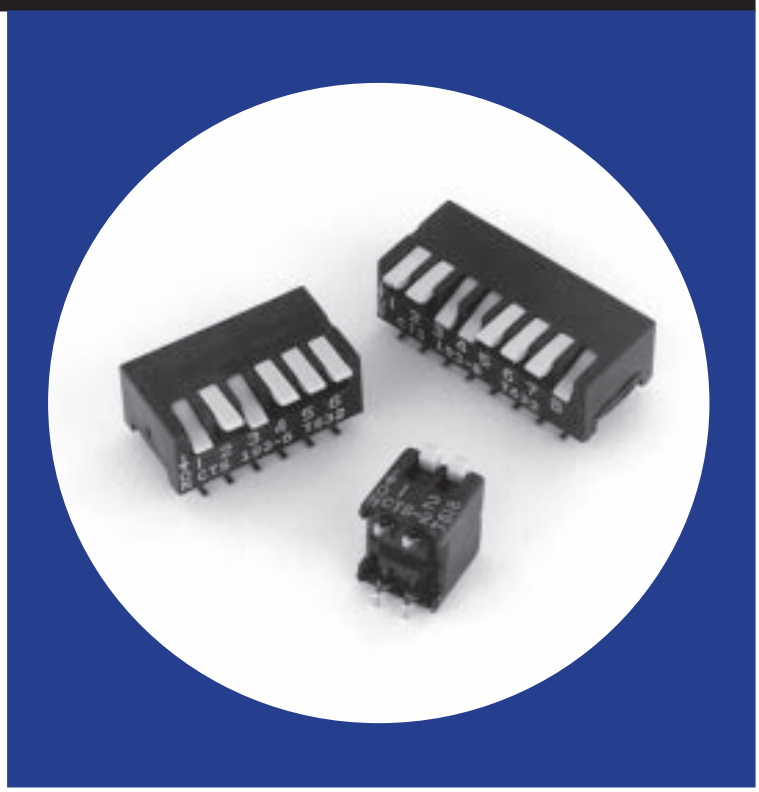
CTS Electrocomponents

# Series 193 Data Sheet
# Side Actuated DIP Switch

## Side Actuated, Surface Mount DIP Switches



### Features

**Optimized Mechanical Features**
- Coplanarity: 0.1mm/.004" maximum
- Enclosed actuators shield contacts from foreign particles throughout life of switch
- Gull-wing terminal configuration
- Compatible with SMT assembly including IR and Vapor-phase (up to 260°C)
- SPST configuration,2 through 10 positions

**Optimized Contact System**
- Contact wiping action on make and break
- Integral terminal and contact locked into high temperature plastic base
- Lock-over-center design provides positive detent action
- Optimized, active contact design incorporating dimple-to-flat surface wiping interface with high contact force

**Materials**
- Gold plated contacts for long-term contact corrosion resistance
- Tin plated terminals for better solderability
- UL 94V-0 plastics
- RoHS compliant

## Electrical and Mechanical Specifications

**Switch Function**
SPST-2 through 10 positions

**Switch Contact Resistance**
50 milliohms maximum initial
100 milliohms maximum at end of life

**Insulation Resistance**
1,000 megohms minimum between insulated terminals

**Dielectric Strength**
500 VAC for 1 minute between adjacent switches

**Nonswitching Rating**
100 mA or 50 VDC maximum

**Switch Capacitance**
5.0 pF maximum between adjacent closed switches

**Operating Temperature**
–40°C to +85°C

**Actuation Life**
7,000 cycles switching 50 mA @ 24 VDC

**Coplanarity**
Coplanarity of 0.1mm / .004" max

**Allowable Solder Time**
Up to 60 seconds at 260°C

**Vibration**
Per MIL-STD-202F, method 204D, condition B (.06" or 15G'S between 10 HZ to 2K HZ) with no contact inconsistencies greater than 1 microsecond

