



E-SWITCH®



DE DIVERSE
ELECTRONICS

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SELECTION ♦ SERVICE ♦ SPEED

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Do You Need a Switch?

E-Switch has prepared a 7-step process to help guide users to determine the type of switch best suited to their needs.

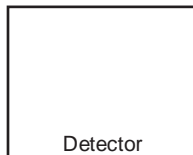
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WHAT TYPE OF SWITCH ARE YOU LOOKING FOR?

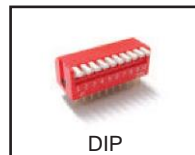
The switch categories below show the different types to choose from.



Anti-vandal



Detector



DIP



Keylock



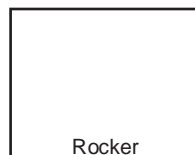
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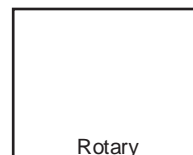
Pushbutton



Push-pull



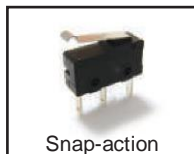
Rocker



Rotary



Slide



Snap-action



Tactile



Tilt



Toggle



Trigger

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WHAT ELECTRICAL RATINGS ARE NEEDED?

1. Is the product AC or DC?
 - Common Voltages for AC: 125VAC, 250VAC
 - Common Voltages for DC: 3, 6, 12, 24 and 48VDC
2. How many amperes does the switch need to handle?
 - Low Power is in the milliamps
 - Medium Power is from 2 amps to 5 amps
 - High Power is greater than 6 amps
3. If you're looking at medium to high power, what agency approvals are needed?
 - Where the product is sold determines what approvals are needed.



(cULus)
North American Agency



(ENEC)
European Agency



(VDE)
German Agency



(TUV)
Worldwide Agency



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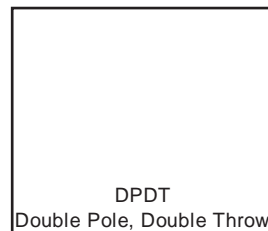
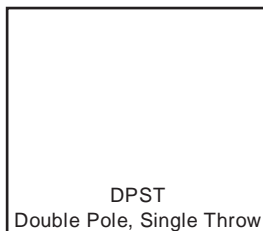
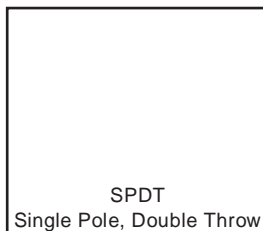
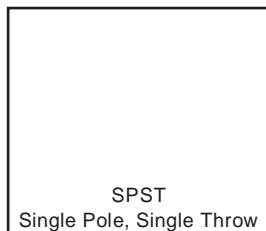
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HOW MANY POLES AND THROWS DO YOU NEED?

Poles are the number of closed independent circuits.

Throws are the number of positions in which a given pole is closed.

Common pole/throw configurations are:



Basic examples of above configurations are:

SPST - Flashlight: 1 pole for turning the light on or off.

SPDT - Vacuum Cleaner: 1 pole for power, 1 throw for low speed, 1 throw for high speed.

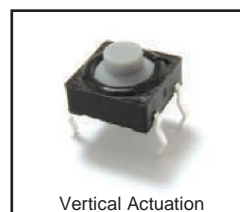
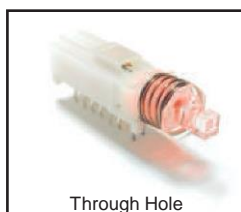
DPST - Air Conditioner: 1 pole controls the chiller, 1 pole controls the fan.

DPDT - Hair Dryer: 1 pole controls the heater, 1 pole controls the fan, 1 throw is for low speed, 1 throw is for high speed.

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HOW DOES THE SWITCH ATTACH TO YOUR PRODUCT?

1. Panel Mount
 - What is the panel cutout size?
 - What is the thickness of the panel?
 - What type of termination?
 - » Quick connect or solder lug
2. PC Board Mount
 - What type of termination?
 - » Through hole or surface mount
 - What type of actuation?
 - » Right angle or vertical
 - Do you need a process sealed component?



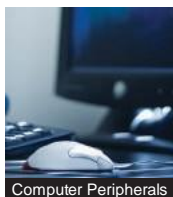
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WHAT IS YOUR APPLICATION?

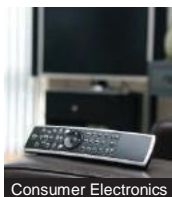
Knowing the application that the switch goes into aids us in the ability to look for unique instances where certain switches work better than others. Below are some examples of industries we sell our switches to.



Audio / Visual



Computer Peripherals



Consumer Electronics



Electrical Housewares



Floor Care Appliances



Gaming and Computer



Handheld Devices



Industrial Controls



Instrumentation



Medical Equipment



Security Devices



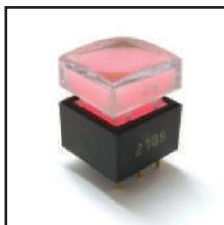
White Goods

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ARE THERE ANY ADDITIONAL REQUIREMENTS?

Many products have requirements that are not initially thought of. Some might make the switch more aesthetically pleasing and others will help the switch perform better under special circumstances. Below are examples that should be brought up during discussion:

- Momentary or Latching
- Illumination
- Sealed Protection (IP Rating)
- Custom Cap Options
 - » Colors
 - » Graphics
 - » Styles
- Long Life Expectancy
- High Inrush or Horse Power Rating
- Extreme Temperature Rating
- Custom User Requirements



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WHAT IS THE ESTIMATED ANNUAL USAGE (EAU)?

If you are looking for a custom switch, it is important to know an accurate EAU for your project. Once we know, we are able to determine how feasible certain customizations are. Since unique requirements sometimes incur additional tooling charges, knowing in the beginning will help expedite the process.





