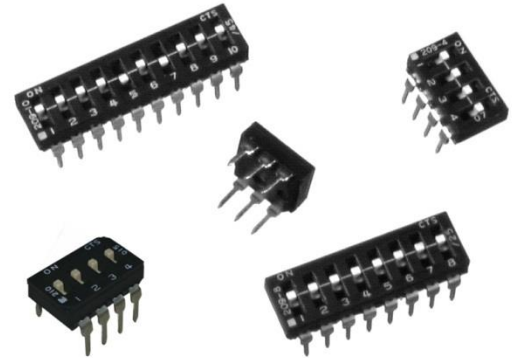




Series 209/210 Through-Hole DIP Switch

- 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

| Series | Number of Actuator | Switch Positions Height | Bottom Seal | Top Tape Seal | Shipping Position | Terminal Type | |
|-------------|--------------------------------|-------------------------|--|---------------|---|---------------|--------------------------|
| 209/210- | XX | M | S | T | F | D | |
| Code | No. of switch positions | Code | Spec. | Code | Spec. | Code | Spec. |
| 2 | 2 positions | E | Extended height actuator (0.6mm/.024") | Blank | Ship at ON position | Blank | Auto-insertable terminal |
| 3 | 3 positions | M | Medium actuator (0.25mm/.010") | T | Ship at OFF position | D | Straight terminal |
| 4 | 4 positions | LP | Low profile (Flush) | | | | |
| 5 | 5 positions | | | | | | |
| 6 | 6 positions | | | | | | |
| 7 | 7 positions | | | | | | |
| 8 | 8 positions | | | | | | |
| 9 | 9 positions | | | | | | |
| 10 | 10 positions | | | | | | |
| 12 | 12 positions | | | | | | |
| | | | | Code | Top tape seal | | |
| | | | | Blank | No top tape seal | | |
| | | | | T | Top tape seal (Not available on extended actuator) | | |

Notes: Contact CTS for other common features not listed.



Electrical Specifications

| Parameter | Conditions & Remarks | Min | Max | Unit |
|-----------------------------|----------------------|-----|-----|------|
| Operating Temperature Range | | -40 | +85 | °C |

Switch Function

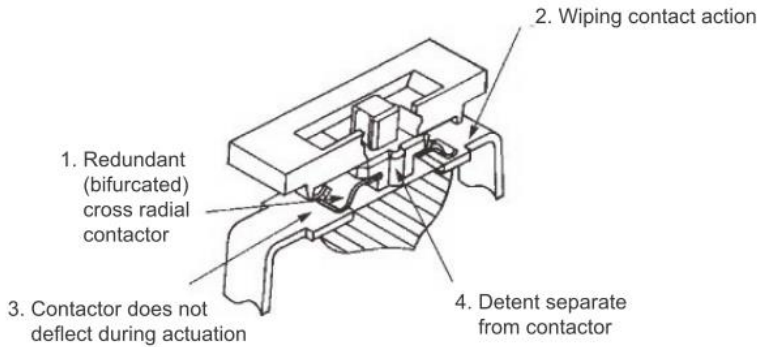
| | | | | |
|--------------------------|--|------|----------|-----------|
| Circuit | SPST | 2 | 12 | positions |
| Contact Resistance (209) | Initial | | 25 | milliohms |
| | At end of life | | 50 | |
| Contact Resistance (210) | Initial | | 100 | milliohms |
| | At end of life | | 500 | |
| Insulation Resistance | Between insulated terminals | 1000 | | megohms |
| Dielectric Strength | 500 VAC between adjacent switches | | 1 | minute |
| Actuation Life (209) | 100mA @ 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 | | | 100 | mA |
| | | | or 50 | or VDC |

Mechanical and Environmental

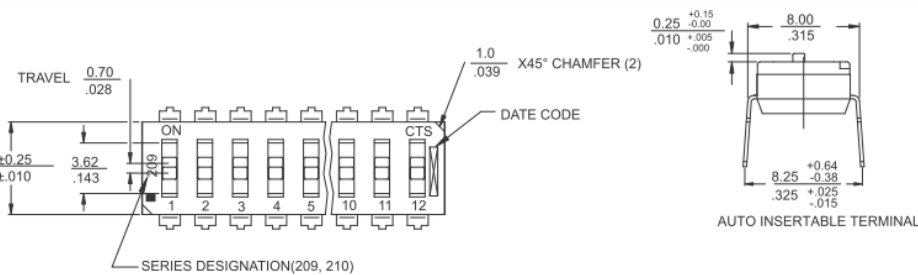
| | |
|---------------------------|--|
| Soldering | Maximum wave temperature, 260°C for 5 seconds |
| MSL | Level 1 |
| RoHS | Lead-Free. Fully compliant to RoHS Directive 2011/65/EU |
| Shock | Per MIL-STD-202F, method 213B, condition A (50G's) with no contact inconsistencies greater than 1 microsecond |
| Vibration | Per MIL-STD-202F, method 204D, condition B (.06" or 15G's between 10 HZ to 2K HZ) with 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 Range | -40°C to +85°C |

Mechanical Specifications

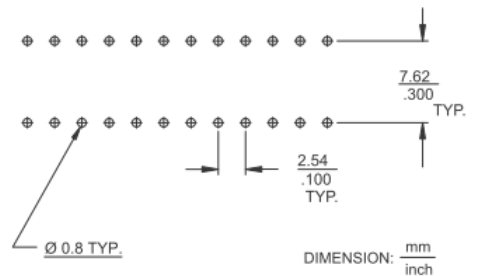
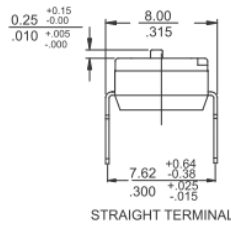
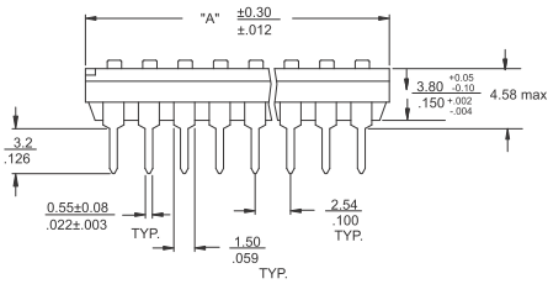
Series 209 / 210 Contact Features



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" 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 |



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