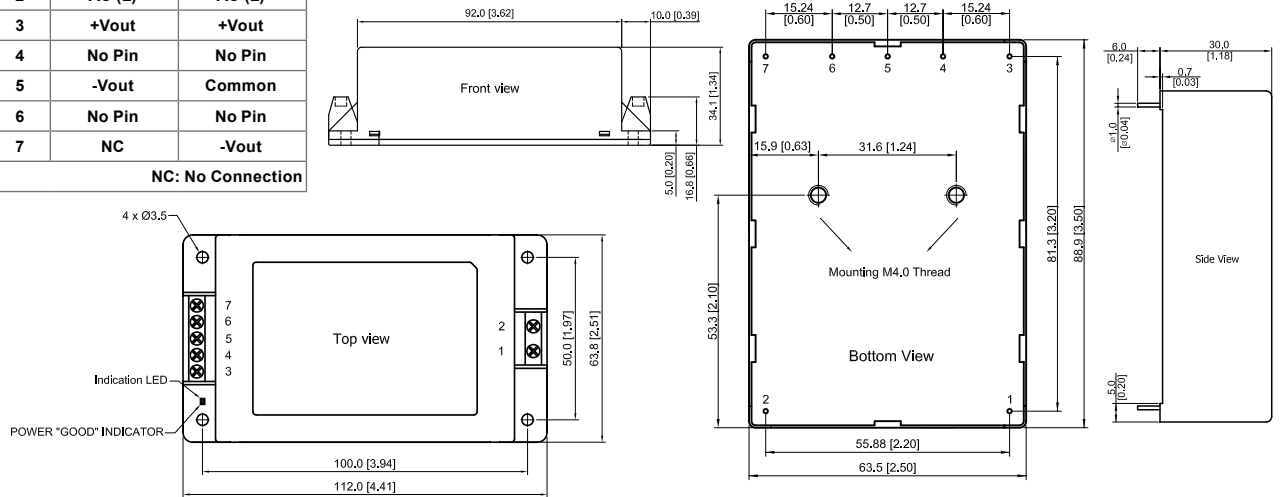
- 40W output
- 4kV isolation voltage
- PCB/Chassis/Din-Rail mount
- 88.9 x 63.5 x 30.0 mm

Part number	Outputs	Efficiency
AB40S0500A	5V / 8A	81%
AB40S1200A	12V / 3.33A	84%
AB40S1500A	15V / 2.66A	85%
AB40S2400A	24V / 1.66A	84%
AB40D1212A	12V / 1.66A -12V / 1.66A	84%
AB40D1515A	15V / 1.33A -15V / 1.33A	85%

MECHANICAL DRAWING

Pin Functions		
Pin	Single Output	Dual Outputs
1	AC (N)	AC (N)
2	AC (L)	AC (L)
3	+Vout	+Vout
4	No Pin	No Pin
5	-Vout	Common
6	No Pin	No Pin
7	NC	-Vout

NC: No Connection



AB60 Series



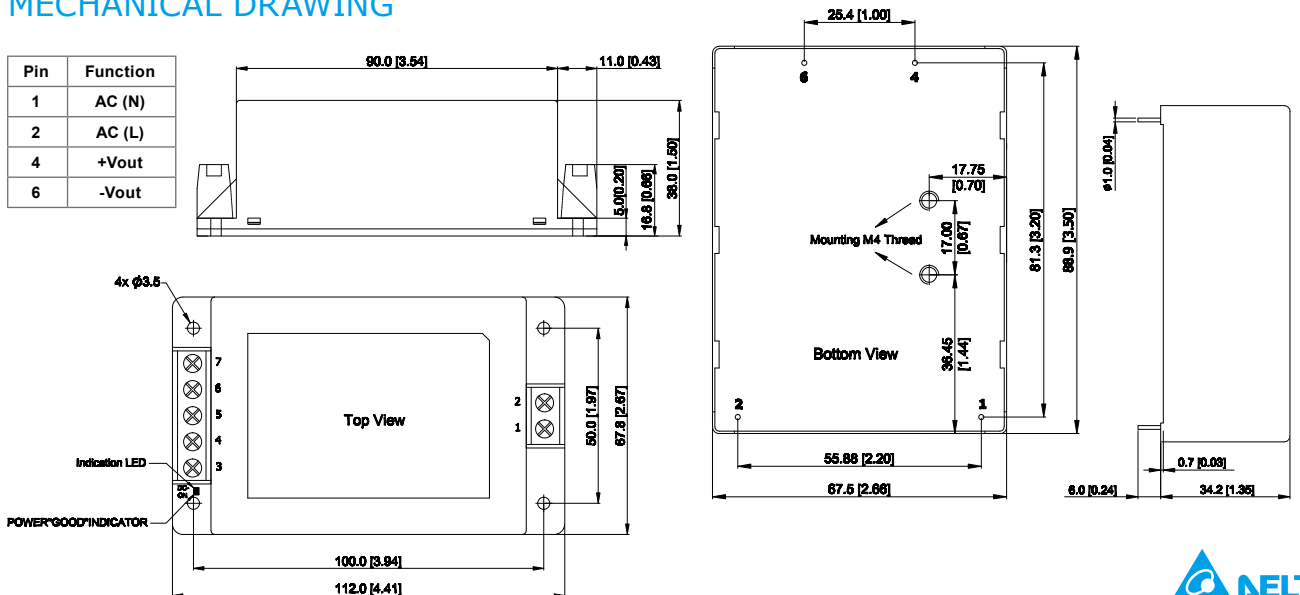
SPECIFICATIONS

- 60W output
- 4kV isolation voltage
- PCB/Chassis/Din-Rail mount
- 88.9 x 67.5 x 34.2 mm

