# imall

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.

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Electronics

# **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 10<sup>9</sup> ohms min. at 100 VDC (initial)

#### **Dielectric Withstanding Voltage:**

500 VDC min. at standard atmosphereic 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

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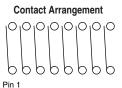
7000 Series

# **DIP Switches, Piano Style Actuator**

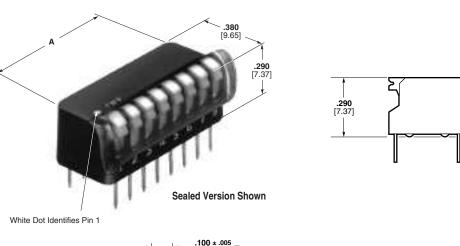


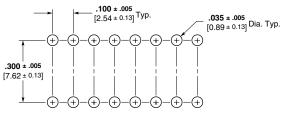
**Single Pole** Single Throw Side Actuated Low Profile

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



Note: Switches shown in open position





**Recommended PC Board Hole Pattern** 

No. of Switches	Dim. A		SPST Side Actuated Part No.			
	inch	mm	Unsealed <sup>1</sup>	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	—	

<sup>1</sup> All switches are bottom sealed.

Catalog 1308390 Issued 9-04 www.tycoelectronics.com

Dimensions are in inches and millimeters unless otherwise specified. Values in parentheses or brackets are metric equivalents. to change.

Dimensions are shown for reference purposes only. Specifications subject

USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-5-729-0425 South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967

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7000 Series

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

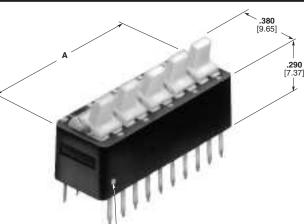
#### Multiple Single Pole Double Throw

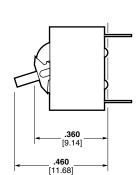
Contact Lead Spacing — .100 x .300 [2.54 x 7.62] Lead Length — .140 [3.56] below mounting surface

#### **Contact Arrangement**

#### 

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





**Extended Lever Actuator Shown** 

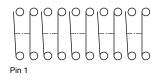
#### White Dot Identifies Pin 1

No. of	Dim. A		SPDT Part No.		
Switches	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	

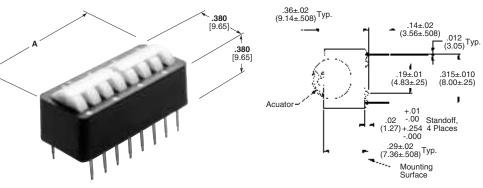
### Double Pole Double Throw

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

#### **Contact Arrangement**

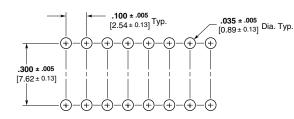


Note: Switch positions are closed when rockers are down toward white dots. Switches have make-before-break circuit design.



Low Profile Lever Actuator Shown

No. of	Dim. A		DPDT Part No.		
Switches	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** 

Catalog 1308390 Issued 9-04

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Dimensions are in inches and millimeters unless otherwise specified. Values in parentheses or brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change. USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-5-729-0425 South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967 A13

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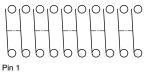
7000 Series

# DIP Switches, Extended Actuator, Multiple Pole, Single Throw

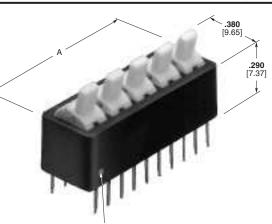
Multiple Double Pole Single Throw

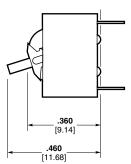
Contact Lead Spacing — .100 x .300 [2.54 x 7.62] Lead Length — .140 [3.56] below mounting surface

#### **Contact Arrangement**



Note: Switches shown in open position.





**Extended Lever Actuator Shown** 

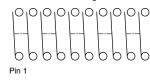
\//hite	Det	Identified	<b>D</b> :	4
vvnite	DOL	Identifies	PIN	1

No. of	Dim. A		DPST Part No.		
Switches	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	

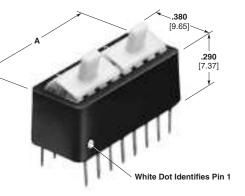
#### 4-Pole Single Throw

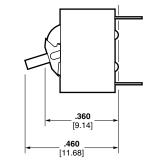
Contact Lead Spacing — .100 x .300 [2.54 x 7.62] Lead Length — .140 [3.56] below mounting surface

**Contact Arrangement** 



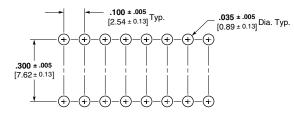
Note: Switches shown in open position.





Extended Lever Actuator Shown

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



#### **Recommended PC Board Hole Pattern**

Catalog 1308390 Issued 9-04

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Dimensions are in inches and millimeters unless otherwise specified. Values in parentheses or brackets are metric equivalents. Dimensions Specification to change.

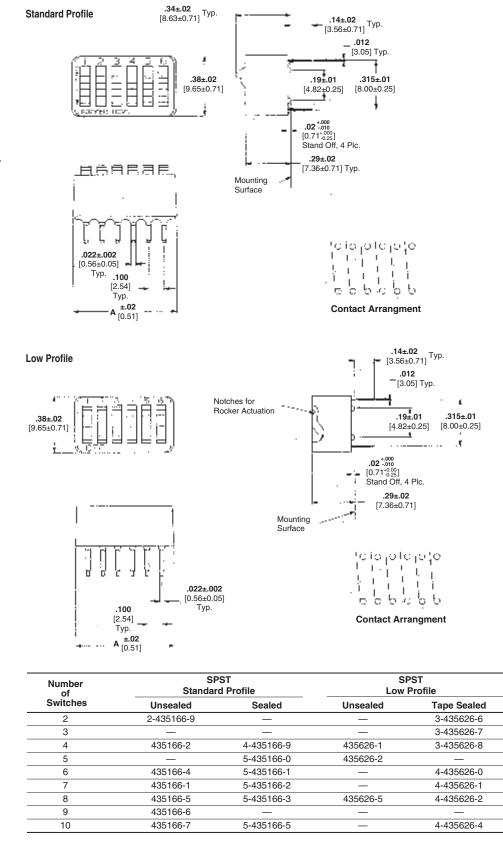
Dimensions are shown for reference purposes only. Specifications subject to change. USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-5-729-0425 South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967

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7000 Series

## **DIP Switches, Rocker Style Actuator**



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



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



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7100 Series

# **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 x 10<sup>9</sup> ohms min. at 100 VDC (initial)

#### **Dielectric Withstanding Voltage:**

500 VDC min. at standard atmosphereic 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

A16

Dimensions are in inches and millimeters unless otherwise specified. Values in parentheses or brackets are metric equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change. USA: 1-800-522-6752 Canada: 1-905-470-4425 Mexico: 01-800-733-8926 C. America: 52-55-5-729-0425 South America: 55-11-3611-1514 Hong Kong: 852-2735-1628 Japan: 81-44-844-8013 UK: 44-141-810-8967





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.