

Series 228 Illuminated Tact Switch PTM





Agenda


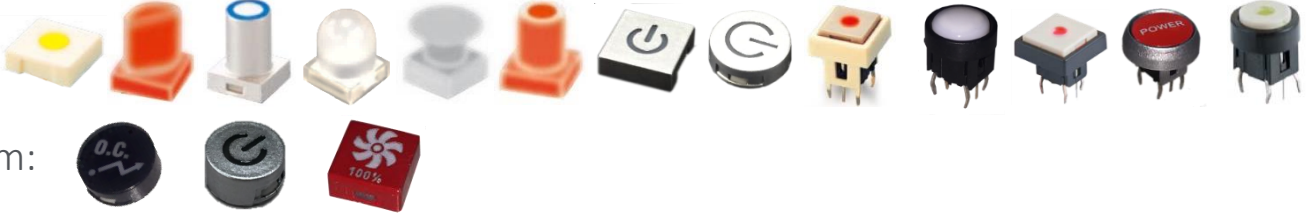
- Product Overview by Model
- Key Specifications
- Features & Benefits
- Target Applications
- Value Proposition
- Available Sales Collateral




Series 228 Illuminated Tact Switch

Photo	Series	Dimension	Mounting Style	Key Specifications
	228A	6.8 x 7.2 x 4.5mm 7.2 x 7.0 x 4.5mm	SMT Gull-Wing Std Through Hole	Life: 100,000 cycles Actuator Travel: 0.25 mm Actuation Force: 160 gf Operating Temp: -25° to 70°C
Optional Caps	Std.:		Custom:	
Features/ Benefits	<ul style="list-style-type: none"> ■ SMT & TH mounting options ■ Single & bi-LED options ■ Variety of LED color options ■ Variety of cap options ■ Laser marking options ■ Customized caps are available 		Applications	<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices




Series 228 Illuminated Tact Switch

Photo	Series	Dimension	Mounting Style	Key Specifications
	228B	6.0 x 6.6 x 4.8mm	SMT Gull-Wing Std Through Hole	Life: 100,000 cycles Actuator Travel: 0.25 mm Actuation Force: 160 gf Operating Temp: -20° to 70°C
Optional Caps	Std.: Custom:			
Features/ Benefits	<ul style="list-style-type: none"> ■ Terminal spacing compatible with DIP IC pitch ■ Single & bi-LED options ■ Variety of LED color options ■ Variety of std caps available ■ Etching options available ■ Custom caps are available 			Applications <ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices

Series 228 Illuminated Tact Switch

Photo	Series	Dimension	Mounting Style	Key Specifications
	228C	6.8 x 7.2 x 4.5mm 7.2 x 7.0 x 4.5mm	SMT Gull-Wing Std Through Hole	Life: 100,000 cycles Actuator Travel: 0.25 mm Actuation Force: 160 gf Operating Temp: -20° to 70°C
Optional Caps	Standard: 			
Features/ Benefits	Applications			
	<ul style="list-style-type: none"> ■ SMT & TH mounting options ■ Single, bi and tri-LED options ■ Variety of LED color options ■ Variety of cap options ■ Laser marking options ■ Custom caps are available 			<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices ■ Gaming Keyboard

Series 228 Illuminated Tact Switch

Photo	Series	Dimension	Mounting Style	Key Specifications
	228D	6.8 x 5.0 x 6.2mm	SMT Gull-Wing Std Through Hole	Life: 100,000 cycles Actuator Travel: 0.25 mm Actuation Force: 220 gf Operating Temp: -25° to 70°C
Optional Caps	Std.: 	Customized: 		
Features/ Benefits	<ul style="list-style-type: none"> ■ SMT & TH mounting options ■ Single & bi-LED options ■ Variety of LED color options ■ Variety of cap options ■ Etching options available ■ Custom caps are available 		Applications	<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices

Series 228 Illuminated Tact Switch

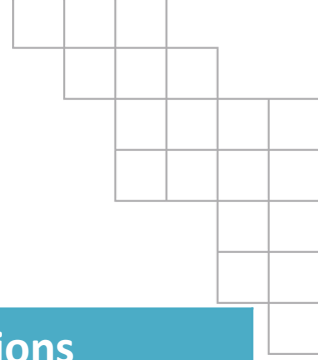




Photo	Series	Dimension	Mounting Style	Key Specifications
	228E	6.8 x 7.2 x 3.6mm 7.4 x 7.9 x 4.7mm	SMT Gull-Wing SMT J-Bend Std Through Hole	Life: 100,000 cycles Actuator Travel: 0.7 mm Actuation Force: 200 gf Operating Temp: -40° to 85°C Seal Rating: IP67
Features/ Benefits	<ul style="list-style-type: none"> ■ Sealed for immersion ■ SMT & TH mounting options ■ Single, bi and tri-LED options ■ Variety of LED color options 	Applications	<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices 	

Series 228 Illuminated Tact Switch

Photo	Series	Dimension	Mounting Style	Key Specifications
	228F	6.22*7.0*7.2mm 7.4*8.45*7.0mm	SMT Gull-wing Standard Through Hole	Life: 228FMV/228FDS: 100,000 cycles; 228FDV: 500,000 cycles Actuator Travel: 0.25 mm Actuation Force: 160 gf Operating Temp: -20° to 70°C
Features/ Benefits	<ul style="list-style-type: none"> ■ Sealed for immersion ■ SMT & TH mounting options ■ Single, bi-LED options ■ Variety of LED color options 		Applications	<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices

Series 228 Illuminated Tact Switch

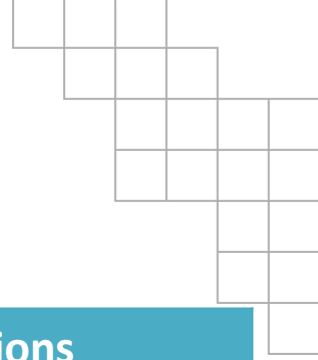



Photo	Series	Dimension	Mounting Style	Key Specifications
	228G	5.0*6.0*2.5mm	SMT Gull-Wing	Life: 100,000 cycles Actuator Travel: 0.5 mm Actuation Force: 160 gf Operating Temp: -20° to 70°C
Features/ Benefits	Applications			<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices

Series 228 Illuminated Tact Switch

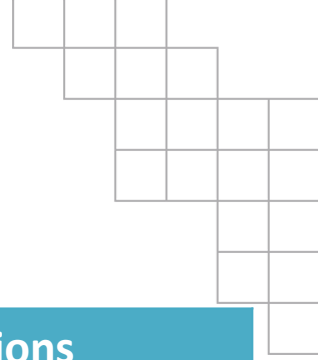

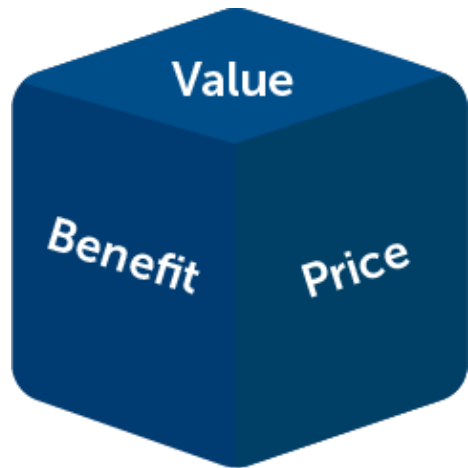


Photo	Series	Dimension	Mounting Style	Key Specifications
	228H	5.2*8.0*2.85mm 8.0*5.6*3.55mm	SMT Gull-wing Standard Through Hole	Life: 100,000 cycles Actuator Travel: 0.5 mm Actuation Force: 160 gf Operating Temp: -20° to 70°C
Features/ Benefits	Applications			<ul style="list-style-type: none"> ■ Audio Visual Equipment ■ Consumer/IT Electronics ■ Telecommunication Devices ■ Instrumentation Equipment ■ Medical Devices

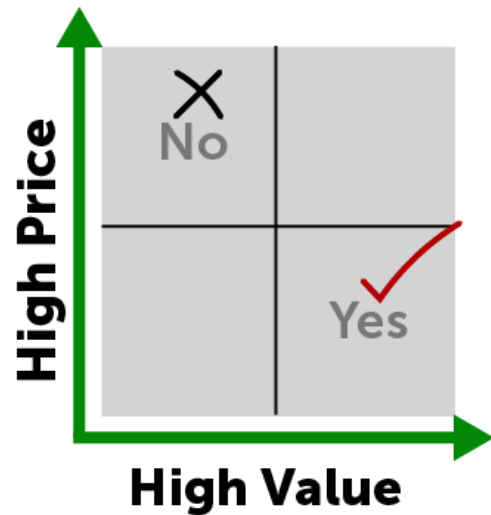
Series 228 Product Target Market Segments/Applications



Series 228 Product Value Proposition




The Series 228 product line provides a variety of illuminated tact switch solutions in a variety of mounting configurations with various optional switch caps to meet engineering design needs offered at a competitive price.