Part number	Output	Efficiency
AB60S0500A	5.1V / 10A	84%
AB60S1200A	12V / 5A	87%
AB60S1500A	15V / 4A	87%
AB60S2400A	24V / 2.5A	87%
AB60S4800A	48V / 1.25A	88%

MECHANICAL DRAWING

Pin	Function
1	AC (N)
2	AC (L)
4	+Vout
6	-Vout



AC02 Series

FEATURES

Electrical

- Universal input 85-264VAC, 47-440Hz
- Constant power mode
- 3000VAC isolation voltage
- Operating temperature range: -30°C to +70°C

Mechanical

- Small, encapsulated module for PCB mounting
- Case size: 34.2x28.4x14.8 mm (1.35"x1.12"x0.58")

Safety & Reliability

- UL/cUL 60950-1, IEC/EN 60950-1, IEC/EN 60335-1
- EMI meets EN55022, Class B, FCC part15, Class B and EN55014-1

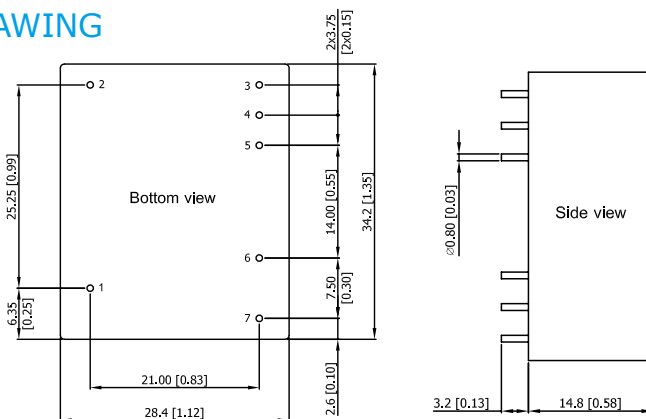


SPECIFICATIONS

Model Number	Output 1		Output 2		Efficiency (typ.) @Max. Load
	Voltage	Max. Current	Voltage	Max. Current	
AC02S0800A	8V	250mA	---	---	72%
AC02S1400A	14V	143mA	---	---	74%
AC02S2400A	24V	83mA	---	---	76%
AC02D0803A ***	8V	*	3.3V	160mA	69%
AC02D0805A ***	8V	*	5V	250mA	69%
AC02D1403A ***	14V	**	3.3V	70mA	70%
AC02D1405A ***	14V	**	5V	83mA	70%

note: * $I_{o1} + I_{o2} \leq 250\text{mA}$
 ** $I_{o1} + I_{o2} \leq 143\text{mA}$
 *** The definition of output power (Po) for dual-output modules : $P_o = V_{O1} \times (I_{o1} + I_{o2})$

MECHANICAL DRAWING



Pin Functions		
Pin	Single Output	Dual Outputs
1	NC	
2	NC	
3	+Vout	+Vout1
4	-Vout	Common
5	NP	+Vout2
6	AC(N)	
7	AC(L)	

PART NUMBERING SYSTEM

A	C	02	S	08	00	A
Product Type	Family Series	Output Power	Number of Outputs	Output Voltage I	Output Voltage II	Option Code
A - AC/DC Power Module	C - Constant Power Mode	02 - 2W	S - Single D - Dual	08 - 8V 14 - 14V 24 - 24V	00 - not applicable 03 - 3V 05 - 5V	A - PCB Mount

BACSR Series

FEATURES

Electrical

- Full load efficiency up to 95% @220VAC
- OTP, Input brown-out, Output OCL, OVP, SCP
- 3000VAC isolation
- Can be in parallel
- Digital PMBus interface (optional)
- Operating temperature range - 40°C to +75°C

Mechanical

- **Metal Case Box Type Package**
- Package dimension: 160.0x115.0x25.4mm (6.30"x4.53"x1.00")
- IP68 protection rating

Safety & Reliability

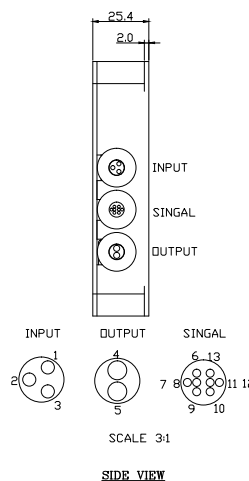
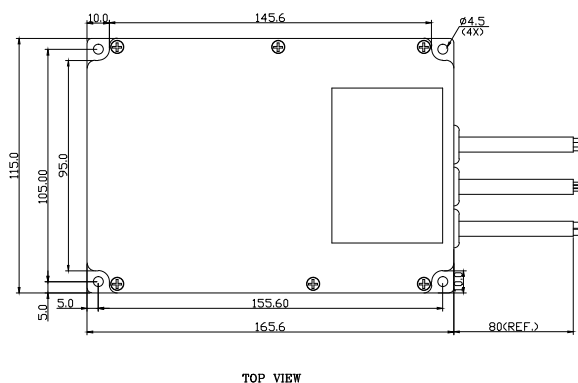
- CE Mark
- EMC compatible: CISPR11 ClassB



