

## Series 219 SMT DIP Technical Data

### Surface mount DIP Switch — Auto Placeable

#### Features

##### Optimized Mechanical Features

- Removable tape seal to withstand IR vapor phase or wave soldering temperatures, board washing
- Positive detent separate from contactor
- Low profile and medium height actuators available
- SPST configurations, 2 through 10 and 12 positions
- .686mm (.027") actuator travel
- Gull-wing and "J" lead terminal configurations

##### Optimized Contact System

- Redundant, wiping contact
- Contactor does not deflect during actuation

##### Premium Materials

- Gold plated contacts, solder coated terminals
- Copper alloy contactor
- High temperature materials (UL 94 V-0)



### Electrical and Mechanical Specifications

#### Switch Function

Single pole single throw

#### Switch Contact Resistance

25 milliohms maximum initial  
50 milliohms maximum at end of life

#### Insulation Resistance

1,000 megohms minimum between  
insulated terminals

#### Dielectric Strength

500 VDC minimum for 1 minute

#### Nonswitching Rating

100 mA or 50 VDC

#### Switch Capacitance

5 pF maximum between adjacent closed switches

#### Temperature Range

-40°C to +85°C

#### Actuation Life

2,000 cycles switching 100 mA @ 20 VDC or  
.1 mA @ 5 VDC (dry circuit)

#### Coplanarity

0.10mm (.004") maximum

#### Allowable Solder Time

IR and vapor phase - up to 60 seconds at 260°C  
Wave - up to 6 seconds @ 260°C

#### Vibration

Per MIL-STD-202F, method 204D, condition B  
(.065" or 15 G's between 10 HZ to 2K Hz) with no  
contact inconsistencies greater than 1  
microsecond.

#### Shock

Per MIL-STD-202F, method 213B, condition A  
(50 G's) with no contact inconsistencies greater  
than 1 microsecond.

#### Sealing

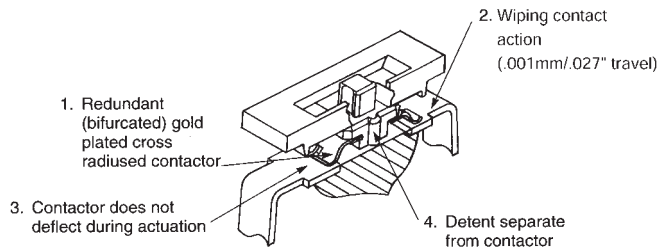
Bottom seal standard  
Top tape seal optional

#### Marking

Special marking available consult CTS.

## CTS SERIES 219 SMT CONTACT FEATURES

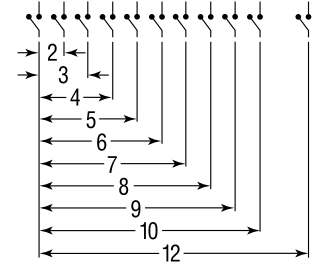
- 1. Value of Redundant (Bifurcated) Gold Plated Contacts:** Redundancy dramatically reduces the probability of contact failure while gold contact material provides the highest environmental protection, IMPROVING RELIABILITY.
- 2. Value of Wiping Contact Action:** Cleans contact area, IMPROVING RELIABILITY.
- 3. Value of Contactor Not Deflecting During Actuation:** Constant contact pressure eliminates overstressing contacts, IMPROVING RELIABILITY.
- 4. Value of Detent Separate from Contactor:** Separate detent allows optimization of nondeflecting contactor and detent designs, IMPROVING RELIABILITY.