**Shock**
Per MIL-STD-202F, method 213B, condition A (50G'S) with no contact inconsistencies greater than 1 microsecond

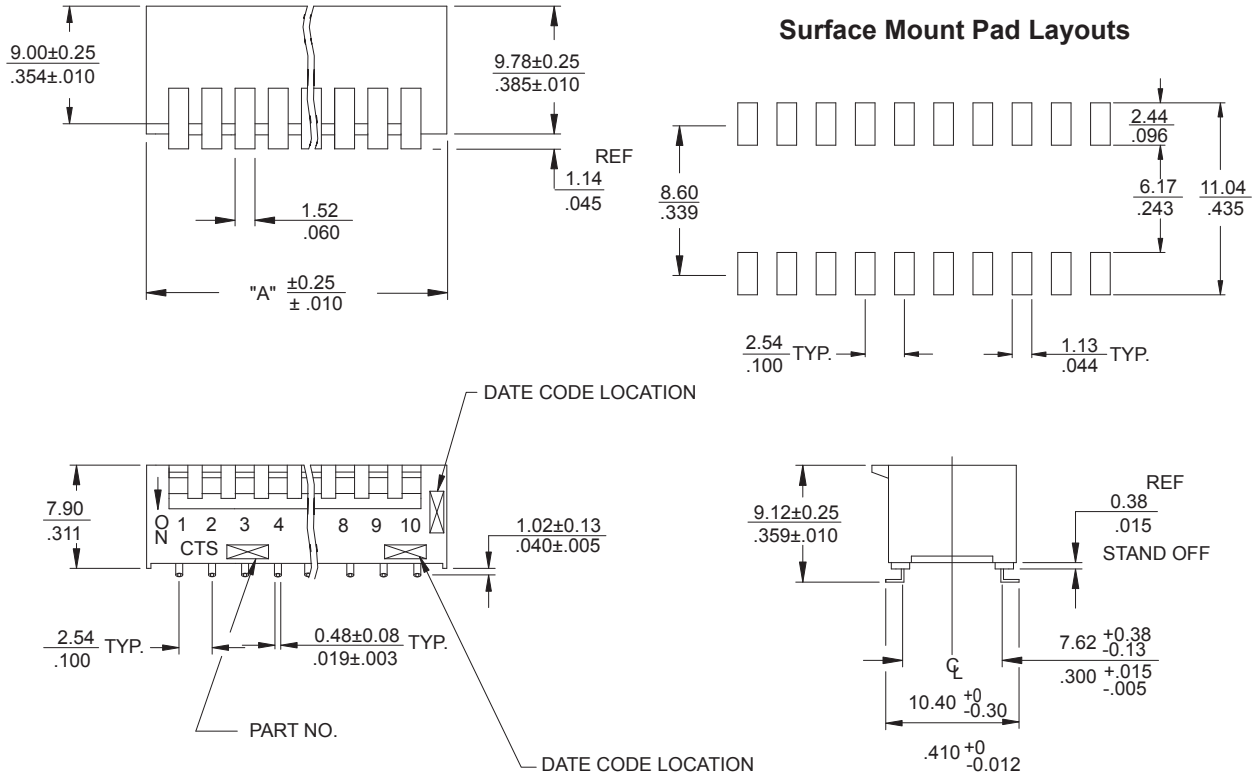
**Sealing**
Bottom epoxy seal standard

**Marking**
Special side or top marking available-consult CTS

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


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# CTS SERIES 193




DIMENSION: mm / inch

| "A" Overall Dimensions | No. of Switch Positions | Part Number |
|---|---|---|
| 7.26 / .286 | 2 | 193–2MS |
| 9.80 / .386 | 3 | 193–3MS |
| 12.34 / .486 | 4 | 193–4MS |
| 14.88 / .586 | 5 | 193–5MS |
| 17.42 / .686 | 6 | 193–6MS |
| 19.96 / .786 | 7 | 193–7MS |
| 22.50 / .886 | 8 | 193–8MS |
| 25.04 / .986 | 9 | 193–9MS |
| 27.58 / 1.086 | 10 | 193–10MS |

## Ordering Information

**193 – 10 M S R N**

**XX**: # OF POSITIONS

**M**: MEDIUM LENGTH ACTUATOR (1.14mm/.045")

S: BOTTOM EPOXY SEAL

**BLANK**: ANTI-STATIC TUBE PACKAGING
***R**: TAPE AND REEL PACKAGING
*Not available for 7 position

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

**Note:**
Consult CTS for other common standard features not listed.


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