E-Switch offers a large selection of anti-vandal switches in the marketplace. Diameter sizes range from 6mm to 40mm, depending on the switch series. The anti-vandal series offer an esthetically pleasing switch due the quality housing materials and multi-illumination options in pattern style – ring, dot, power symbol, ring/power symbol combo, plus numerous choices in LED colors including bi-color and RGB.

All PV switch series provide dust and moisture protection rating of IP65, excluding the PVA6 and PVL, which offer IP67 rating. A UL-certified series - ULV4, ULV 7, ULV 8 - are sealed to IP67 rating for dust and moisture resistance. Not only durable to resist damage of sharp or heavy objects, the long-life expectancy of the PV and ULV series, make these switches excellent choices for high security locations, harsh and rugged industrial-use environments. E-Switch's anti-vandal switches can be found in vending and parking kiosks, security control boxes, commercial appliances, industrial controls, medical equipment and transport vehicles, such as motor boats.



anTi-vanDal Switch Series

		Electrical Ratings	Cutout Diameter / Panel Depth	Functions Available	Terminal Options	Actuator Options	Material Options	Illumination Options	Ingress Protection	
	PV0	2A, 36VDC	Diameter: 12mm Max. Depth: 6mm	1 Pole: Off-(On)	Solder Lug	High	Stainless Steel Black Anodized	Dot Ring	IP65	
	PV1	2A, 36VDC	Diameter: 19mm Max. Depth: 8mm	1 Pole: Off-(On)	Screw Solder Lug	Domed Flat High	Black Anodized Gold Plated Brass Nickel Plated Brass Stainless Steel	N/A	IP65	
	PV2	2A, 36VDC	Diameter: 16mm Max. Depth: 6mm	1 Pole: Off-(On)	Screw Solder Lug	Domed Flat High	Black Anodized Gold Plated Brass Nickel Plated Brass Stainless Steel	N/A	IP65	
	PV3	2A, 48VDC	Diameter: 16mm Max. Depth: 8mm	1 Pole: On-(On) 2 Pole: On-(On)	Solder Lug	Flat Guarded High	Black Anodized Gold Plated Brass Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring	IP67 Optional	
	PV4	2A, 24VDC .7A 125VAC (cURus)	Diameter: 19mm Max. Depth: 11mm	1 Pole: On-On On-(On) 1P Off-(On) + 1P On-(Off) 2 Pole: On-On On-(On)	Screw Solder Lug	Flat High	Black Anodized Stainless Steel	Bi-Color Dot Ring Arrow	IP65	
	PV5	2A, 36VDC	Diameter: 12mm Max. Depth: 5mm	1 Pole: Off-(On)	Screw Solder Lug	Raised Domed	Black Anodized Nickel Plated Brass Stainless Steel	N/A	IP65	
	PV6	2A, 48VDC	Diameter: 16mm Max. Depth: 10mm	1 Pole: Off-(On)	Solder Lug	Flat High	Black Anodized Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring	IP65	

Specifications subject to change without notice











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anTi-vanDal SwITCh Series

Electrical Ratings		Cutout Diameter / Panel Depth	Functions Available	Terminal Options	Actuator Options	Material Options	Illumination Options	Ingress Protection	
	PV7	2A, 48VDC	Diameter: 22mm Max. Depth: 8mm (Momentary), 12mm (Maintained)	1 Pole: 1P Off-On + 1P On-Off 1P Off-(On) + 1P On-(Off)	Solder Lug	Flat	Black Anodized Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring	IP65
	PV8	2A, 48VDC	Diameter: 25mm Max. Depth: 10mm (Momentary), 12mm (Maintained)	1 Pole: 1P Off-On + 1P On-Off 1P Off-(On) + 1P On-(Off) 2 Pole: 2P Off-On + 2P On-Off 2P Off-(On) + 2P On-(Off)	Solder Lug	Flat	Black Anodized Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring	IP65
	PV9	2A, 48VDC	Diameter: 28mm Max. Depth: 10mm	1 Pole: 1P Off-On + 1P On-Off 1P Off-(On) + 1P On-(Off) 2 Pole: 2P Off-On + 2P On-Off 2P Off-(On) + 2P On-(Off)	Solder Lug	Flat	Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring	IP65
	PV10	2A, 48VDC	Diameter: 40mm Max. Depth: 5mm	1 Pole: 1P Off-On + 1P On-Off 1P Off-(On) + 1P On-(Off) 2 Pole: 2P Off-On + 2P On-Off 2P Off-(On) + 2P On-(Off)	Solder Lug	Flat	Stainless Steel	Bi-Color Dot Ring	IP65
	PVA3	2A, 36VDC	Diameter: 16mm Max. Depth: 8mm	1 Pole: On-On On-(On)	Solder Lug	Flat High	Black Anodized Nickel Plated Brass Stainless Steel	Bi-Color Ring	IP65
	PVA6	2A, 36VDC	Diameter: 16mm Max. Depth: 6-8mm	1 Pole: Off-(On)	Solder Lug Wire- Lead	Rounded Flat High	Black Anodized Clear Anodized Stainless Steel Brushed Stainless Steel	Ring Power Symbol	IP67
	PVL	N/A	Diameter: 6-19mm Max. Depth: 6mm to 10mm (depending on mounting diameter)	N/A	Solder Lug	Flat	Stainless Steel Black	Pilot Lamp	IP67
	PVT4	50mA, 24VDC	Diameter: 19mm Max. Depth: 6mm	1 Pole: Off-(On)	Solder Lug Wire- Lead	Flat	Stainless Steel	Ring	IP65

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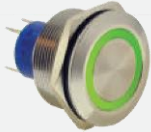