SPECIFICATIONS

Part Number	Input Voltage	Output Voltage	Output Current	Output Power	Efficiency	Isolation Voltage	Size (LxWxH)
BACSR12250	85~265VAC	12VDC	25A	300W	95.0%	3000V	160 x 115 x 25.4 mm
BACSR24125	85~265VAC	24VDC	12.5A	300W	95.1%	3000V	160 x 115 x 25.4 mm
BACSR48075	85~265VAC	48VDC	7.5A	360W	95.3%	3000V	160 x 115 x 25.4 mm

MECHANICAL DRAWING



Pin	Function
1	INPUT-
2	INPUT+
3	INPUT-
4	OUTPUT-
5	OUTPUT+
6	CLK
7	DATA
8	ALERT
9	CTRL
10	GND
11	NC
12	NC
13	NC

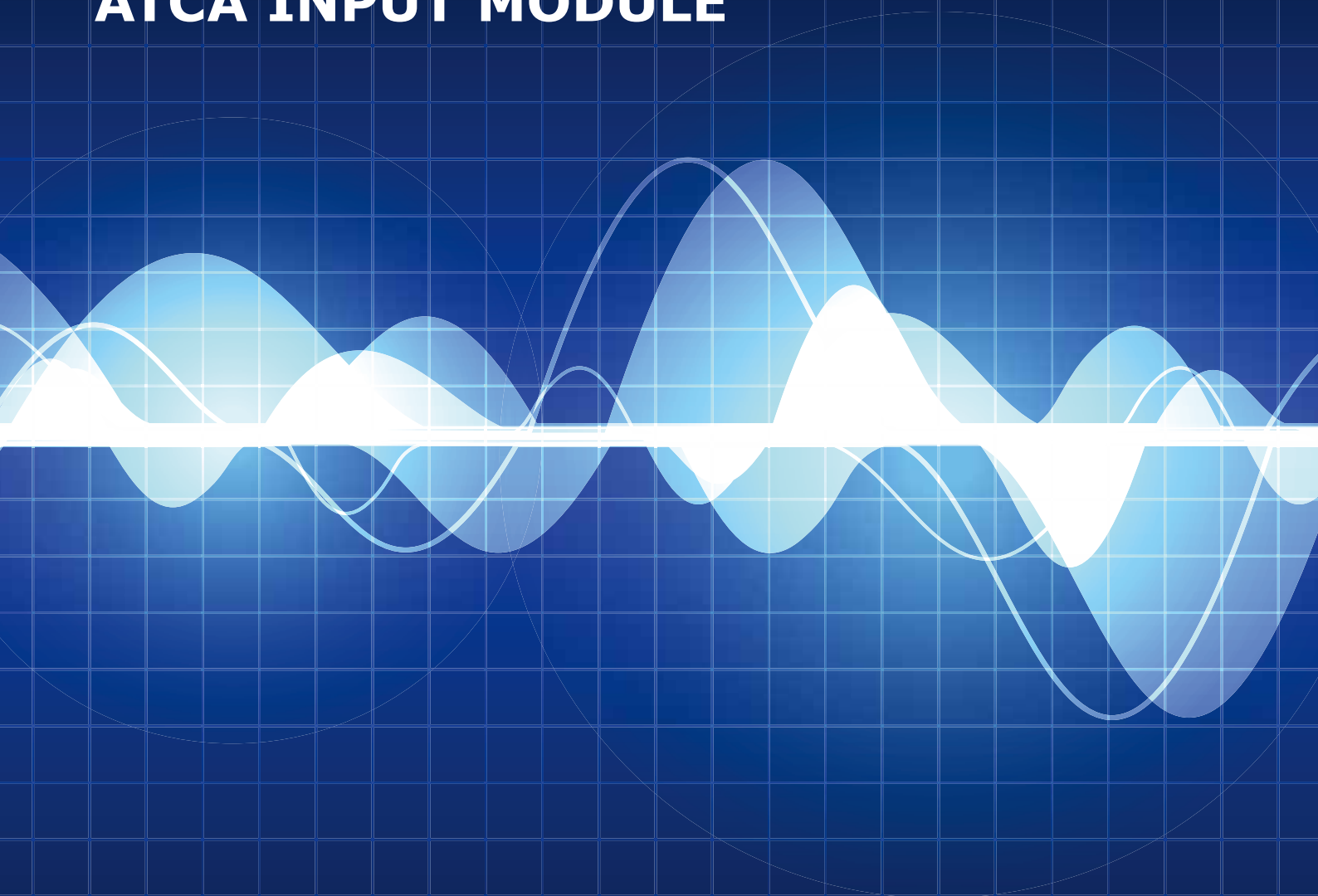
PART NUMBERING SYSTEM

B	AC	S	R	480	75	A
Form Factor	Input Voltage	Number of Outputs	Product Series	Output Voltage	Output Current	Option Code
B-Box	AC - 85~265VAC	S - Single	R - Regular	480 - 48V	75 - 7.5A	A - Standard Functions

FILTER

&

ATCA INPUT MODULE



Filter

This filter modules are designed to reduce the conducted common-mode and differential-mode noise on input or output lines of high-frequency switching power supplies, with the industry standard footprint and pin-out. With creative design technology and optimization of component placement, Delphi FL75L05 filter modules possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions.

