



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Side Actuated, Surface Mount DIP Switches

Features

Optimized Mechanical Features

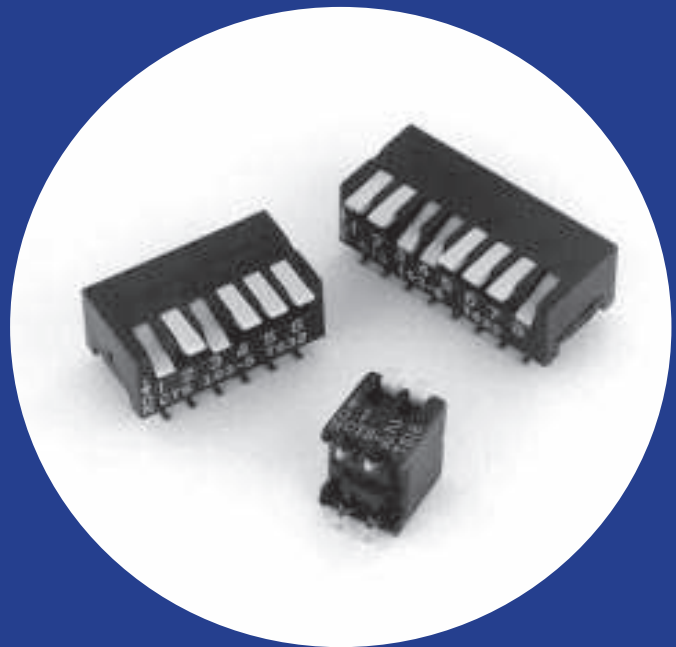
- Coplanarity: 0.1mm/.004" maximum
- Enclosed actuators shield contacts from foreign particles throughout life of switch
- Gull-wing terminal configuration
- Compatible with SMT assembly including IR and Vapor-phase (up to 260°C)
- SPST configuration, 2 through 10 positions

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

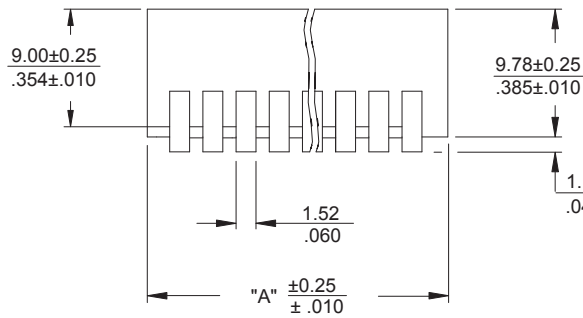
Marking

Special side or top marking available-consult CTS

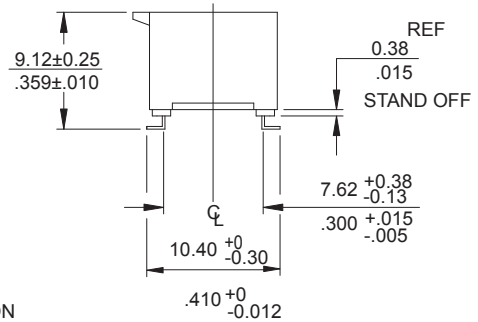
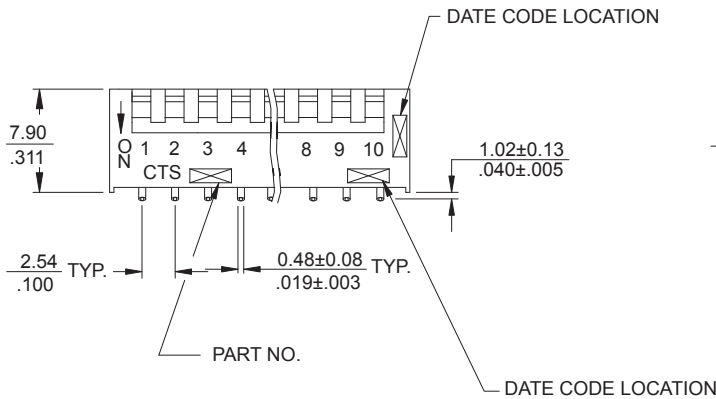
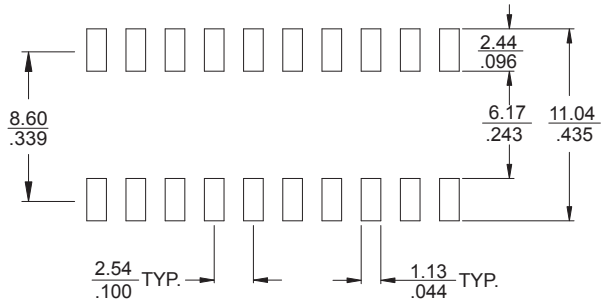
Packaging

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

CTS SERIES 193



Surface Mount Pad Layouts



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

| "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.