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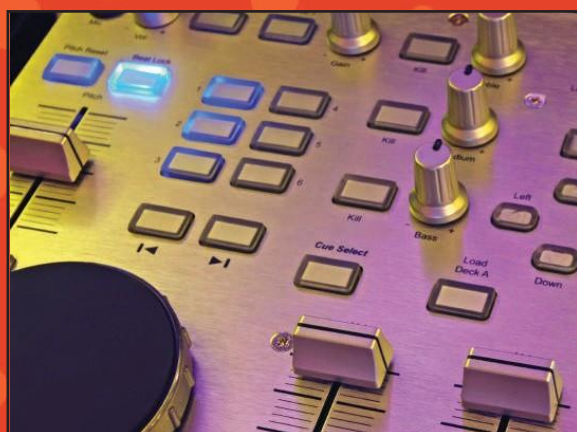
Electrical Ratings		Cutout Diameter / Panel Depth	Functions Available		Terminal Options	Actuator Options	Material Options	Illumination Options	Ingress Protection	
	ULV4	3A 125/250VAC (cURus)	Diameter: 19mm Max. Depth: 10mm	1 Pole:	Solder Lug	Flat	Black Anodized Nickel Plated Brass Stainless Steel	Bi-Color Dot Ring Power	IP67	
				2 Pole:						
	ULV7	3A 125/250VAC (cURus)	Diameter: 22mm Max. Depth: 10mm	1 Pole:	Solder Lug	Flat	Anodized Aluminum Stainless Steel	Bi-Color Ring w/ Power	IP67	
				2 Pole:						
	ULV8	3A 125/250VAC (cURus)	Diameter: 25mm Max. Depth: 10mm	1 Pole:	Solder Lug	Flat	Black Anodized Stainless Steel	Ring Bi-color	IP67	
				2 Pole:						

Specifications subject to change without notice



Pushbutton switches, by definition, open or close an electrical circuit by pressing on the actuator or, in some cases, pulling on the actuator. Deciding on the size, style and functionality of the pushbutton is often determined by the application. E-Switch offers a wide range of pushbutton switches from miniature size with low current ratings to industrial use switches with high power and horsepower ratings. Several pushbutton switches provide an IP rating of IP54, IP65 or IP67 depending the switch series.

The shapes and styles of pushbutton switches are endless from E-Switch. Shape options include square, round, oval, rectangle and some switches offer caps. Multiple termination options are available within the pushbutton family - solder lug, PCB pin, right angle PCB pins, Vertical PCB pins, surface mount, socket and tab.



pushbuTTon SwITCh Series (SubminiaTure)

General Ratings		Electrical Ratings	Poles / Throws / Functions Travel	Bushing Options	Terminal Options	Ingress Protection
	700	Life Cycles: 50,000 Operating Force: 200gf Operating Temperature: -30°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, Max. 20V (AC or DC)	1.0mm SPDT: On-(On) DPDT: On-(On)	Flat Non-Threaded Flat Threaded Keyway Non-Threaded Keyway Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin Vertical PCB Pin with Bracket Wire Wrap N/A
	700A	Life Cycles: 50,000 Operating Force: 300gf Operating Temperature: -30°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, Max. 20V (AC or DC)	1.0mm SPDT: On-(On) DPDT: On-(On)	Non-Threaded Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin Vertical PCB Pin with Bracket IP67
	700C	Life Cycles: 50,000 Operating Force: 400gf SP7, 600gf DP7 Operating Temperature: -30°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, Max. 20V (AC or DC)	3.0mm SPDT: On-On	Flat Non-Threaded Flat Threaded Keyway Non-Threaded Keyway Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin Vertical PCB Pin with Bracket N/A
	800	Life Cycles: 50,000 Operating Force: 200gf Operating Temperature: -30°C to 85°C Contact Resistance: 10mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, Max. 20V (AC or DC)	0.9mm SPST Off-(On) SPDT On-(On)	Flat Non-Threaded Flat Threaded Non-Threaded	Right Angle PCB Pin Solder Lug Right Angle PCB Pin with Bracket Vertical PCB Pin Vertical PCB Pin with Bracket N/A
	800A	Life Cycles: 50,000 Operating Force: 200gf Operating Temperature: -30°C to 85°C Contact Resistance: 10mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC or 28VDC [cURus] 1A, 250VDC Gold: 0.4VA, Max. 20V (AC or DC)	0.9mm SPST Off-(On) SPDT On-(On)	Non-Threaded	Right Angle PCB Pin Vertical PCB Pin IP67
	800B	Life Cycles: 50,000 Operating Force: 200gf Operating Temperature: -30°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	Gold: 0.4VA, Max. 20V (AC or DC)	0.9mm SPST Off-(On) SPDT On-(On)	Non-Threaded	Surface Mount IP67
	800C	Life Cycles: 6,000 Operating Force: 350gf Operating Temperature: -30°C to 85°C Contact Resistance: Silver: 50mΩ Max initial Gold: 20mΩ Max initial Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC or 28VDC 1A, 250VAC Gold: 0.4VA, Max. 20V (AC or DC)	Electrical Make: 1.34mm Full travel: 1.88mm SPDT On-On	Non-Threaded Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin N/A
	800U	Life Cycles: 6,000 Operating Force: 250gf Operating Temperature: -30°C to 85°C Contact Resistance: 100mΩ Initial Insulation Resistance: 500MΩ Min.	Gold: 0.4VA, Max. 20V (AC or DC)	1.0mm SPDT On-(On) DPDT On-(On)	Non-Threaded	PC thru-hole Right Angle, PC thru-hole Vertical Right angle, PCthru-hole IP67

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pushbuTTon SWITCh Series (pCb mount)

