

# Series 219 Data Sheet SMD DIP Switch

# Surface Mount DIP Switch — Auto Placeable

#### **Features**

#### **Optimized Mechanical Features**

- Removable tape seal to withstand IR vapor phase or wave soldering temperatures, and board washing
- Positive detent separate from contactor
- Available low profile, medium, and extended height actuators
- Gull-wing and "J" lead terminal configurations
- · Tube or tape and reel packaging available

#### **Optimized Contact System**

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

#### **Premium Materials**

- · Gold plated beryllium copper contacts
- · High temperature materials (UL94V-0)
- · RoHS compliant



# **Electrical and Mechanical Specifications**

#### **Switch Function**

SPST- 2 through 10 and 12 positions

#### **Switch Contact Resistance**

25 milliohms maximum initial 50 milliohms maximum at the end of life

# **Insulation Resistance**

1,000 megohms minimum between insulated terminals

#### **Dielectric Strength**

500 VDC for 1 minute between adjacent switches

#### **Nonswitching Rating**

100 mA or 50 VDC maximum

### **Switch Capacitance**

5 pF maximum between adjacent closed switches

#### **Operating Temperature**

- 55°C to +85°C

#### **Actuation Life**

2,000 cycles switching 100 mA @ 20 VDC or 0.1 mA @ 5 VDC (dry circuit)

#### Coplanarity

0.10mm (.004") maximum

#### **Allowable Solder Time**

Up to 60 seconds at 260°C

#### Vibration

Per MIL-STD-202F, method 204D, condition B (.06" 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

Standard bottom seal Optional top tape seal

#### Marking

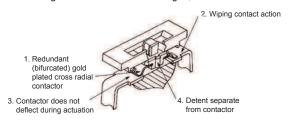
Special marking available consult CTS.

## **Packaging**

Standard: Anti-static tube packaging Optional: Tape and reel packaging

# **CTS SERIES 219 SMT CONTACT FEATURES**

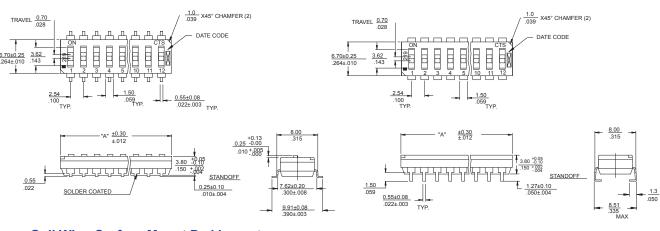
- Value of Redundant (Bifurcated) Gold Plated Contacts: Redundancy dramatically reduces the probability of contact failure while gold contact material provides the highest environmental protection, IMPROVING RELIABILITY.
- 2. Value of Wiping Contact Action: Clean contact area, IMPROVING RELIABILITY.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



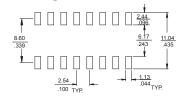
"A" Overall Dimension	No. of Switch positions
6.55/.258	2
9.09/.358	3
11.63/.458	4
14.17/.558	5
16.71/.658	6
19.25/.758	7
21.79/.858	8
24.33/.958	9
26.87/1.058	10
31.95/1.258	12

# Gull Wing Terminals Medium Height Actuator

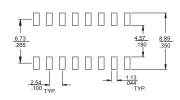
# "J" Bend Terminals Low Profile Actuator



# **Gull Wing Surface Mount Pad Layouts**



DIMENSION: mm inch



"J" Bend Surface Mount Pad Layouts

#### 219 12 LP S R **Ordering Information** Т XX: NO. OF POSITIONS **BLANK: SHIP AT ON POSITION** F: SHIP AT OFF POSITION E: EXTENDED HEIGHT ACTUATOR(0.60mm/.024") **BLANK:** ANTI-STATIC TUBE PACKAGING M: MEDIUM HEIGHT ACTUATOR(0.25mm/.010") R: TAPE AND REEL PACKAGING LP: LOW PROFILE ACTUATOR(Flush) **BLANK: GULL-WING TERMINAL** J: "J" BEND TERMINAL **BLANK: NO TOP TAPE SEAL** \* T: TOP TAPE SEAL \* Not available on extended actuator S: BOTTOM SEAL

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