## Series 209/210 <br> Through-Hole DIP Switch

- Available with low profile, medium, and extended height actuators
- Series 209 - premium gold plated beryllium copper contacts
- Series 210 - economical gold flash beryllium copper contacts
- Low profile body
- RoHS compliant
- Optional top tape seal for board spray washing


## Description

These versatile, low profile switches, are available with auto-insertable or hand-insertable terminal styles. The switches feature a positive detent feature separate from the contactor so it does not deflect during actuation. The molded body paired with the optional top tape seal provides optimum protection during soldering processes that includes board spray washing. This versatile switch is an ideal choice for most SPST applications.

## Ordering Information



Notes: Contact CTS for other common features not listed.

## Electrical Specifications

| Parameter | Conditions \& Remarks | Min | Max | Unit |
| :--- | :--- | :--- | :--- | :---: |
| Operating Temperature <br> Range | -40 | +85 | ${ }^{\circ} \mathrm{C}$ |  |

## Switch Function

| Circuit | SPST | 2 | 12 | positions |
| :---: | :---: | :---: | :---: | :---: |
| Contact Resistance (209) | Initial <br> At end of life |  | $\begin{aligned} & 25 \\ & 50 \\ & \hline \end{aligned}$ | milliohms |
| Contact Resistance (210) | Initial <br> At end of life |  | $\begin{aligned} & 100 \\ & 500 \end{aligned}$ | milliohms |
| Insulation Resistance | Between insulated terminals | 1000 |  | megohms |
| Dielectric Strength | 500 VAC between adjacent switches |  | 1 | minute |
| Actuation Life (209) | 100 mA @ 20 VDC or .1mA @ 5 VDC(dry circuit) |  | 2,000 | cycles |
| Actuation Life (210) | 100mA @ 20 VDC or .1mA@5 VDC(dry circuit) |  | 1,000 | cycles |
| Switch Capacitance | Between adjacent closed switches |  | 5.0 | pF |
| Non-switching Rating |  |  | $\begin{gathered} 100 \\ \text { or } \\ 50 \end{gathered}$ | $\begin{gathered} \mathrm{mA} \\ \text { or } \\ \mathrm{VDC} \end{gathered}$ |

## Mechanical and Environmental

| Soldering | Maximum wave temperature, $260^{\circ} \mathrm{C}$ for 5 seconds |
| :--- | :--- |
| MSL | Level 1 |
| RoHS | Lead-Free. Fully compliant to RoHS Directive 2011/65/EU |
| Shock | Per MIL-STD-202F, method 213B, condition A (50G's) <br> with no contact inconsistencies greater than 1 microsecond |
| Vibration | Per MIL-STD-202F, method 204D, condition B (.06" or 15G's between 10 HZ to 2K HZ) with <br> no contact inconsistencies greater than 1 microsecond |
| Seal | Bottom seal standard, optional top tape seal for board spray washing |
| Marking | Special top marking available-consult CTS |
| Packaging: | Standard anti-static tube packaging |
| Storage Temperature <br> Range | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |

## Mechanical Specifications

## Series 209 / 210 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" <br> OVERALL <br> DIMENSION | NO. OF <br> SWITCH <br> 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 |



# Mouser Electronics 

Authorized Distributor

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## CTS:

209-2LPS 209-2MST 209-3LPS 209-3MST 209-4LPS 209-4MST 209-5LPS 209-6LPS 209-6MST 209-7LPS 209-7MST 209-8LPS 209-8MST 209-9LPS 209-9MST 209-10LPS 209-10MST 209-12LPS 209-12MST 210-
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