		General Ratings	Electrical Ratings	Operating Force Options	Poles / Throws Travel	Mounting Options	Terminal Options	Illumination Options	Ingress Protection		
	5500	Life Cycles: 500,000 Operating Temperature: -25°C to 65°C Contact Resistance: 50mΩ Max. Insulation Resistance: 50MΩ Min.	300mA, 12VDC	255gf Max.	2.5mm	SPDT	PCB	PCB Pin	1 or 2 Dot	N/A	
	FS5700	Life Cycles: 30,000 Operating Temperature: -10°C to 70°C Contact Resistance: 50mΩ Max. Insulation Resistance: 100MΩ Min. @500VDC	1A, 9VDC	1000gf to 3000gf	2.7mm to 5.0mm	SPDT DPDT 3PDT	PCB Panel Mount	PCB Pin Soldering Lugs	N/A	N/A	
	KS1100	Life Cycles: 50,000,000 Operating Temperature: -10°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min. @100VDC	10mA, 12VDC	60gf	4.0mm	SPST	PCB	PCB Pin	N/A	N/A	
	LC	Life Cycles: 10,000 Operating Temperature: -20°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 100MΩ Min.	300mA, 30VDC	200gf to 330gf	3.5mm	SPDT DPDT	PCB	Right Angle PCB Pin	N/A	N/A	
	LP11	Life Cycles: 1,000,000 Operating Temperature: -40°C to 85°C Contact Resistance: 200mΩ Max. Insulation Resistance: 100MΩ Min.	100mA, 12VDC	160(M) 200(L)	4.5mm (M) 3.5mm (L)	SPST	PCB	PCB Pin	Full	N/A	
	LP15	Life Cycles: 300,000 Operating Temperature: -20°C to 70°C Contact Resistance: 200mΩ Max. Insulation Resistance: 100MΩ Min.	1mA, 20VDC	125gf	1.3mm	SPST	PCB	PCB Pin	Full	N/A	
	LP16	Life Cycles: 50,000,000 Operating Temperature: -5°C to 60°C Contact Resistance: 150mΩ Max. Insulation Resistance: 10MΩ Min.	100mA, 20VDC	250gf	3.3mm	SPST	PCB	PCB Pin	Full	N/A	
	LP2	Life Cycles: 300,000 Operating Temperature: -20°C to 70°C Contact Resistance: 200mΩ Max. Insulation Resistance: 100MΩ Min.	1mA, 20VDC 5mA, 5VDC	125gf	1.3mm	SPST	PCB	PCB Pin	Full	N/A	
	LP4	Life Cycles: 50,000 Operating Temperature: -20°C to 70°C Contact Resistance: 50mΩ Max. Insulation Resistance: 100MΩ Min.	100mA, 30VDC	250gf	Full: 1.5mm Latching: 1.0mm	DPDT	PCB	PCB Pin	Full	N/A	
	LP6	Life Cycles: 200,000 Operating Temperature: -20°C to 70°C Contact Resistance: 50mΩ Max. Insulation Resistance: 100MΩ Min.	12mA, 12VDC	150gf SPST 200gf DPST	2.2mm	SPST DPST	PCB	PCB Pin	Full	N/A	

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pushbuTTon SwITCh Series (pCb mount)



PBH

Life Cycles:
6,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

230gf DPDT
280gf 4PDT
380gf 6PDT

5.5mm

DPST
DPDT

PCB

Right Angle
PCB Pin

N/A

N/A



PB300

Life Cycles:
20,000
Operating Temperature:
-40°C to 95°C
Contact Resistance:
50mΩ Max. Initial
Insulation Resistance:
100MΩ Min.

30mA, 28VDC

ST: 490gf
DT
1st position:
600gf
2nd position:
1150gf

2.0mm

SPST
SPDT

PCB

PCB Pin

N/A

N/A



PB400

Life Cycles:
6,000 Cycles
Operating Temperature:
-5°C to 60°C
Contact Resistance:
30mΩ Max.
Insulation Resistance:
500MΩ Min.

3A, 30VDC

3N-7N

1.8-
3.2mm

DPST

PCB

PCB
Pin

N/A

N/A



**TL2201
TL4201**

**TL2201 Pictured*

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

220gf DPDT
300gf 4PDT

2.5mm

DPDT
4PDT

PCB

PCB Pin

N/A

N/A



TL2203

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

180gf

1.9mm

DPDT

PCB

PCB Pin

N/A

N/A



TL2205

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

250gf

Full:
2.5mm
Lock:
1.5mm

DPDT

PCB

PCB Pin

Dot

N/A



TL2230

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

140gf
230gf

1.8mm

DPDT

PCB

PCB Pin

N/A

N/A



TL2285

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
100mΩ Max.
Insulation Resistance:
100MΩ Min.

100mA, 30VDC

180gf

2.5mm

DPDT

PCB

PCB Pin

N/A

N/A



WBL

Life Cycles:
10,000
Operating Temperature:
-20°C to 70°C
Contact Resistance:
50mΩ Max.
Insulation Resistance:
100MΩ Min.

300mA, 30VDC

200gf

Full:
3.3mm
Lock:
2.5mm

DPDT
4PDT

PCB

Right Angle
PCB Pin

Full

N/A

Specifications subject to change without notice



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pushbuTTon SWITCh Series (panel mount)

		General Ratings	Electrical Ratings	Operating Force Options	Poles / Throws / Functions	Travel	Panel Cutout Dimensions	Terminal Options	Illumination Options	Ingress Protection		
	700	Life Cycles: 50,000 Operating Force: 200gf Operating Temperature: -30°C to 85°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, Max. 20V (AC or DC)	200gf		1.0mm		SPDT: On-(On) DPDT: On-(On)	12.7mm x 15.7mm	Quick Connect Solder Lug	N/A	N/A
	D16	Electrical / Mechanical Life: 50,000 / 100,000 Cycles Operating Temperature: -20°C to 55°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1,000MΩ Min.	8A, 125VAC [cURus, CSA] 5A, 250VAC [cURus, VDE] 6A, 24VDC [cURus, CSA]	300gf		3.0mm		SPDT, DPDT, 3PDT, 4PDT On-On On-(On)	16mm Diameter	Solder Lug	Full	N/A
	L16	Operating Temperature: -25°C to 55°C	N/A	N/A	N/A		Signal Light	16mm Diameter	Solder Lug	Full Signal Light	N/A	
	LA	Electrical / Mechanical Life: 50,000 / 100,000 Cycles Operating Temperature: -20°C to 55°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1,000MΩ Min.	8A, 125VAC [cURus] 5A, 250VAC [cURus] 2A, 250VDC [cURus] 6A, 24VDC [cURus]	300gf		3.0mm		SPDT, DPDT, 3PDT, 4PDT On-On On-(On)	22mm Diameter 25.5mm Diameter 30.5mm Diameter	Socket Solder Tab	Full Signal Light	IP65
	LP1	Electrical / Mechanical Life: 50,000 / 50,000 Cycles Operating Temperature: -40°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 100MΩ Min.	100mA, 30VDC	250gf		1.8mm		SPST Off-(On)	8mm Diameter	Solder Lug	Full	N/A
	P16	Electrical / Mechanical Life: 50,000 / 100,000 Cycles Operating Temperature: -20°C to 55°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1,000MΩ Min.	8A, 125VAC cURus 5A, 250VAC [VDE] 6A, 24VDC	300gf		3.0mm		SPDT, DPDT, 3PDT, 4PDT On-On On-(On)	16mm Diameter	Socket	Full	N/A

