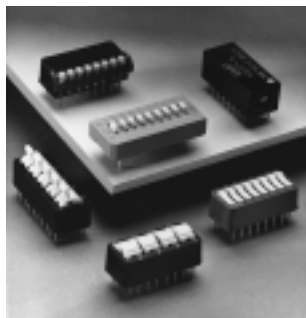


DIP Switches



Alcoswitch 7000 Series DIP switches are available in standard single pole, single throw; side actuated, single pole, single throw and multiple series versions. Contacts are made of high strength copper alloy with .000030 [0.00076] gold over .000050 [0.00127] nickel plating in contact area and legs plated to meet Tyco Electronics Solderability Specification 109-11-3.

The multiple series switches offer the unique feature of single pole switches coupled mechanically to provide switching of various poles simultaneously. This allows flexibility in programming.

Multipole switches are available with or without lever-actuated rockers and in a variety of configurations in addition to those listed. The maximum number of poles that can be ganged is six.

Performance Characteristics

Current and Voltage Rating:

Nonswitching — 1.5 amperes max. at 50 VDC
Switching — 100 milliamperes max at 5 VDC (resistive load);
25 milliamperes max. at 24 VDC (resistive load)

Contact Resistance, Dry Circuit:

100 milliohms max. (end of life) and 50 milliohms (initial) at 50 mV open circuit, 50 milliamperes

Insulation Resistance:

1 x 10⁹ ohms min. at 100 VDC (initial)

Dielectric Withstanding Voltage:

500 VDC min. at standard atmospheric conditions

Capacitance:

5 picofarads max.

Temperature Rating:

Nonoperating — -73.3°C to +105°C
Operating — -55°C to +105°C

Vibration:

Discontinuities shall not exceed 10 microseconds when subjected to 10-2000-10 Hz transversing for 20 minutes at .060 [1.52] inches total excursion

Shock:

No physical damage or discontinuities greater than 10 microseconds when tested with .10 ampere current applied per Tyco Electronics Specification 109-26, Condition A

Humidity:

Withstands an environment of +40°C and 95% RH for 96 hours

Durability:

No physical damage or contact resistance greater than 100 milliohms up to 7000 cycles of actuation with a resistive load of 24 VDC and 25 milliamperes max. current applied

Terminal Strength (Bend Test):

Two (2) 45° bend cycles per MIL-STD-202, Method 211, Condition B

Materials

Housing:

Glass-filled polyester, 94V-0 rated, black

Rocker:

Thermoplastic, 94V-0 rated, white

Spring Contacts and Leads:

Copper alloy with .000030 [0.00076] gold over .000050 [0.00127] nickel in contact area and .000150 [0.00381] tin-lead over .000050 [0.00127] nickel on solder legs, plated to meet Tyco Electronics Solderability Specification 109-11-3.

Technical Documents

Product Specification:

108-7519

Instruction Sheet:

408-07779

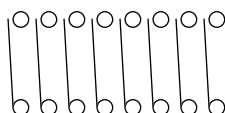
Application Specification:

114-1056

**Single Pole
Single Throw
Side Actuated
Low Profile**

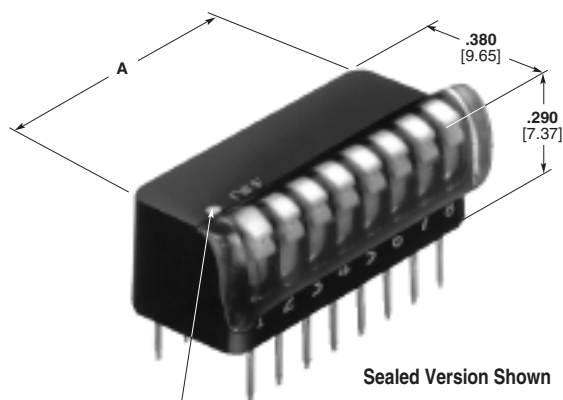
Contact Lead Spacing —
.100 x .300 [2.54 x 7.62]
Lead Length — .140 [3.56]
below mounting surface

