

## Surface Mount DIP Switch — Auto Placeable

### Features

#### Optimized Mechanical Features

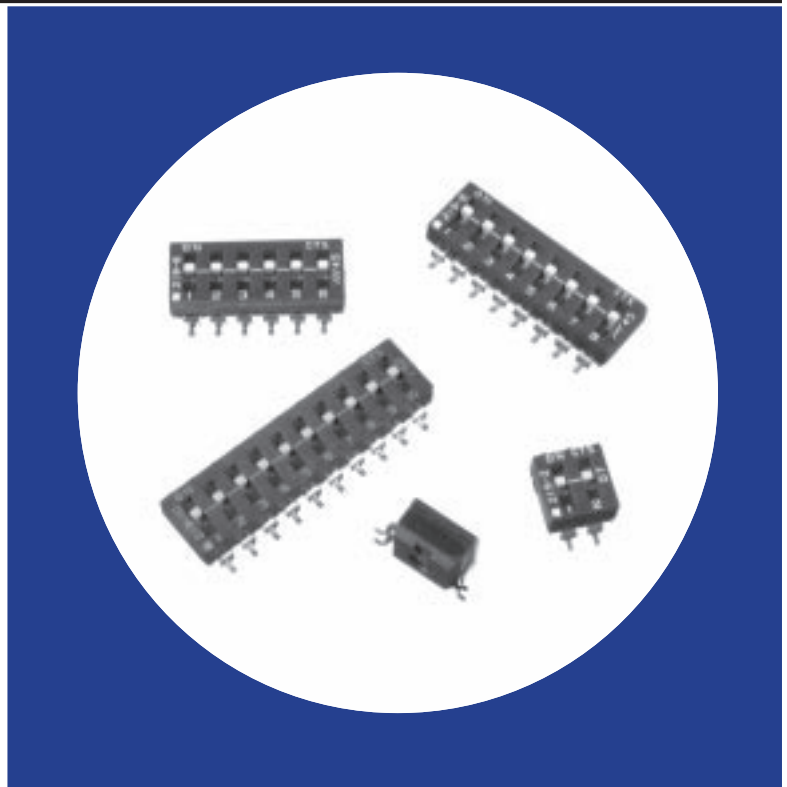
- Removable tape seal to withstand IR vapor phase or wave soldering temperatures, and board washing
- Positive detent separate from contactor
- Available low profile, medium, and extended height actuators
- Gull-wing and "J" lead terminal configurations
- Tube or tape and reel packaging available

#### 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

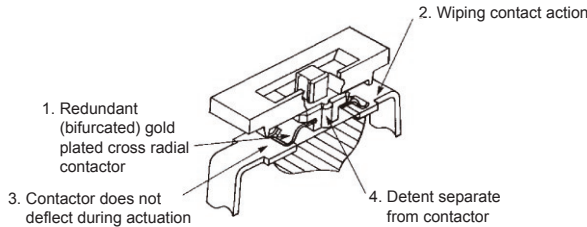
Special marking available consult CTS.

#### Packaging

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

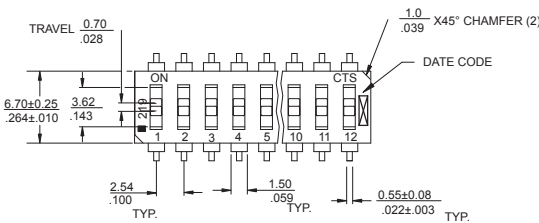
# CTS SERIES 219 SMT CONTACT FEATURES

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: Clean 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.

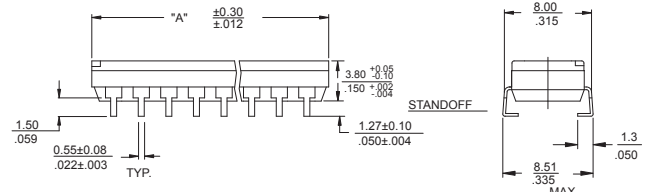
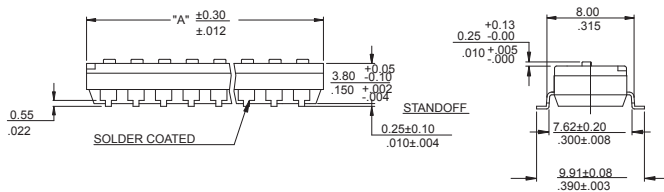
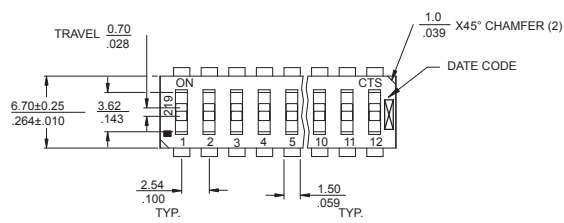


"A" Overall Dimension	No. of Switch positions
6.55/.258	2
9.09/.358	3
11.63/.458	4
14.17/.558	5
16.71/.658	6
19.25/.758	7
21.79/.858	8
24.33/.958	9
26.87/1.058	10
31.95/1.258	12

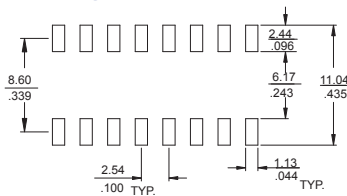
## Gull Wing Terminals Medium Height Actuator



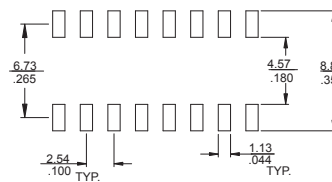
## "J" Bend Terminals Low Profile Actuator



## Gull Wing Surface Mount Pad Layouts



## "J" Bend Surface Mount Pad Layouts



DIMENSION:  $\frac{\text{mm}}{\text{inch}}$

## Ordering Information

**219 - 12 LP S T J R F**

XX: NO. OF POSITIONS

**E:** EXTENDED HEIGHT ACTUATOR(0.60mm/.024")  
**M:** MEDIUM HEIGHT ACTUATOR(0.25mm/.010")  
**LP:** LOW PROFILE ACTUATOR(Flush)

**BLANK:** SHIP AT ON POSITION  
**F:** SHIP AT OFF POSITION

**BLANK:** ANTI-STATIC TUBE PACKAGING  
**R:** TAPE AND REEL PACKAGING

**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