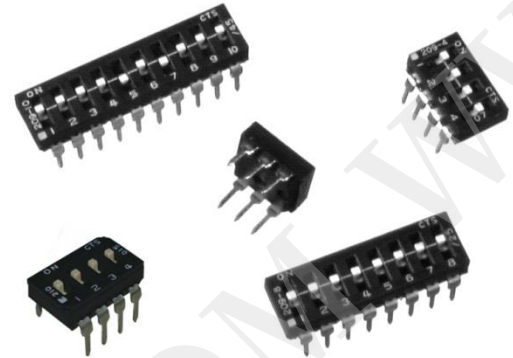




Series 209/210

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																																										
<table><tr><th>Code</th><th>No. of switch positions</th></tr><tr><td>2</td><td>2 positions</td></tr><tr><td>3</td><td>3 positions</td></tr><tr><td>4</td><td>4 positions</td></tr><tr><td>5</td><td>5 positions</td></tr><tr><td>6</td><td>6 positions</td></tr><tr><td>7</td><td>7 positions</td></tr><tr><td>8</td><td>8 positions</td></tr><tr><td>9</td><td>9 positions</td></tr><tr><td>10</td><td>10 positions</td></tr><tr><td>12</td><td>12 positions</td></tr></table>		Code	No. of switch positions	2	2 positions	3	3 positions	4	4 positions	5	5 positions	6	6 positions	7	7 positions	8	8 positions	9	9 positions	10	10 positions	12	12 positions	<table><tr><th>Code</th><th>Spec.</th></tr><tr><td>E</td><td>Extended height actuator (0.6mm/.024")</td></tr><tr><td>M</td><td>Medium actuator (0.25mm/.010")</td></tr><tr><td>LP</td><td>Low profile (Flush)</td></tr></table>		Code	Spec.	E	Extended height actuator (0.6mm/.024")	M	Medium actuator (0.25mm/.010")	LP	Low profile (Flush)	<table><tr><th>Code</th><th>Spec.</th></tr><tr><td>BLANK</td><td>Ship at ON position</td></tr><tr><td>F</td><td>Ship at OFF position</td></tr></table> <table><tr><th>Code</th><th>Spec.</th></tr><tr><td>BLANK</td><td>Auto-insertable terminal</td></tr><tr><td>D</td><td>Straight terminal</td></tr></table>			Code	Spec.	BLANK	Ship at ON position	F	Ship at OFF position	Code	Spec.	BLANK	Auto-insertable terminal	D	Straight terminal
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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

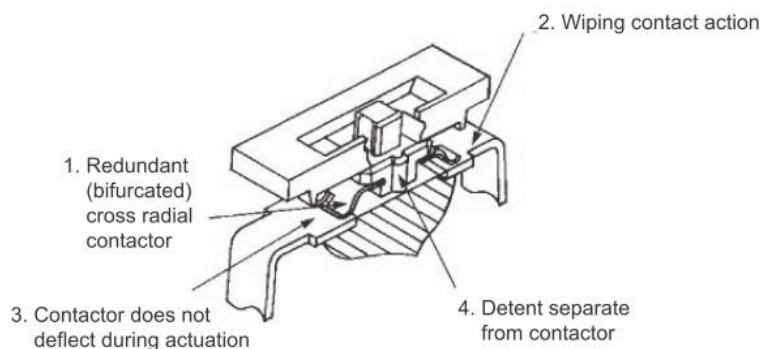
Circuit	SPST	2	12	positions
Contact Resistance (209)	Initial		25	milliohms
	At end of life		50	
Contact Resistance (210)	Initial		100	milliohms
	At end of life		500	
Insulation Resistance	Between insulated terminals	1000		megohms
Dielectric Strength	500 VAC between adjacent switches		1	minute
Actuation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

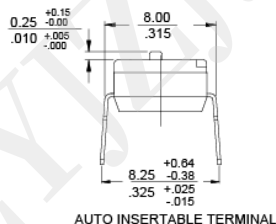
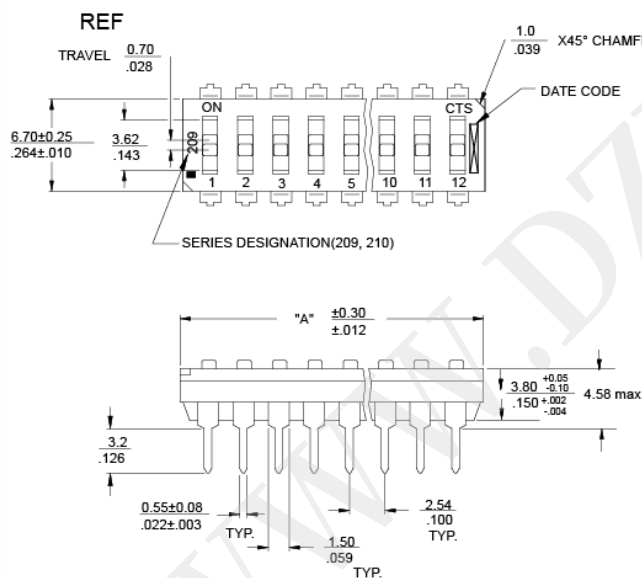
Clean contact area, IMPROVING RELIABILITY.

3. Value of Contactor Not Deflecting

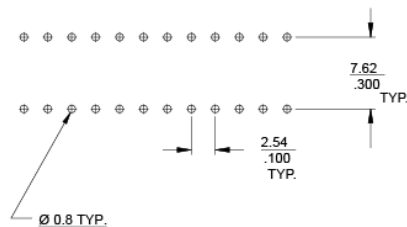
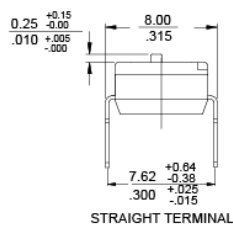
During Actuation : Constant contact pressure eliminates overstressing contacts, IMPROVING RELIABILITY.

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



DIMENSION: mm
inch

STANDARD TOLERANCE :

X (1 PLACE) : ±0.3
XX(2 PLACE) : ±0.13
±0.05