Contact Arrangement



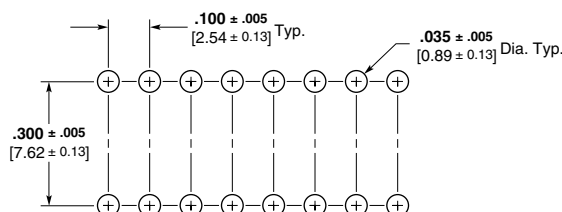
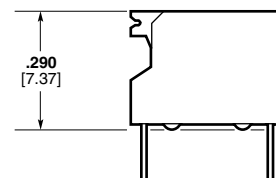
Pin 1

Note: Switches shown in open position



Sealed Version Shown

White Dot Identifies Pin 1



Recommended PC Board Hole Pattern

No. of Switches	Dim. A		SPST Side Actuated Part No.		
	inch	mm	Unsealed ¹	Sealed	Tape Sealed
2	.280	7.11	1-435802-0	—	—
3	.380	9.65	435802-2	—	—
4	.480	12.19	435802-3	1-435802-5	—
5	.580	14.73	435802-4	1-435802-6	—
6	.680	17.27	435802-5	1-435802-7	—
7	.780	19.81	435802-6	1-435802-8	—
8	.880	22.35	435802-1	435802-9	3-435802-8
9	.980	24.89	435802-7	1-435802-9	—
10	1.080	27.43	435802-8	2-435802-0	—
11	1.180	29.97	—	2-435802-1	—
12	1.280	32.51	—	2-435802-2	—

¹ All switches are bottom sealed.

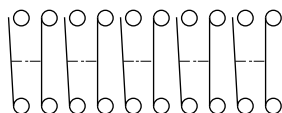
DIP Switches, Extended Actuator, Single or Double Pole, Double Throw

Multiple Single Pole Double Throw

Contact Lead Spacing —
.100 x .300 [2.54 x 7.62]

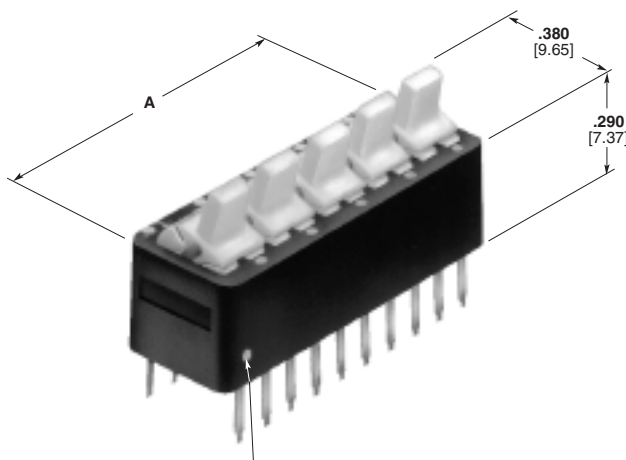
Lead Length — .140 [3.56]
below mounting surface

Contact Arrangement

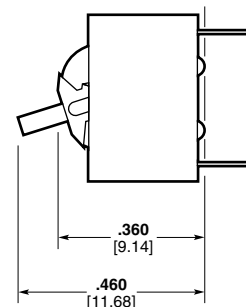


Pin 1

Note: Switch positions are closed when rockers are down toward white dots. Switches have make-before-break circuit design.



White Dot Identifies Pin 1



Extended Lever Actuator Shown

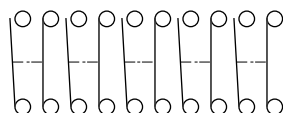
No. of Switches	Dim. A		SPDT Part No.	
	inch	mm	Low Profile Actuator	Extended Lever Actuator
1	.280	7.11	435470-7	2-435470-1
2	.480	12.19	435470-1	2-435470-2
3	.680	17.27	435470-2	—
4	.880	22.35	435470-3	2-435470-4
5	1.080	27.43	—	2-435470-5
6	1.280	32.51	—	2-435470-6

Double Pole Double Throw

Contact Lead Spacing —
.100 x .300 [2.54 x 7.62]

