

### AUTO-DIP<sup>®</sup> Switch

### Automatically

### Insertable, Wave

### Solderable, Board

### Washable DIP Switch

#### Features

##### Optimized Mechanical Features

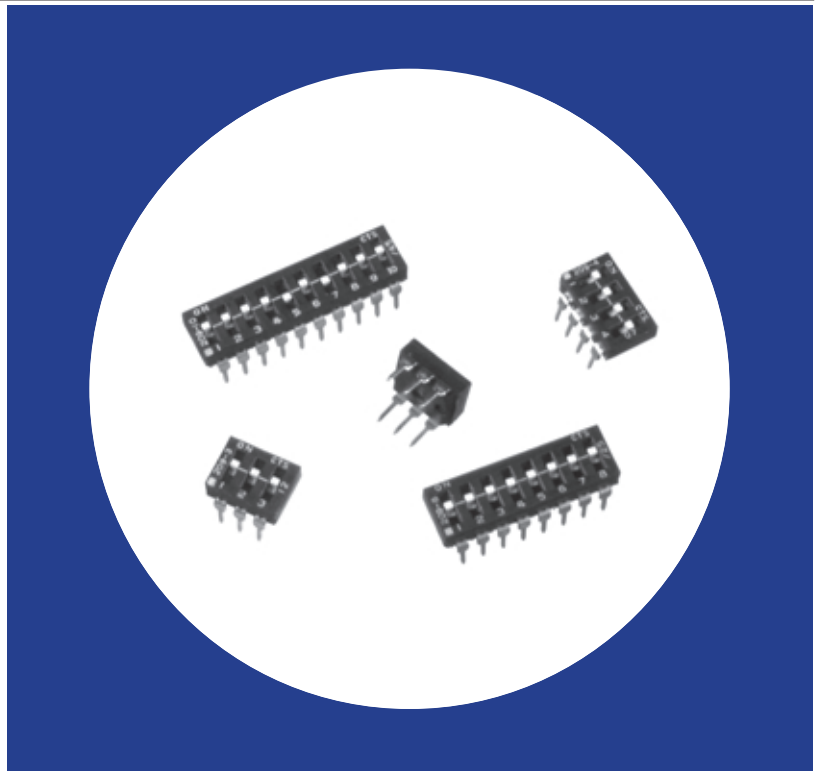
- Fully sealed to withstand insertion shock, wave solder temperatures, and board washing
- Positive detent separated from contactor
- Compatible with Amistar, DynaPert, Universal, NETCO assembly and other machines

##### Optimized Contact System

- Redundant, wiping contact
- Contactor does not deflect during actuation
- Available low profile, medium and extended height actuator

##### Materials

- Series 209 - gold plated beryllium copper contacts
- Series 210 - gold flash plated beryllium copper contacts
- High temperature material (UL94V-0)
- RoHS compliant



**Series 209 – Premium AUTO-DIP Switches**  
**Series 210 – Economical AUTO-DIP Switches**

## Electrical and Mechanical Specifications

#### Switch Function

SPST- 2 through 10 and 12 positions

#### Switch Contact Resistance

Switch Series	Initial, max.	End of life, max.
209	25 milliohms	50 milliohms
210	100 milliohms	500 milliohms

#### 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

#### Actuation Life

Series 209: 2,000 cycles switching @ 100 mA, 20 VDC or @ .1 mA, 5 VDC (dry circuit)

Series 210: 1,000 cycles switching @ 100 mA, 20 VDC or @ .1 mA, 5 VDC (dry circuit)

#### Allowable Solder Time

Up to 5 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

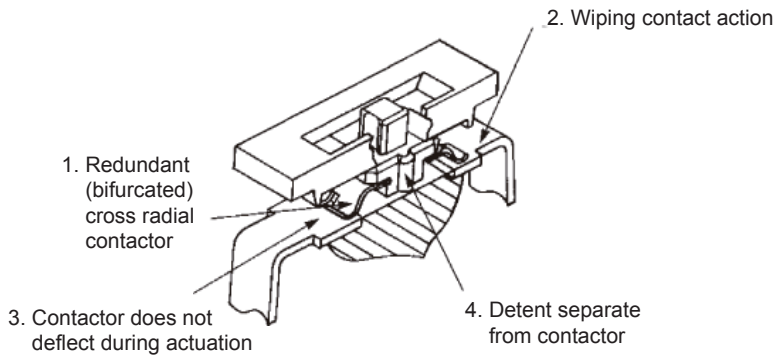
#### Operating Temperature

-40°C to +85°C

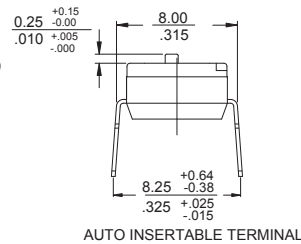
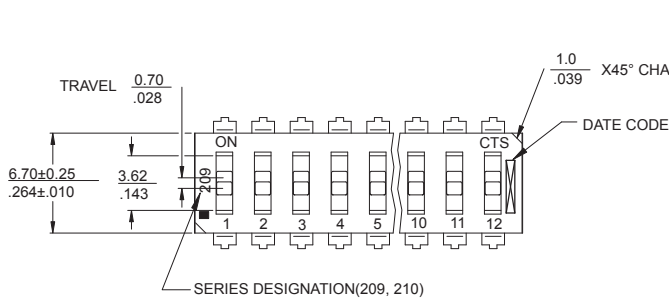
#### Packaging

Standard : Anti-Static tube packaging

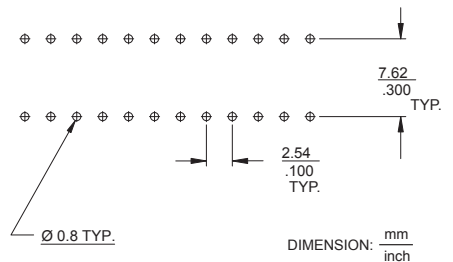
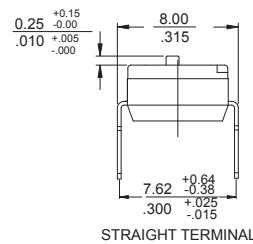
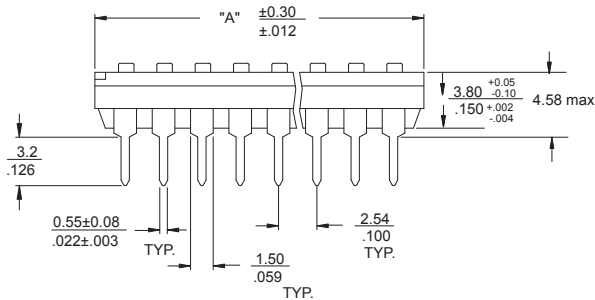
# CTS AUTO-DIP® SERIES CONTACT FEATURES



1. **Value of Redundant (Bifurcated) Contacts:** Redundancy dramatically reduces the probability of contact failure, 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



## Ordering Information

**209/210 - 12 M S T F D**

XX: NO. OF POSITION  
 E: EXTENDED HEIGHT ACTUATOR(0.6mm/.024")  
 M: MEDIUM ACTUATOR(0.25mm/.010")  
 LP: LOW PROFILE (Flush)

BLANK : SHIP AT ON POSITION  
 F : SHIP AT OFF POSITION  
 BLANK : NO TOP TAPE SEAL  
 \* T: TOP TAPE SEAL  
 \* Not available on Extended actuator  
 S: BOTTOM SEAL

BLANK : AUTO-INSERTABLE TERMINAL  
 D : STRAIGHT TERMINAL