FEATURES

- ROHS Compliant
- Industry standard footprint and pin-out
- Optimized for use with high frequency board mounted DC/DC converters
- ISO 9001, TL 9000, ISO 14001, QS 9000, OHSAS 18001 certified manufacturing facility
- UL/cUL 60950 (US & Canada) recognized, VDE 0805 (IEC60950) licensed



Part Number	Input Voltage	Output Current	Common-mode Insertion Loss	Differential-mode Insertion Loss	Package	Size (LxWxH)
FL75L05 A	0~75V	5A	43dB	45dB	Through hole	25.4 x 25.4 x 10.2 mm
FL75L07 A	0~75V	7A	40dB	70dB	SMD	25.4 x 25.4 x 12.5 mm
FL75L07 B					Through hole	25.4 x 25.4 x 12.7 mm
FL75L10 A	0~75V	10A	30dB	25dB	Through hole	50.8 x 27.9 x 11.7 mm
FL75L20 A	0~75V	20A	28dB	46dB	Through hole	50.8 x 40.6 x 12.7 mm
FL75L20 B					(A: Pin length=5.0mm) (B: Pin length=3.1mm)	

ATCA Input Module

DIM series, dual redundant input power processing isolated DC/DC converter, provide up to 400 watts of power in an industry standard footprint and pinout. The DIM series are designed to simplify the task and reduce the board space of implementing dual redundant, hot swappable 48Vdc power distribution with EMI filtering and inrush current limiting for an ATCA (Advanced Telecommunications Computing Architecture) or other telecom boards. In addition to processing the dual redundant 48V bus, the DIM module also provides isolated auxiliary 3.3V, and/or 5V BLUE_LED power for other housekeeping functions. All models are fully protected from abnormal input/output voltage, current, and temperature conditions.

FEATURES

- Input UVLO, Main Output OCP, OTP, Management power: OCP,OTP and OVP
- Input OR'ing for the A/B dual input power feeds as well as A/B Enable signals
- Inrush protection and hot swap capability
- Integral EMI filter designed for the ATCA board to meet CISPR Class B
- Adjustable Hold Up Voltage
- For charging the external holdup capacitors resulting in significant board real estate savings and bleed resistor power dissipation
- I²C interface for data monitoring and reporting
- Hardware alarms via opto-isolators for loss of A or B Feeds/Fuse
- UL/cUL 60950-1
- ISO 9001, TL 9000, ISO 14001, QS9000, OHSAS18001 certified manufacturing facility



Part Number	Input Voltage	Auxiliary Output 1	Auxiliary Output 2	Output Power	Efficiency	Features	Package	Size (LxWxH)
DIM3R3300SFA	-36 ~ -75V	3.3V/2.4A	-	300W	98%		Through hole	70.6 x 36.8 x 12.7 mm
DIM3R3300SFB	-36 ~ -75V	3.3V/2.4A	5V/100mA	300W	98%		Through hole	70.6 x 36.8 x 12.7 mm
DIM3R3400SFA	-36 ~ -75V	3.3V/3.6A	5V/150mA	400W	98.2%	digital control	Through hole	58.4 x 36.8 x 14.2 mm

DC-DC

Isolated

Single Output

Vin nominal: 12~24V

Vin Nominal	Vin Range	Series	Max Power	Vo																Page
				1V	1.2V	1.5V	1.8V	2.5V	3.3V	4.2V	5V	6.5V	9V	12V	15V	24V	28V	48V	54V	
12V	9~18V	PL01S	1W								▲			▲	▲					45
		SK01S	1W								▲			▲	▲					51
		DB02S	2W						▲		▲			▲	▲					52
		PG02S	2W						▲		▲			▲						57
		SD02S	2W						▲		▲			▲	▲					60
		DD03S	3W								▲			▲	▲					63
		DE03S	3W						▲		▲			▲	▲					64
		DK03S	3W						▲		▲			▲	▲					66
		DM03S	3W								▲			▲			▲			69
		SE03S	3W						▲		▲			▲	▲					73
		SF05S	5W						▲		▲			▲	▲					76
		DG06S	6W						▲		▲			▲	▲					78
		DH06S	6W						▲		▲			▲	▲		▲			80
		DP06S	6W						▲		▲			▲						83
		DU06S	6W								▲			▲						86
		DT10S	10W								▲			▲						87
15V	13.5~16.5V	PB01S	1W							▲			▲	▲					37	
		SH01S	1W										▲	▲					49	
24V	18~36V	PL01S	1W							▲			▲	▲					45	
		SK01S	1W							▲			▲	▲					51	
		DB02S	2W						▲		▲			▲	▲				52	
		PG02S	2W						▲		▲			▲					57	
		SD02S	2W						▲		▲			▲	▲				60	
		DD03S	3W								▲			▲	▲				63	
		DE03S	3W						▲		▲			▲	▲				64	
		DK03S	3W						▲		▲			▲	▲				66	
		DM03S	3W								▲			▲			▲		69	
		SE03S	3W						▲		▲			▲	▲				73	
		SF05S	5W						▲		▲			▲	▲				76	
		DG06S	6W						▲		▲			▲	▲				78	
		DH06S	6W						▲		▲			▲	▲		▲		80	
		DP06S	6W						▲		▲			▲					83	
		DU06S	6W								▲			▲					86	
		DT10S	10W								▲			▲					87	
E24SR	73W						▲			▲			▲					11		
24V	21.6~26.4V	DA01S	1W							▲			▲	▲	▲				35	
		PA01S	1W							▲			▲	▲	▲				36	
		PB01S	1W						▲		▲			▲					37	
		PD01S	1W						▲		▲			▲	▲	▲			39	
		PE01S	1W								▲			▲	▲	▲			41	
		PF01S	1W								▲			▲	▲	▲			43	
		SA01S	1W						▲		▲			▲	▲	▲			46	
		SB01S	1W								▲			▲	▲				48	
		SH01S	1W						▲		▲			▲	▲	▲			49	
		DC02S	2W								▲			▲	▲				54	
		DK02S	2W								▲			▲	▲				55	
		PC02S	2W						▲		▲			▲	▲				56	
		SC02S	2W								▲			▲					59	
		SG02S	2W								▲			▲	▲				62	