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pushbuTTON SwITCh Series (panel mount)

		General Ratings	Electrical Ratings	Operating Force Options	Poles / Throws / Functions Travel	Panel Cutout Dimensions Functions	Terminal Dimensions	Illumination Options	Ingress Protection	
   	PA4	Electrical / Mechanical Life: 10,000 / 50,000 Cycles Operating Temperature: -20°C to 65°C -20°C to 125°C Contact Resistance: 20mΩ Max. Insulation Resistance: 100MΩ Min.	16A, 125VAC [cURus] 16A, 250VAC [cURus] 16(4)A, 250VAC [ENEC] 16(8)A, 250VAC [ENEC]	500gf	4.5mm	SPST Off-On Off-(On)	13mm x 19mm PCB	PCB Pin Solder Tab	Full	IP54
	PA5	Electrical / Mechanical Life: 10,000 / 50,000 Cycles Operating Temperature: -20°C to 125°C Contact Resistance: 20mΩ Max. Insulation Resistance: 100MΩ Min.	16A, 125VAC [cURus] 16A, 250VAC [cURus] 16(4)A, 250VAC [ENEC] 16(8)A, 250VAC [ENEC]	500gf	5.5mm	SPST Off-On Off-(On) DPST Off-On Off-(On)	Capture Mount PCB	PCB Pin Solder Tab	N/A	N/A
	PB1973	Electrical / Mechanical Life: 10,000 / 30,000 Cycles Operating Temperature: -10°C to 55°C Contact Resistance: 20mΩ Max. Insulation Resistance: 1,000MΩ Min.	15A, 125VAC [cURus] 15A, 250VAC [cURus] 10(4)A, 250VAC [VDE]	300gf to 800gf	2.8mm	SPST Off-On Off-(On) DPST Off-On Off-(On)	13mm x 19.2mm	Tab	Full	N/A
	PB2	Electrical / Mechanical Life: 6,000 / 50,000 Cycles Operating Temperature: -20°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 5MΩ Min.	20A, 125VAC [UR] 12A, 250VAC [UR]	600gf	3.1mm	SPST Off-On On-On DPST Off-On On-On	22mm x 30mm	Tab	Dot	IP54

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		General Ratings	Electrical Ratings	Operating Force Options	Travel	Poles / Throws / Functions	Panel Cutout Dimensions	Illumination Options	Ingress Protection		
	PP1	Electrical / Mechanical Life: 6,000 / 50,000 Cycles Operating Temperature: 0°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 2MΩ Min.	16A, 125VAC [cURus] 12A, 250VAC [cURus] 1HP, 125/250VAC [cURus]	300gf to 500gf	Push Only Push: 9.4mm Push-Pull Push: 5.0mm Pull: 5.7mm	SPDT On2-On1-(On2) Push-Pull On-(On)	13.3mm x 28.2mm	Tab	N/A	N/A	
	PP2	Electrical / Mechanical Life: 6,000 / 50,000 Cycles Operating Temperature: 0°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 10MΩ Min.	<i>Rating Option 1:</i> 10R(4)A 277VAC 5E4 [UL] <i>Rating Option 2:</i> 16A, 125VAC [cURus] 12A, 250VAC [cURus] 1HP, 125/250VAC [cURus]	300gf to 500gf	Push Only Push: 9.4mm Push-Pull Push: 5.0mm Pull: 5.7mm	DPDT On2-On1-(On2) Push-Pull On-(On)	13.5mm x 36mm	Tab	N/A	N/A	
	PR1	Electrical / Mechanical Life: 50,000 / 100,000 Cycles Operating Temperature: -20°C to 105°C [cURus] -20°C to 125°C [ENEC] Contact Resistance: 35mΩ Max. Insulation Resistance: 100MΩ Min.	16A, 125VAC [cURus] 3/4HP, 250VAC [cURus] 16(6)A, 250VAC [ENEC] 10(4)A, 250VAC [ENEC]	1,800gf	6.2mm	SPST Off-On Off-(On) DPST Off-On Off-(On)	25mm Diameter	Tab	Full	IP54 Optional	
	RP3508	Electrical / Mechanical Life: 6,000 / 20,000 Cycles Operating Temperature: 0°C to 65°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1,000MΩ Min.	3A, 125VAC [cURus] 1.5A, 250VAC [cURus]	500gf	3.5mm	SPST Off-On Off-(On)	16mm Diameter	Solder Lug	Full	N/A	
	RP8100	Electrical / Mechanical Life: 500,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 1,000MΩ Min.	125mA, 125 VAC 100mA, 50 VDC	350gf	1.5mm	SPST Off-(On)	13.6mm Diameter	Solder Lug	Dot	IP67	
	RP8200	Electrical / Mechanical Life: 200,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1,000MΩ Min.	100mA, 24VDC	560gf	2.5mm	SPST Off-On	13.6mm Diameter	Solder Lug	Dot	IP67	

