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T-series TRIACs

for innovative and safer AC load control



Twice as many loads as standard

T-series TRIACs 6-20 A are becoming an all-load device with its 800 V capability. EMC immunity and commutation are twice those of standard devices leading to not only the capability of a larger range of acceptable resistive, inductive loads or complex ones. Logic level gates TRIACs, 10 mA current, are also able to deal with their environment with a low voltage gate RC assistance, relieving the designer of the usual expensive high voltage RC snubber. That gives up to 3 kV surge immunity. The 35 mA types reach 6 kV without a snubber as well. The performance of the standard TRIACs at 125°C is now specified at a 150°C junction temperature.

The new 2500V RMS insulated packages in TO-220 Ins ceramic insulator version of the T-series or D²PAK SMD adapt to high thermal performance or automated manufacture design.

KEY FEATURES

- I_{TRMS} from 4 to 20 A
- V_{DRM}/V_{RRM} up to 800 V
- V_{DSM}/V_{RSM} up to 900 V
- 10 mA (logic level) to 35 mA gate current
- Immunity 1000V/μs at 150°C
- TO-220AB, TO220AB-Ins, Fullpack, D²PAK
- UL1557 and UL94-V0 certified
- Ecopack 2 products: Halogen-free and RoHS compliant

KEY BENEFITS

- Thermal guard band for better reliability
- Heatsink reduction
- High noise immunity @150°C

TARGETED APPLICATIONS

- Solid state relays
- Motor starters
- Small home appliances (slow cookers, electric pressure cookers, coffee machines, electric fryers, and vacuum cleaner)
- Motor circuit breakers
- Crowbar protection circuits
- White goods
 - Bidirectional drum motor drive
 - Inrush current limiter of inverter drive
 - Refrigeration Thermostat
 - Compressor starter
- Audio/Video appliances
- Individual room heater
- Printer toner heater

All statements are without any engagement. Subject to modifications and amendments. | F.236-E-03-2020-v1

IMMUNITY dV/dT AND COMMUTATION (dI/dT)c, COMPARISON EXAMPLES

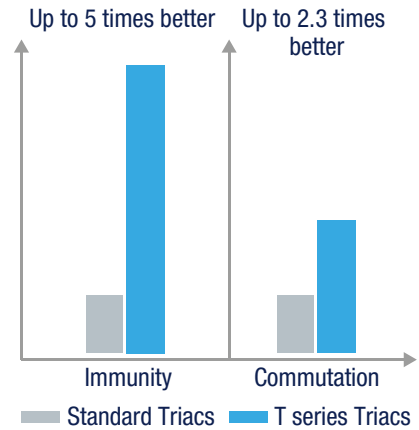
Immunity (dV/dt) and commutation (dI/dT)c @ T_j = 125 °C

T series Triacs have better noise immunity (dV/dt) up to 2 kV/μs, which is up to 5 times above market standards.

Commutation capability, (dI/dT)c, is increased up to 16 A/ms, which is up to 2.3 times above market standards.

The table below compares a standard Triac (BTA08-600CWRG) with a T series Triac (T835T-8FP) at 125°C as only the T series can do 150°C.

Part number	Current I _{T(RMS)} (A)	Immunity dV/dt (w/o snubber) (V/μs)	Commutation (dI/dT)c (A/ms)
T835-8T	8	400 $\xrightarrow{\times 5}$ 2000	4.5 $\xrightarrow{\times 1.8}$ 8
BTB08-800CWRG			



Insulated packages are UL 1557 certified, under E81734 and UL94-V0 molding material for inflammability: TO-220AB Ins. as 2500 V_{RMS}, and TO-220FPAB Fullpack as 2000 V_{RMS}.

T SERIES PRODUCT TABLE

T series - High commutation (dI/dT)c and immunity dV/dt Triacs

Generic part number	Package				I _T (RMS) on-state current max. (A)	V _{DRM} ¹ V _{RRM} Repetitive peak off-state voltage max. (V)	I _{TSM} Non repetitive surge peak on-state current max. (A)	T _j Junction Temperature max. (°C)	I _{GT} Triggering gate current I, II, III (IV) max. (mA)	(dI/dT)c Rate of decrease of commutating on-state current min. (A/ms)		dV/dt Rising Ratio Of Off Voltage min. (V/ms)	
	TO-220AB	Ins	TO-220FPAB	D2PAK						@T _j 125 °C	@T _j 150 °C	@T _j 125 °C	@T _j 150°C
Logic Level													
T610T-8	T		FP		6	800	45	150	10, 10, 10	5.2	3.7	250	170
T810T-6		I			8	600	60	125	10, 10, 10	5.4		100	
T810T-8	T		FP	G*	8	800	60	150	10, 10, 10	6	4.2	250	170
T1210T-6		I			12	600	90	125	10, 10, 10	7		100	
T1210T-8	T		FP	G	12	800	90	150	10, 10, 10	11.7	8.2	250	170
T1610T-8		I		G	16	800	120	150	10, 10, 10	9	5.4	100	50
	T		FP							21.6	15.1	250	170
Snubberless™													
T435T-600			FP		4	600	30	125	35, 35, 35	5.3		750	
T635T-8	T		FP		6	800	45	150	35, 35, 35	6	3	2000	1000
T820T-6		I			8	600	60	125	20, 20, 20	3.4		750	
T835T-8	T	I	FP	G	8	800	60	150	35, 35, 35	8	4	2000	1000
T1220T-6		I			12	600	90	125	20, 20, 20	6		1000	
T1235T-8	T	I	FP	G	12	800	100	150	35, 35, 35	12	8.2	2000	1000
T1620T-8		I			16	800	120	150	20, 20, 20	6	4.5	1000	500
T1635T-8	T	I	FP	G	16	800	120	150	35, 35, 35	16	12	2000	1000
T2035T-8				G	20	800	120	150	35, 35, 35	27.5	17.5	1500	1000
Standard													
T825T-6		I			8	600	60	125	25, 25, 25, 40	4.5		500	
T1225T-6		I			12	600	90	125	25, 25, 25, 40	7		100	
T1625T-8		I			16	800	120	150	25, 25, 25, 50	12	6	500	300

* available in Q4 2019

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