DC-DC

Isolated

Single Output

Vin nominal: 24~380V

Vin Nominal	Vin Range	Series	Max Power	Vo																Page	
				1V	1.2V	1.5V	1.8V	2.5V	3.3V	4.2V	5V	6.5V	9V	12V	15V	24V	28V	48V	54V		
24V	9~36V	PH02S	2W						▲		▲				▲	▲					58
		DL03S	3W						▲		▲				▲	▲					68
		PJ03S	3W						▲		▲				▲	▲					71
		DF04S	4W						▲		▲				▲	▲					75
		DJ06S	6W						▲		▲				▲	▲	▲				82
		DR06S	6W						▲		▲				▲	▲					84
		DS06S	6W						▲		▲				▲	▲					85
		S24SE	30W						▲		▲				▲	▲					88
		S24SP	60W									▲				▲	▲	▲			
24/36/48V	18~60V	B40SR	300W												▲*	▲*					95
	18~75V	PH02S	2W						▲		▲				▲	▲					58
		DL03S	3W						▲		▲				▲	▲					68
		PJ03S	3W						▲		▲				▲	▲					71
		DF04S	4W						▲		▲				▲	▲					75
		DJ06S	6W						▲		▲				▲	▲	▲				82
		DR06S	6W						▲		▲				▲	▲					84
		DS06S	6W						▲		▲				▲	▲					85
		S36SE	24W						▲		▲				▲						29/91
		V36SE	50W						▲		▲				▲						07
		E36SR	75W						▲		▲				▲						13
		E36SC	125W						▲		▲				▲						12
		H36SA	150W																	▲	26
		Q36SR	240W													▲					
48V	36~60V	E48SP	240W					▲		▲					▲						17
	36~75V	PL01S	1W								▲				▲	▲					45
		SK01S	1W								▲				▲	▲					51
		DB02S	2W						▲		▲				▲	▲					52
		PG02S	2W						▲		▲				▲						57
		SD02S	2W						▲		▲				▲	▲					60
		DD03S	3W								▲				▲	▲					63
		DE03S	3W						▲		▲				▲	▲					64
		DK03S	3W						▲		▲				▲	▲					66
		DM03S	3W								▲				▲		▲				69
		SE03S	3W						▲		▲				▲	▲					73
		SF05S	5W						▲		▲				▲	▲					76
		DG06S	6W						▲		▲				▲	▲					78
		DH06S	6W						▲		▲				▲	▲	▲				80
		DU06S	6W								▲				▲						86
		DT10S	10W								▲				▲						87
		T48SR	25W						▲		▲										06
		S48SP	36W						▲		▲				▲						30
		V48SH	50W	▲	▲		▲		▲		▲										09
		V48SR	66W		▲	▲	▲	▲	▲							▲					10
		E48SR	66W		▲	▲	▲	▲	▲		▲					▲					18
		Q48SA	81W																	▲	21
		E48SC	83W						▲		▲				▲						14
		E48SC	360W												▲						15
		V48SC	100W						▲		▲				▲						08
	E48SH	120W	▲	▲	▲	▲	▲	▲		▲				▲						16	
	Q48SQ	400W												▲						24	
	H48SC	450W						▲										▲		28	
	Q48SC	600W												▲						22	
38~60V	H48SA	550W												▲			▲	▲	▲	27	
44~65V	D48SR	63W								▲										31	
54V	42~60V	E54SD	300W											▲						19	
		Q54SG	600W											▲						25	
	46~60V	Q48SK	600W							▲										23	
24/48/72/80V	18~106V	B62SR	300W											▲*	▲*	▲				95	
48/72/80V	36~106V	B70SR	300W											▲*	▲*	▲				95	
110V	53~154V	HA1SV	120W											▲	▲	▲				92	
240/380V	192~400V	HD0SR	600W											▲		▲		▲		93	