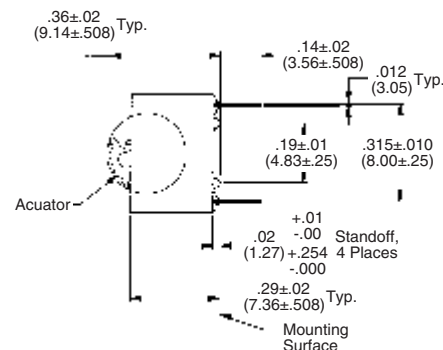
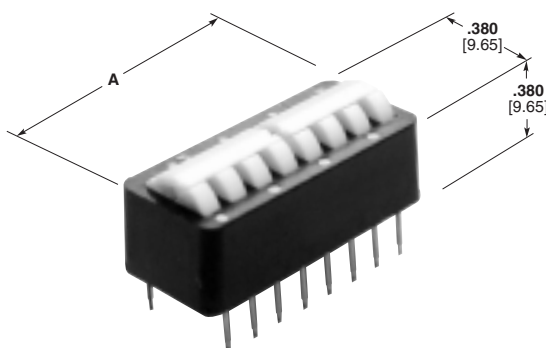
Lead Length — .140 [3.56]
below mounting surface

Contact Arrangement



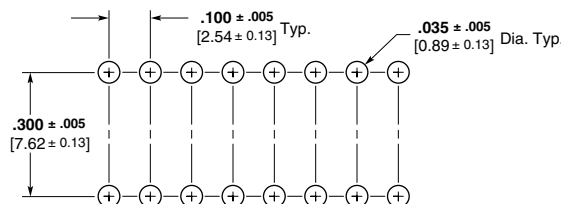
Pin 1

Note: Switch positions are closed when rockers are down toward white dots. Switches have make-before-break circuit design.



Low Profile Lever Actuator Shown

No. of Switches	Dim. A		DPDT Part No.	
	inch	mm	Low Profile Actuator	Extended Lever Actuator
1	.480	12.19	435470-5	3-435470-1
2	.880	22.35	435470-9	—



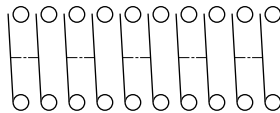
Recommended PC Board Hole Pattern

DIP Switches, Extended Actuator, Multiple Pole, Single Throw

Multiple Double Pole Single Throw

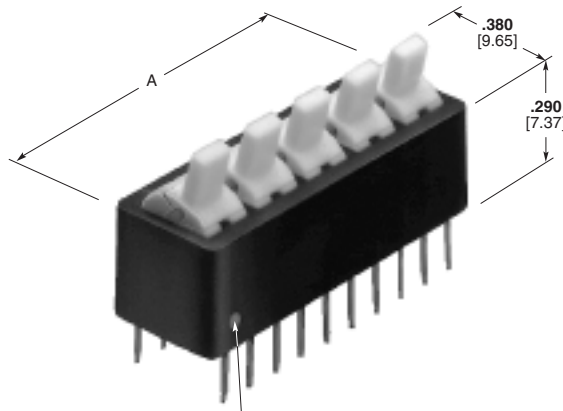
Contact Lead Spacing —
 .100 x .300 [2.54 x 7.62]
Lead Length — .140 [3.56]
 below mounting surface

Contact Arrangement

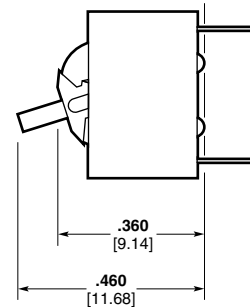


Pin 1

Note: Switches shown in open position.



White Dot Identifies Pin 1



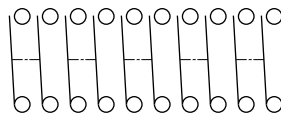
Extended Lever Actuator Shown

No. of Switches	Dim. A		DPST Part No.	
	inch	mm	Low Profile Actuator	Extended Lever Actuator
1	.280	7.11	435469-9	2-435469-1
2	.480	12.19	—	2-435469-2
4	.880	22.35	435469-3	2-435469-4
5	1.080	27.43	—	2-435469-5
6	1.280	32.51	—	2-435469-6