- Long life of 100,000 cycles is standard for all 228 models.
- Model 228E provides a standard IP67 seal for those applications that are subject to continuous humid environments.
- Model 228F~228H are halogen free.
- Standard and custom cap options available on request.
- Custom marking is available on request.
- As a pioneer of modern DIP switch technology, CTS strives to provide reliable switch solution products for industrial, consumer and medical applications, and is continuing to expand the switch portfolio with the release of the Series 228 product line.

Series 228 Product Collateral



Series 228A
7.2 x 6.8mm

- Surface mount
- Compatible with IR reflow
- Single color display during illumination
- Variety of LED color options
- Variety of cap styles, colors

Ordering Information

Series	Terminal Type	Actuating Direction
228A	M	S1

Code Spec.

D	Standard through hole (black actuator)
M	Surface mount gull wing (black actuator)

Code Spec.


V	Vertical
S1	Side, with 4 pairs of terminals
S2	Side, with 3 pairs of terminals

*S1 and S2 are only available for Cap Style C, Flat LED, and through hole terminals

Code Spec.

A	220 gf
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Series 228B
6.0 x 6.8mm

- Surface mount
- Compatible with IR reflow
- Single color display during illumination
- Variety of LED color options
- Variety of cap styles, colors

Ordering Information

Series	Terminal Type	Actuating Direction
228B	M	S1

Code Spec.

D	Standard through hole (white actuator)
M	Surface mount (black actuator)

Code Spec.


S	Vertical
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Note: Not all part number combinations are available. Please review the notes on following pages.

Code Spec.

A	220 gf
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Series 228C
7.2 x 6.8mm

- Surface mount
- Compatible with IR reflow
- Single color display during illumination
- Variety of LED color options
- Variety of cap styles, colors

Ordering Information

Series	Terminal Type	Actuating Direction
228C	M	S1

Code Spec.

D1	Standard through hole (black actuator), terminal length 1.5mm
M	Surface mount gull wing (black actuator)


Code Spec.

V	Vertical
S1	Side, height: 3.5mm from cap center to PCB

Code Spec.

A	220 gf
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Series 228E
7.2 x 6.8mm IP67 Rated Illuminated Tactile Switch

RoHS Sense

- Surface mount gull-wing terminal and standard through hole configurations
- IP67 protection
- Compatible with IR reflow, and manual soldering
- Single or Tri-color display during illumination
- Variety of LED color options



Ordering Information

Series	Terminal Type	Actuating Direction	Actuation Force	LED Color	LED Type	Packaging
228E	M	V	A	R	F	R

Code Spec.

D	Standard through hole (white actuator)
M	Surface mount gull wing (white actuator)
J	J bend terminal (white actuator)

Code Spec.

R	Red
Y	Yellow
G	Green
B	Blue
W	White
A	Amber
RG	Red & Green
RB	Red & Blue
YG	Yellow & Green
RA	Red & Amber
AW	Amber & White
RGB	Red, Green, & Blue (only available for vertical actuation)

Code Spec.

R	Tape & reel packaging (not available for vertical standard through hole type)
Blank	Tray packaging (only available for vertical standard through hole type)

Code Spec.

A	200 gf
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Switch website landing page

https://www.ctscorp.com/sense_product_line/tactile-switches/

Switch brochure

<https://www.ctscorp.com/wp-content/uploads/07-26-19-Switches-Brochure.pdf>

Series 228 Product Availability

e-Catalog Distributors



Global Distributors



Regional Distributors



- Inventory is readily available at e-Catalog distributors worldwide
- A comprehensive network of established global supply chain distributors are ready to assist
- World-class local language customer support is available to help with designs and production

Thank you