DC-DC

Isolated

Dual Outputs

Vin nominal: 5~15V

Vin Nominal	Vin Range	Series	Max Power	Vo				Page
				±5V	±9V	±12V	±15V	
5V	4.5~5.5V	PB01D	1W	•	•	•	•	38
		PD01D	1W	•	•	•	•	40
		PE01D	1W	•	•	•	•	42
		PI01D	1W	•		•	•	44
		SA01D	1W	•	•	•	•	47
		SB01D	1W	•		•	•	48
		SH01D	1W	•		•	•	50
		DC02D	2W	•		•	•	54
		DK02D	2W			•	•	55
		PC02D	2W	•		•	•	56
		SC02D	2W	•		•	•	59
		SG02D	2W			•	•	62
	4.5~7V	DG06D	6W	•		•	•	79
	4.5~9V	PL01D	1W			•	•	45
		SK01D	1W			•	•	51
		DB02D	2W	•		•	•	53
		SD02D	2W	•		•	•	61
		DD03D	3W			•	•	63
		DE03D	3W	•		•	•	65
DM03D		3W			•	•	70	
12V	10.8~13.2V	PB01D	1W	•	•	•	•	38
		PD01D	1W	•	•	•	•	40
		PE01D	1W	•	•	•	•	42
		PI01D	1W	•		•	•	44
		SA01D	1W	•	•	•	•	47
		SB01D	1W	•		•	•	48
		SH01D	1W	•		•	•	50
		DC02D	2W	•		•	•	54
		DK02D	2W			•	•	55
		PC02D	2W	•		•	•	56
		SC02D	2W			•	•	59
		SG02D	2W			•	•	62
	4.5~18V	PJ03D	3W	•		•	•	72
	9~18V	PL01D	1W			•	•	45
		SK01D	1W			•	•	51
		DB02D	2W	•		•	•	53
		SD02D	2W	•		•	•	61
		DD03D	3W			•	•	63
		DE03D	3W	•		•	•	65
		DK03D	3W	•		•	•	67
		DM03D	3W			•	•	70
		SE03D	3W	•		•	•	74
		SF05D	5W	•		•	•	77
DG06D		6W	•		•	•	79	
DH06D	6W	•		•	•	81		
DP06D	6W			•	•	83		
DU06D	6W			•	•	86		
DT10D	10W			•	•	87		
15V	13.5~16.5V	PB01D	1W	•		•	•	38

DC-DC

Isolated

Dual Outputs

Vin nominal: 24~48V

Vin Nominal	Vin Range	Series	Max Power	Vo				Page
				±5V	±9V	±12V	±15V	
24V	18~36V	PL01D	1W			•	•	45
		SK01D	1W			•	•	51
		DB02D	2W	•		•	•	53
		SD02D	2W	•		•	•	61
		DD03D	3W			•	•	63
		DE03D	3W	•		•	•	65
		DK03D	3W	•		•	•	67
		DM03D	3W			•	•	70
		SE03D	3W	•		•	•	74
		SF05D	5W	•		•	•	77
		DG06D	6W	•		•	•	79
		DH06D	6W	•		•	•	81
		DP06D	6W			•	•	83
		DU06D	6W			•	•	86
		DT10D	10W			•	•	87
	21.6~26.4V	PD01D	1W	•	•	•	•	40
		PE01D	1W	•	•	•	•	42
		SA01D	1W	•	•	•	•	47
		SB01D	1W	•		•	•	48
		SH01D	1W	•		•	•	50
		DC02D	2W	•		•	•	54
		DK02D	2W			•	•	55
		PC02D	2W	•		•	•	56
		SC02D	2W			•	•	59
		SG02D	2W			•	•	64
	9~36V	PH02D	2W	•		•	•	58
		DL03D	3W			•	•	68
		PJ03D	3W	•		•	•	72
		DF04D	4W	•		•	•	75
		DJ06D	6W	•		•	•	82
		DR06D	6W	•		•	•	84
		DS06D	6W	•		•	•	85
		S24DE	30W			•	•	88
48V	18~75V	PH02D	2W	•		•	•	58
		DL03D	3W			•	•	68
		PJ03D	3W	•		•	•	72
		DF04D	4W	•		•	•	75
		DJ06D	6W	•		•	•	82
		DR06D	6W	•		•	•	84
		DS06D	6W	•		•	•	85
		36~75V	PL01D	1W			•	•
	SK01D		1W			•	•	51
	DB02D		2W	•		•	•	53
	SD02D		2W	•		•	•	61
	DD03D		3W			•	•	63
	DE03D		3W	•		•	•	65
	DK03D		3W	•		•	•	67
	DM03D		3W			•	•	70
	SE03D		3W	•		•	•	74
	SF05D		5W	•		•	•	77
	DG06D		6W	•		•	•	79
	DH06D		6W	•		•	•	81
	DU06D		6W			•	•	86
	DT10D		10W			•	•	87