4-Pole Single Throw

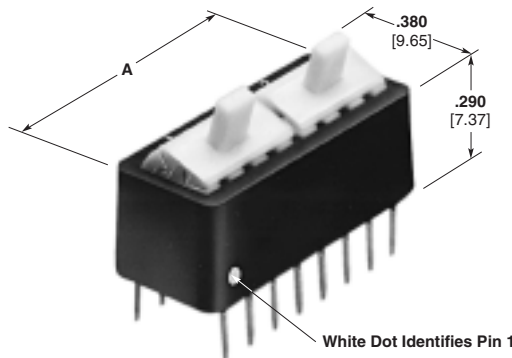
Contact Lead Spacing —
 .100 x .300 [2.54 x 7.62]
Lead Length — .140 [3.56]
 below mounting surface

Contact Arrangement

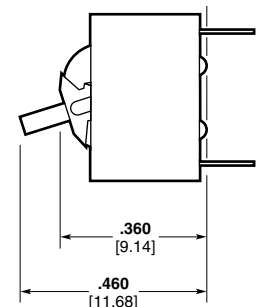


Pin 1

Note: Switches shown in open position.

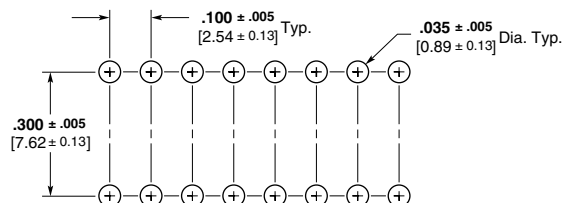


White Dot Identifies Pin 1



Extended Lever Actuator Shown

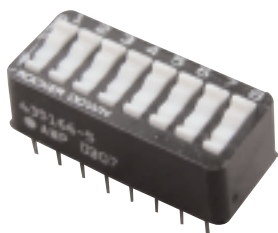
No. of Switches	Dim. A		4PST Part No.	
	inch	mm	Low Profile Actuator	Extended Lever Actuator
1	.480	12.19	435469-7	3-435469-1



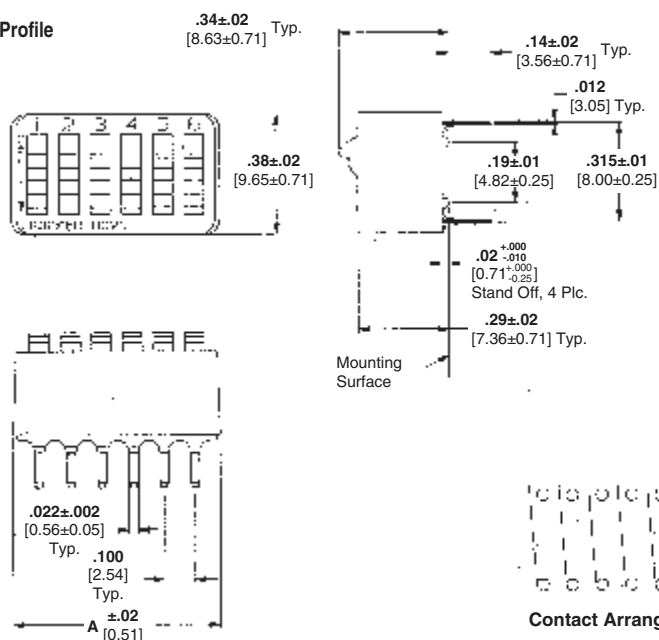
Recommended PC Board Hole Pattern

DIP Switches, Rocker Style Actuator

Contact Lead Spacing —
.100 x .300 [2.54 x 7.62]
Lead Length — .140 [3.56]
below mounting surface