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		General Ratings	Electrical Ratings	Operating Force Options	Travel	Poles / Throws / Functions	Panel Cutout Dimensions	Terminal Options	Illumination Options	Ingress Protection
	RP8300	Electrical / Mechanical Life: 500,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 1,000MΩ Min.	200mA, 50VDC	350gf	1.5mm	SPST Off-(On)	13.6mm Diameter	Solder Lug	Dot	IP67
	RP8400	Electrical / Mechanical Life: 500,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 1,000MΩ Min.	200mA, 50VDC	350gf	1.5mm	SPST Off-(On)	13.6mm Diameter	Solder Lug	Dot	IP67
	RP8500	Electrical / Mechanical Life: 500,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 50mΩ Max. Insulation Resistance: 1,000MΩ Min.	125mA, 125VAC 100mA, 50VDC	350gf	1.5mm	SPST Off-(On)	13.6mm Diameter	Solder Lug	Dot	IP67
	RP8600	Electrical / Mechanical Life: 50,000 / 100,000 Cycles Operating Temperature: -30°C to 85°C Contact Resistance: 200mΩ Initial @2-4VDC, 100mA Insulation Resistance: 100MΩ @500VDC	0.4VA Max @20V Max (AC or DC)	630gf	0.65mm	SPST Off-(On)	16.0mm Diameter	Solder Lug	N/A	IP67
	ULP	Electrical / Mechanical Life: 200,000 / 1,000,000 Cycles Operating Temperature: -20°C to 70°C Contact Resistance: 50mΩ Max. (Silver) 100mΩ Max. (Gold) Insulation Resistance: 100MΩ Min.	Silver: 500mA, 25VDC Gold: 0.4VA, Max. at 28V (AC or DC)	SPDT 200gf DPDT 300gf	2.2mm	SPDT On-On On-(On) DPST On-On On-(On)	15.8mm x 16mm PCB 15.8mm x 18mm Panel Mount Cut-out size	PCB Pin Solder Lug	Full	N/A

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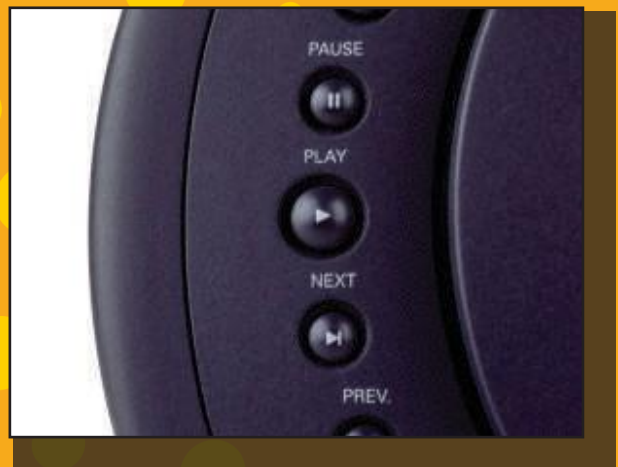
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Tactile, a.k.a tact, switches are used to close an electrical circuit when pressed. When the switch is released, it opens the circuit. Tact switches come in a wide range of styles and sizes. E-Switch offers tact switches from miniature to 12.4mm square in size and numerous styles – illuminated, non-illuminated, some offer caps, round, square, rectangle and oval. Tact switches typically offer two mounting options - surface mount or thru-hole mount and some right-angle options. Several tact switches have very low profiles, from 0.35mm – 0.65mm and up.

Reliability, long operation life and compact size make tact switches ideal for the growing market of wearable technology and handheld devices. Several other common markets include audio/visual equipment, telecommunications, computer electronics and peripheral equipment, instrumentation controls and medical devices.



TaCTile SwITCh Series (part 1)

		General Ratings	Electrical Ratings	Travel	Body Dimensions	Operating Force Options (gf)	Mounting Options	Washable	
	320	Multiple Actuator Styles Life Cycles: 1,000,000 Operating Temp: -20°C to 70°C Contact Resistance: 50mΩ Max. Insulation Resistance: 1,000MΩ Min.	25mA, 50VDC	0.6mm	12.4mm x 12.4mm 12.4mm x 22.0mm	135	PCB Pin	N/A	
	TL1014	Life Cycles: up to 200,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm (160 gf) 0.30mm (220 gf)	4.7mm x 3.5mm	160, 220	SMT (Gull Wing)	N/A	
	TL1015	Life Cycles: 200,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.20mm	2.9mm x 3.9mm	160	SMT (Gull Wing)	N/A	
	TL1100	Multiple Actuator Styles Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.3mm	12.0mm x 12.0mm	160, 260	PCB Pin	N/A	
	TL1105	Caps Available Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.0mm x 6.0mm	100, 160, 250	PCB Pin	N/A	
	TL1107	Multiple Actuator Styles Life Cycles: 30,000 (260gf), 50,000 (130gf & 180gf) Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	3.5mm x 6.0mm	130, 180, 260	PCB Pin	N/A	
	TL1220	Caps Available Life Cycles: 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	7.5mm x 7.5mm 10.0mm x 14.0mm 10.0mm x 19.0mm 7, 8, 10mm Dia	180	PCB Pin	N/A	
	TL1240	Caps Available / LED Illuminated Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.0mm x 6.0mm	160	PCB Pin	N/A	
	TL1250	Life Cycles: 50,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	7.0mm x 8.3mm	120, 180, 280	PCB Pin	N/A	

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TaCTile SwiTCh Series (part 2)