DC-DC

Non-Isolated

Output Current: 0.5~80A

Part Number	Output Current	Vin	Vo	Page
PM05S015A	0.5A	4.75~32V	1.5V	103
PM05S018A		4.75~32V	1.8V	103
PM05S025A		4.75~32V	2.5V	103
PM05S033A		4.75~32V	3.3V	103
PM05S050A		6.5~32V	5V	103
PM05S065A		8~32V	6.5V	103
PM05S090A		11~32V	9V	103
PM05S120A		15~32V	12V	103
PM05S150A		18~32V	15V	103
DCT04S0A		3A	2.4~5.5V	0.6~3.3V
DNT04S0A	2.4~5.5V		0.75~3.63V	100
NE12S0A	3~13.8V		0.59~5V	105
DCT12S0A	4.5~14V		0.59~5V	101
DNT12S0A	8.3~14V		0.75~5V	100
IPM24S0A	8~36V		1.2~2.5V	102
IPM24S0B	11~36V		3.3~6.5V	102
IPM24S0C	20~36V		8~15V	102
IPM12C0A	4A	8~14V	0.8~5V	102
DNT04S0A	5A	2.4~5.5V	0.75~3.63V	100
DNT12S0A		8.3~14V	0.75~5V	100
DCS04S0A	6A	2.4~5.5V	0.6~3.63V	101
DNS04S0A		2.8~5.5V	0.75~3.63V	100
IPM04C0A		3~5.5V	0.8~3.3V	102
NE12S0A		3~13.8V	0.59~5.1V	105
DCS12S0A		4.5~14V	0.59~5V	101
DNS10S0A		8.3~14V	0.75~5V	100
NC12S0A0		10.2~13.8V	0.9~5V	104
IPM12S0A		8A	8~14V	0.8~5V
DNM04S0A	10A	2.8~5.5V	0.75~3.63V	100
IPM04S0A		3~5.5V	0.8~3.3V	102
DUS1250E		2.97~13.2V	0.59~5V	105
NE12S0A		3~13.8V	0.59~5.1V	105
DNM10S0A		8.3~14V	0.75~5V	100
DCM04S0A	12A	2.4~5.5V	0.6~3.3V	101
NC12S0A	15A	10.2~13.8V	0.9~5V	104
DNL04S0A	16A	2.8~5.5V	0.75~3.63V	100
DNL10S0A		8.3~14V	0.75~5V	100
D12S05020-1	20A	4.5~13.2V	0.59~5V	105
NE12S0A		4.5~13.8V	0.59~5.1V	105
DCL12S0A		4.5~14V	0.69~5V	101
NC12S0A		10.2~13.8V	0.9~5V	104
DGQ12S0A	25A	8~12.8V	0.7~3.3V	98
DNK05S0A	30A	4.5~5.5V	0.8~3.63V	100
DCK12S0A		6~14V	0.8~3.3V	101
DNK12S0A		6~14V	0.8~5.5V	100
D12S1R830D		7~13.2V	0.8~1.8V	99
NC12S0A		10.2~13.8V	0.9~5V	104
D12F200	40A	4.5~13.8V	0.6~5V	105
D12S72C		7~13.2V	0.8~1.8V	99
ND12S0A		8~13.8V	0.9~5V	105
NC12S0A		10.2~13.8V	0.9~5V	104
D12S2R550	50A	4.5~13.8V	0.6~5V	105
D12S300-1	60A	4.5~13.8V	0.6~5V	105
NC12S0A		11.04~12.6V	0.9~5V	104
D12S400	80A	10.8~13.2V	0.8375~5V	105

AC-DC Power Moudle Selection Guide

AC-DC

Single Output

Series	Max Power	Vin	Vo										Page
			3.3V	5V	8V	9V	12V	14V	15V	24V	36V	48V	
AA04S	4W	85~264VAC	◆	◆		◆	◆		◆	◆			108
AA07S	7W		◆	◆			◆		◆	◆			109
AA10S	10W		◆	◆			◆		◆	◆			109
AA15S	15W			◆			◆		◆	◆		◆	110
AA30S	30W			◆			◆		◆	◆		◆	111
AA60S	60W			◆			◆		◆	◆	◆	◆	111
AB24S	24W			◆		◆	◆		◆	◆			112
AB40S	40W			◆			◆		◆	◆			113
AB60S	60W			◆			◆		◆	◆		◆	113
AC02S	2W					◆			◆		◆		114
BACSR	360W						◆			◆		◆	115

AC-DC

Dual Outputs

Series	Max Power	Vin	Vo								Page	
			3.3/5V	5/12V	12/-12V	15/-15V	8/3.3V	8/5V	14/3.3V	14/5V		
AA04D	4W	85~264VAC	◆	◆	◆	◆						108
AA15D	15W			◆	◆	◆						110
AA30D	30W			◆	◆	◆						111
AB24D	24W				◆	◆						112
AB40D	40W				◆	◆						113
AC02D	2W						◆	◆	◆	◆		114

AC-DC

Triple Outputs

Series	Max Power	Vin	Vo			Page
			3.3/5/12V	5/12/-12V	5/15/-15V	
AA15T	15W	85~264VAC		◆	◆	110
AA30T	30W		◆	◆	◆	111

