

## Series 219 SMT DIP Technical Data

# Surface mount DIP Switch — Auto Placeable

### **Features**

### **Optimized Mechanical Features**

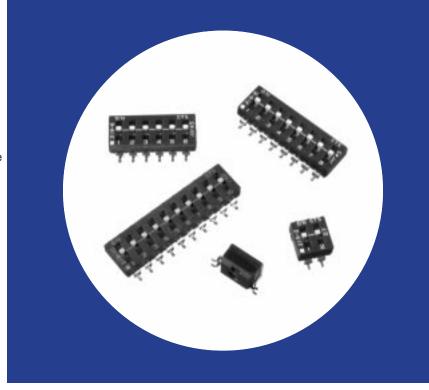
- Removable tape seal to withstand IR vapor phase or wave soldering temperatures, board washing
- Positive detent separate from contactor
- Low profile and medium height actuators available
- SPST configurations, 2 through 10 and 12 positions
- .686mm (.027") actuator travel
- Gull-wing and "J" lead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

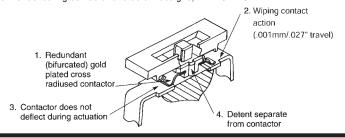
### Marking

Special marking available consult CTS.

Technical Data Sheet 4219C

### **CTS SERIES 219 SMT CONTACT FEATURES**

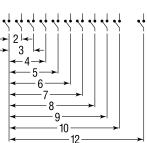
- 1. Value of Redundant (Bifurcated) Gold Plated Contacts: Redundancy dramatically reduces the probability of contact failure while gold contact material provides the highest environmental protection, IMPROVING RELIABILITY.
- 2. Value of Wiping Contact Action: Cleans contact area, IMPROVING RELIABILITY.
- 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.



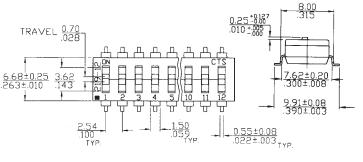
"A" Overall Dimension	No. of Switch Sections
6.55/.258	2
9.09/.358	3
11.63/.458	4
14.17/.558	5
16.71/.658	6
19.25/.758	7
21.79/.858	8
24.33/.958	9
26.87/1.058	10
31.95/1.258	12

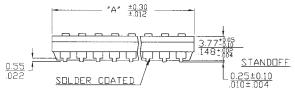
\*For "J" bend terminal configurations, add the letter "J" to part number ie 219-2MSTJ or 219-2LPSTJ.

### **CTS 219-XX**

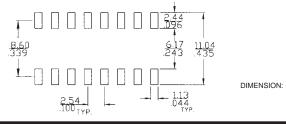


### **Gull Wing Terminals Medium Height Actuator**

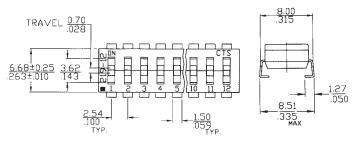


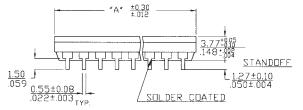


### **Gull Wing Surface Mount Pad Layouts**

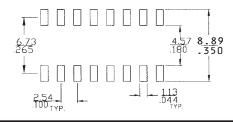


### "J" Lead Terminals **Low Profile Actuator**

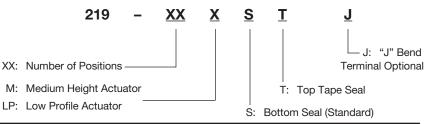




### "J" Lead Surface Mount Pad Layouts



### **Part Number Code For Ordering**



### **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

CTS COMPONENTS TAIWAN, LTD. / 7, Central 6th Road (Chung Liu Road) / P.O. Box 26-20 Kaohsiung Export Processing Zone / Kaohsiung, Taiwan, Rep. of China (07) 8216145 / FAX: (07) 8417642.8110040