		General Ratings	Electrical Ratings	Travel	Body Dimensions	Operating Force Options (gf)	Mounting Options	Washable	
	TL1260	Caps Available / LED Illuminated Life Cycles: 50,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	6.8mm x 7.0mm	160	PCB Pin	N/A	
	TL1265	Caps Available / LED Illuminated Life Cycles: 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	6.8mm x 7.0mm	160	PCB Pin	N/A	
	TL2243	Double Stacked Low Profile Life Cycles: 30,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	7.3mm x 9.1mm	180	PCB Pin	N/A	
	TL3200	Single or Dual LED Illumination Life Cycles: 30,000 Operating Temp: -25°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.8mm x 4.5mm	160	SMT (Gull Wing)	N/A	
	TL3210	LED Illuminated Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	5.6mm x 3.4mm	160	SMT (Gull Wing)	N/A	
	TL3215	LED Illuminated Life Cycles: 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	4.9mm x 4.9mm	160	SMT (Gull Wing)	N/A	
	TL3240	LED Illuminated / Caps Available Life Cycles: up to 200,000 Operating Temp: -25°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	6.1mm x 6.1mm	100, 160, 260	SMT (Gull Wing)	N/A	
	TL3253	LED Illuminated Life Cycles: up to 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	8.4mm x 10.55mm	160	Right Angle PCB Pin	N/A	
	TL3265	Multiple Actuator Styles Life Cycles: up to 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min. @ 500VDC	5mA, 12VDC	0.2mm	6.8mm x 7.0mm	160	SMT	N/A	
	TL3300	Multiple Actuator Styles Life Cycles: up to 200,000 Operating Temp: -25°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.35mm	12mm x 12mm	160, 260, 320, 520	SMT (Gull Wing)	N/A	
	TL3301	Caps Available / Multiple Actuator Styles Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.0mm x 6.0mm	100, 160, 260	SMT (Gull Wing)	N/A	

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TaCTile SwITCh Series (part 3)

		General Ratings	Electrical Ratings	Travel	Body Dimensions	Operating Force Options (gf)	Mounting Options	Washable	
	TL3302	Multiple Actuator Styles Life Cycles: 20,000 - 50,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	3.5mm x 6.0mm	130, 180, 260	SMT (Gull Wing)	N/A	
	TL3303	Multiple Actuator Styles Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.0mm x 6.0mm	100, 160, 260	SMT (Gull Wing)	N/A	
	TL3305	Life Cycles: up to 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.20mm	4.5mm x 4.5mm	160, 260	SMT (Gull Wing)	N/A	
	TL3312	Life Cycles: 500,000 (160gf) 50,000 (235 gf) Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.15mm	3.7mm x 3.7mm	160, 235	SMT (Gull Wing)	N/A	
	TL3313	Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 50mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	4.8mm x 4.8mm	100, 160, 250	SMT (Gull Wing)	N/A	
	TL3315	Life Cycles: 1,000,000 (100gf), 500,000 (160gf), 200,000 (250gf) Operating Temp: -20°C to 70°C Contact Resistance: 200mΩ Max. Insulation Resistance: 50MΩ Min.	50mA, 12VDC	0.2mm	4.5mm x 4.5mm	100, 160, 250	SMT (Gull Wing)	N/A	
	TL3330	Life Cycles: 50,000 (130gf), 30,000 (260gf) Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.9mm x 3.3mm	130, 260	Right Angle SMT (Gull Wing)	N/A	
	TL3340	Life Cycles: 100,000 Operating Temp: -35°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.2mm	4.25mm x 3.3mm	160	Right Angle SMT (Gull Wing)	N/A	
	TL3342	Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 20mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	5.2mm x 5.2mm	160, 250	SMT (Gull Wing)	N/A	
	TL3360	Life Cycles: 200,000 Operating Temp: -25°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.15mm	6.5mm x 6mm	185, 260	Right Angle SMT (Gull Wing)	N/A	
	TL3365	Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.20mm	4.2mm x 3.2mm	180	SMT (Gull Wing)	N/A	

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TaCTile SwiTCh Series (part 4)

		General Ratings	Electrical Ratings	Travel	Body Dimensions	Operating Force Options (gf)	Mounting Options	Washable	
	TL3700	Life Cycles: 100,000 Operating Temp: -40°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min.	20mA, 15VDC	0.15mm	3.0mm x 2.6mm	100, 160	SMT (Gull Wing)	N/A	
	TL3780	Life Cycles: up to 500,000 Operating Temp: -40°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 50MΩ Min	50mA, 12VDC	0.13mm	2.0mm x 3.0mm	100, 160, 240, 330	SMT (Gull Wing)	N/A	
	TL3901	Life Cycles: 50,000 Operating Temp: -40°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min	50mA, 12VDC	0.3mm	5.4mm x 5.0mm	180	Right Angle Edge (Gull Wing)	N/A	
	TL4100	Life Cycles: 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.15mm	3.5mm x 6.2mm	120, 240	Right Angle Edge (Gull Wing)	N/A	
	TL4105	Life Cycles: 200,000 Operating Temp: -40°C to 85°C Contact Resistance: 1Ω Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.15mm	2.9mm x 4.8mm	160	Right Angle Edge (Gullwing)	N/A	
	TL4110	Life Cycles: 300,000 Operating Temp: -40°C to 85°C Contact Resistance: 500mΩ Max. Insulation Resistance: 50MΩ Min.	20mA, 15VDC	0.13mm	2mm x 2.8mm	160	SMT	N/A	
	TL52	IP67 Rated Life Cycles: 100,000 Operating Temp: -25°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.3mm	8.0mm x 8.0mm	160, 260	PCB Pin	●	
	TL58	Multiple Actuator Styles Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.2mm x 6.2mm	100, 160, 260	Right Angle PCB Pin	N/A	
	TL59	Multiple Actuator Styles Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.25mm	6.2mm x 6.2mm	100, 160, 260	PCB Pin	N/A	
	TL6100	Multiple Actuator Styles Life Cycles: up to 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.5mm	7.4mm x 7.4mm	130, 160, 300, 500	PCB Pin	●	

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TaCTile SwITCh Series (part 5)

