

## Surface Mount DIP Switch — Auto Placeable

### Features

#### Optimized Mechanical Features

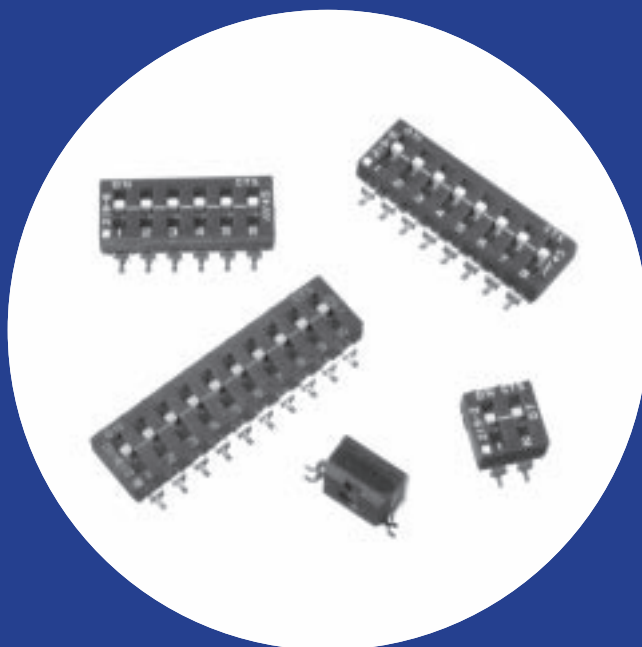
- Removable tape seal to withstand IR vapor phase or wave soldering temperatures, and board washing
- Positive detent separate from contactor
- Available low profile, medium, and extended height actuators
- Gull-wing and "J" lead terminal configurations
- Tube or tape and reel packaging available

#### 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.

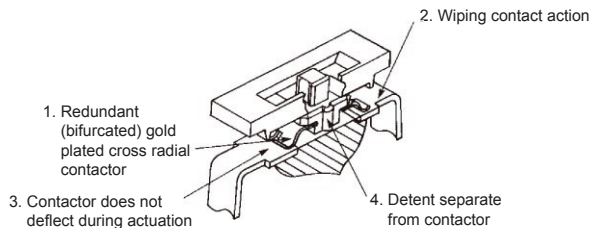
#### Packaging

Standard : Anti-static tube packaging

Optional : Tape and reel packaging

# CTS SERIES 219 SMT CONTACT FEATURES

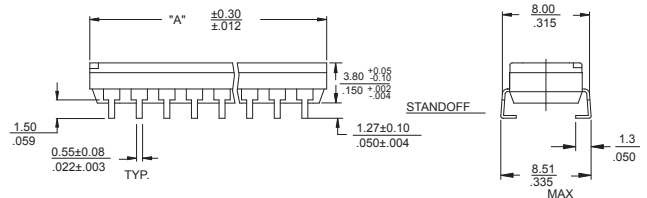
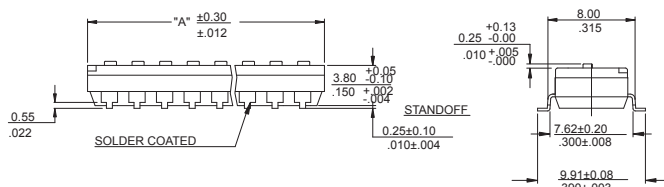
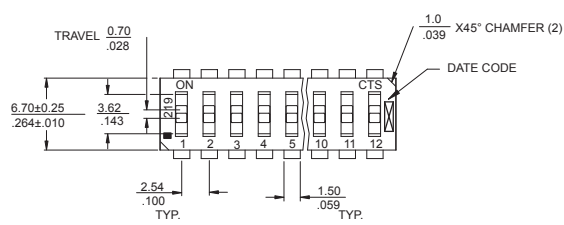
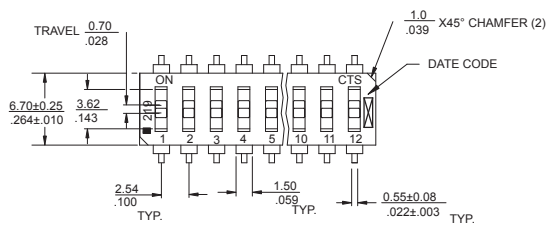
1. Value of Redundant (Bifurcated) Gold Plated Contacts: Redundancy dramatically reduces the probability of contact failure while gold contact material provides the highest environmental protection, IMPROVING RELIABILITY.
2. Value of Wiping Contact Action: Clean contact area, IMPROVING RELIABILITY.
3. 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.



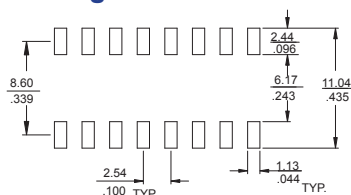
| "A" Overall Dimension | No. of Switch positions |
|-----------------------|-------------------------|
| 6.55/.258             | 2                       |
| 9.09/.358             | 3                       |
| 11.63/.458            | 4                       |
| 14.17/.558            | 5                       |
| 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

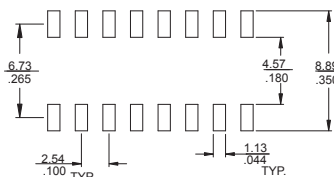
## "J" Bend Terminals Low Profile Actuator



## Gull Wing Surface Mount Pad Layouts



## "J" Bend Surface Mount Pad Layouts



DIMENSION: mm  
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