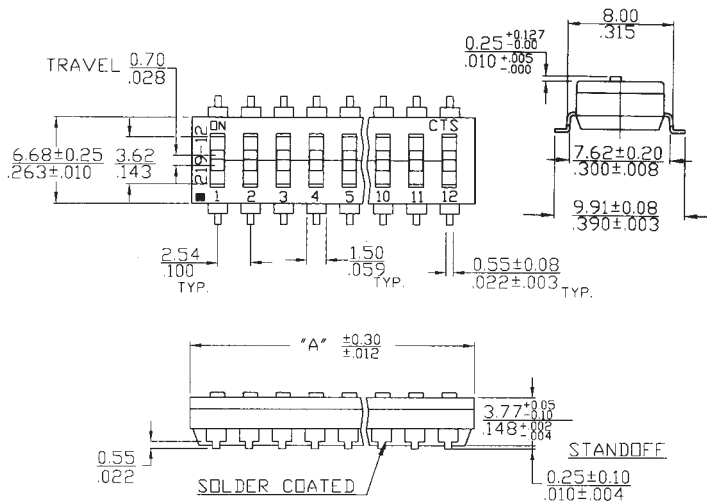
"A" Overall Dimension	No. of Switch Sections
6.55/.258	2
9.09/.358	3
11.63/.458	4
14.17/.558	5
16.71/.658	6
19.25/.758	7
21.79/.858	8
24.33/.958	9
26.87/1.058	10
31.95/1.258	12

\*For "J" bend terminal configurations, add the letter "J" to part number ie 219-2MSTJ or 219-2LPSTJ.

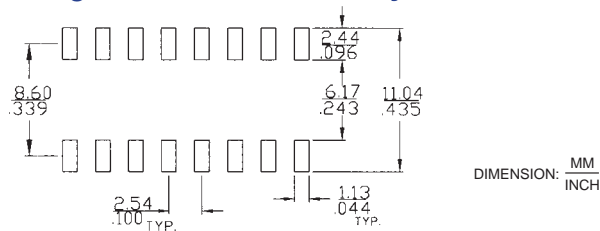
### CTS 219-XX



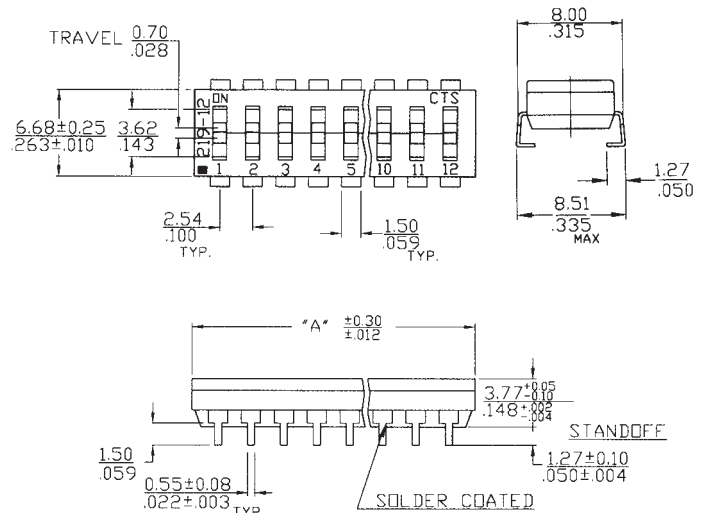
### Gull Wing Terminals Medium Height Actuator



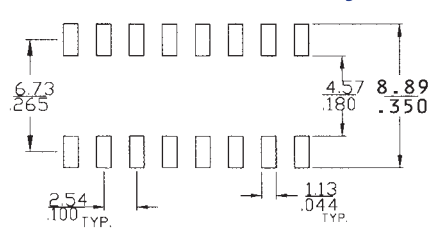
### Gull Wing Surface Mount Pad Layouts



### "J" Lead Terminals Low Profile Actuator



### "J" Lead Surface Mount Pad Layouts



## Part Number Code For Ordering

219	-	XX	X	S	T	J
		XX: Number of Positions				J: "J" Bend Terminal Optional
		M: Medium Height Actuator			T: Top Tape Seal	
		LP: Low Profile Actuator		S: Bottom Seal (Standard)		

## Order From:

**CTS CORPORATION, RESISTOR/ELECTROCOMPONENTS** / 1601 Mishawaka Street / Elkhart, Indiana 46514  
North America Toll Free (888) 287-4690 / (219) 296-6700 / FAX: (219) 293-1240 <http://www.ctscorp.com>

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