Filter & ATCA Input Module Selection Guide

Filter

Part Number	Input Voltage	Output Current	Common-mode Insertion Loss	Differential-mode Insertion Loss	Page
FL75L05 A	0~75V	5A	43dB	45dB	117
FL75L07 A/B	0~75V	7A	40dB	70dB	117
FL75L10 A	0~75V	10A	30dB	25dB	117
FL75L20 A/B	0~75V	20A	28dB	46dB	117

ATCA Input Module

Part Number	Input Voltage	Auxiliary Output 1	Auxiliary Output 2	Output Power	Efficiency	Page
DIM3R3300SFA	-36 ~ -75V	3.3V / 2.4A	-	300W	98%	117
DIM3R3300SFB	-36 ~ -75V	3.3V / 2.4A	5V / 100mA	300W	98%	117
DIM3R3400SFA	-36 ~ -75V	3.3V / 3.6A	5V / 150mA	400W	98.2%	117



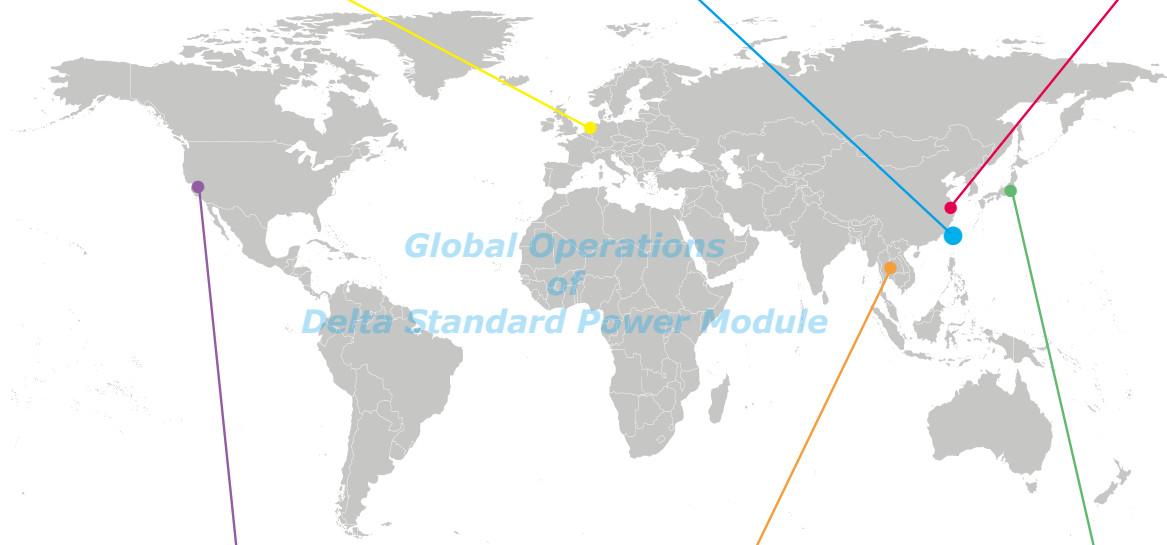
● Amsterdam, the Netherlands



● Taipei, Taiwan



● Shanghai, China



Global Operations
of
Delta Standard Power Module

● Fremont, USA



● Bangpoo, Thailand



● Tokyo, Japan



Contact Information

Delta Electronics, Inc.

No. 186 Ruey Kuang Road, Neihu, Taipei 11491, Taiwan, R.O.C.
Post code: 11491

TEL: 886-2-8797-2088 FAX: 886-2-8797-2120

Delta Electronics (Shanghai) Co., Ltd

No. 182 Minyu Road, Pudong Dist., Shanghai, P.R.C.
Post code: 201209

TEL: 86-21-6872-3988 FAX: 86-21-6872-3996

Deltronics Netherlands BV

Zandsteen 15
2132 MZ Hoofddorp
The Netherlands

Post code: 2132

TEL: 31-20-655-0900 FAX: 31-20-655-0999

Delta Electronics (Korea), Inc.

1511, Byucksan Digital Valley 6-cha, Gasan-dong,
Geumcheon-gu, Seoul, Korea, 153-704

Post code: 153-704

TEL: 82-2-515-5303 FAX: 82-2-515-5302

Delta Products Corporation

4405 Cushing Parkway, Fremont,
CA 94538, U.S.A.

Post code: 94538

TEL: 1-510-668-5100 FAX: 1-510-668-0680

Delta Electronics (Japan), Inc.

2-1-14 Shibadaimon, Minato-Ku, Tokyo, 105-0012, Japan
Post code: 105-0012

TEL: 81-3-5733-1111 FAX: 81-3-5733-1211

Delta India Electronics (India) Pvt. Ltd.

Plot No 43 Sector 35, HSIIDC Gurgaon, PIN 122001, Haryana, India
Post code: 122001

TEL: 91-124-4874900 FAX: 91-124-4874945

Delta Electronics (Thailand) Public Co., Ltd.

909 Soi 9, Moo 4, E.P.Z., Bangpoo Industrial Estate,
Tambon Prakasa, Amphur Muang-samutprakarn,
Samutprakarn Province 10280 Thailand

Post code: 10280

TEL: 66-(0)-2-709-2800 FAX: 66-(0)-2-709-2833

For product details, browse our website: www.deltaww.com/dcdc

For all inquiries, please email us: dcdc@deltaww.com