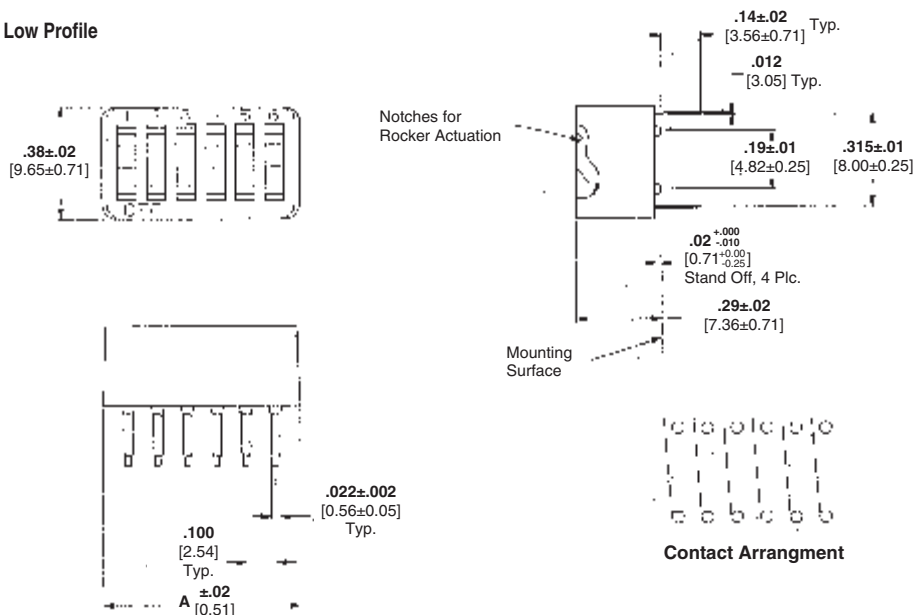
Standard Profile



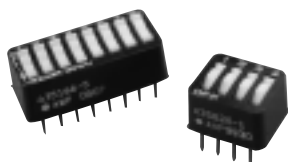
Contact Lead Spacing —
.100 x .300 [2.54 x 7.62]
Lead Length — .140 [3.56]
below mounting surface



Low Profile



Number of Switches	SPST Standard Profile		SPST Low Profile	
	Unsealed	Sealed	Unsealed	Tape Sealed
2	2-435166-9	—	—	3-435626-6
3	—	—	—	3-435626-7
4	435166-2	4-435166-9	435626-1	3-435626-8
5	—	5-435166-0	435626-2	—
6	435166-4	5-435166-1	—	4-435626-0
7	435166-1	5-435166-2	—	4-435626-1
8	435166-5	5-435166-3	435626-5	4-435626-2
9	435166-6	—	—	—
10	435166-7	5-435166-5	—	4-435626-4



Alcoswitch 7100 Series DIP Switches are recommended for programming applications where the number of cycles per pole is limited. These single pole, single throw switches have been designed for a life of up to 2000 cycles per pole and feature contacts of copper alloy with .000030 [0.00076] gold over nickel plating in the contact area and legs plated to meet Tyco Electronics Solderability Specification 109-11-3. In addition, the SPST standard and low profile switches are also available with a top seal to provide protection during soldering and cleaning processes.

DIP Switches

Performance Characteristics

Current and Voltage Rating:

Nonswitching — 1.0 amperes max. at 40 VDC
Switching — 60 milliamperes max at 5 VDC (resistive load);
15 milliamperes max. at 24 VDC (resistive load)

Contact Resistance, Dry Circuit:

100 milliohms max. (end of life) and 50 milliohms (initial) at 50 mV open circuit, 50 milliamperes

Insulation Resistance:

1×10^9 ohms min. at 100 VDC (initial)

Dielectric Withstanding Voltage:

500 VDC min. at standard atmospheric conditions

Capacitance:

5 picofarads max.

Temperature Rating:

Nonoperating — -73°C to +105°C
Operating — -55°C to +105°C

Vibration:

Discontinuities shall not exceed 10 microseconds when subjected to 10-2000-10 Hz transversing for 20 minutes at .060 [1.52] inches total excursion

Shock:

No physical damage or discontinuities greater than 10 microseconds when tested with .10 ampere current applied per Tyco Electronics Specification 109-26, Condition A

Humidity:

Withstands an environment of +40°C and 95% RH for 96 hours

Durability:

No physical damage or contact resistance greater than 100 milliohms after 2000 cycles of actuation with a resistive load of 24 VDC and 25 milliamperes max. current applied

Terminal Strength (Bend Test):

Two (2) 45° bend cycles per MIL-STD-202, Method 211, Condition B

Materials

Housing:

Glass-filled polyester, 94V-0 rated, blue

Rocker:

Thermoplastic, 94V-0 rated, white

Spring Contacts and Leads:

Copper alloy with .000030 [0.00076] gold over .000050 [0.00127] nickel in contact area and .000150 [0.00381] tin-lead over .000050 [0.00127] nickel on solder legs, plated to meet Tyco Electronics Solderability Specification 109-11-3.

Technical Documents

Product Specification:

108-7532

Instruction Sheet:

408-07779

Application Specification:

114-1056