		General Ratings	Electrical Ratings	Travel	Body Dimensions	Operating Force Options (gf)	Mounting Options	Washable	
	TL6105	Multiple Actuator Styles Life Cycles: up to 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.5mm	7.4mm x 7.4mm	130, 160, 300, 500	PCB Pin w/ Earth ground terminal	●	
	TL6110	Multiple Actuator Styles Life Cycles: up to 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.5mm	5.8mm x 8.3mm	130, 160, 300, 500	Right Angle PCB Pin	●	
	TL6120	Multiple Actuator Styles Life Cycles: up to 1,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.5mm	7.4mm x 7.4mm	130, 160, 300, 500	SMT (Gull Wing)	●	
	TL6190	Life Cycles: 100,000 Operating Temp (Switch): -40°C to 105°C Operating Temp (Cap): -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.5mm	12.0mm x 11.5mm	220	Right Angle PCB Pin	●	
	TL6200	Life Cycles: 10,000,000 Operating Temp: -40°C to 85°C Contact Resistance: 30mΩ Max. Insulation Resistance: 10MΩ Min.	50mA, 24VDC	1.0mm	6.9mm x 6.2mm	300	SMT (Gull Wing) PCB Pin	●	
	TL6210	LED Illuminated Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 500mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.45mm	6.2mm x 4.6mm	200	SMT (Gull Wing)	●	
	TL6215	Caps Available / LED Illuminated Life Cycles: 500,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.45mm	7.7mm x 6.37mm	200, 450	Vertical or Right Angle PCB Pin	●	
	TL6330	Life Cycles: 200,000 Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 1GΩ Min.	50mA, 32VDC	0.25mm	2.8mm x 4.6mm	200	SMT	●	
	TL6700	Life Cycles: 500,000 (160gf), 100,000 (260gf) Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ Min.	50mA, 12VDC	0.35mm	6.9mm x 6.2mm	160, 260	SMT (Gull Wing J-Bend)	●	
	TL9100	Life Cycles: 100,000(200gf); 30,000(350gf) Operating Temp: -40°C to 85°C Contact Resistance: 100mΩ Max. Insulation Resistance: 100MΩ @500 VDC.	50mA, 12VDC	1.3mm	6.0mm x 6.0mm	200, 350	SMT (J-Bend)	N/A	
	TL9210	Life Cycles: 100,000 Operating Temp: -20°C to 70°C Contact Resistance: 100mΩ initial Insulation Resistance: 100MΩ Min. @100VDC	50mA, 12VDC	1.3mm	6.0mm x 6.0mm	200	SMT (J-Bend)	N/A	

Specifications subject to change without notice



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Snap Action switches, also called microswitches, are switch devices that can open and/or close an electrical circuit at a rapid speed. Triggered by an external force, either human or physical object, which is applied to the actuator requires very little pressure to operate. Snap action switches offer multiple actuator options, such as pin plunger, lever, roller or simulated roller lever.

Reliability and long operating life make snap action switches ideal for counter top appliances, timer controls, vending machines, gaming devices, power tools and industrial controls.



Snap aCTion SwITCh Series

	General Ratings	Electrical Ratings	Functions	Operating Force Options*	Actuator Options	Terminal Options	Body Options
	LS	Electrical Life: 50,000 Cycles Mechanical Life: 1,000,000 Cycles Operating Temp: -25°C to 85°C Contact Resistance: 100mΩ Max.	Silver cURus, VDE: 15A, 125/250VAC Gold: 0.4VA, 20V (AC or DC)	SPST N.O. SPST N.C. SPDT	25-250 (*Depending upon actuator)	Pin Plunger Lever Roller Simulated Roller	Quick Connect Right Angle PCB Pin Left Angle PCB Pin Solder Lug Width: 27.9mm Height: 15.9mm Depth: 10.3mm
	MS	Electrical Life: 50,000 Cycles Mechanical Life: 1,000,000 Cycles Operating Temp: -25°C to 85°C Contact Resistance: 100mΩ Max.	Silver cURus: 5A, 125/250VAC Gold: 0.4VA, 20V (AC or DC)	SPST N.O. SPDT	10-295 (*Depending upon actuator)	Pin Plunger Lever Roller Simulated Roller Custom	Quick Connect PCB Pin Right Angle PCB Pin Left Angle PCB Pin Solder Lug Width: 19.8mm Height: 10.6mm Depth: 6.4mm
	SS	Electrical Life: 10,000 Cycles Mechanical Life: 1,000,000 Cycles Operating Temp: -25°C to 75°C Contact Resistance: 100mΩ Max.	Silver cURus: 3A, 125VAC 1.5A, 250VAC 0.1A, 5VDC Gold: 0.4 VA, 20V (AC or DC)	SPDT	15-130 (*Depending upon actuator)	Pin Plunger Lever Simulated Roller	PCB Pin PCB Retention Right Angle PCB Pin Left Angle PCB Pin Solder Lug Width: 12.7mm Height: 6.5mm Depth: 5.75mm
	TS	Electrical Life: 50,000 Cycles Mechanical Life: 100,000 Cycles Operating Temp: -25°C to 85°C Contact Resistance: 300mΩ Max.	300mA, 6VDC	SPDT	20	Lever	Vertical PCB Pin Right Angle PCB Pin Short Left Angle PCB Pin Short Right Angle PCB Pin Long Left Angle PCB Pin Long Width: 8.2mm Height: 6.6mm Depth: 2.7mm
	TS2	Electrical Life: 3,000,000 Cycles Mechanical Life: 3,000,000 Cycles Operating Temp: -25°C to 85°C Contact Resistance: 300mΩ Max.	100mA, 125VAC 100mA, 48VDC	SPST	70	Pin Plunger	SMT Terminals Width: 8.6mm Height: 3.0mm Depth: 4.8mm
	WS	Electrical Life: 10,000 Cycles Mechanical Life: 1,000,000 Cycles Operating Temp: -25°C to 85°C Contact Resistance: 100mΩ Max. Ingress Protection: IP67	0.5 A, 42VDC 1A, 24VDC 2A, 12VDC 3A, 125 /250VAC	SPDT	50-70 (*Depending upon actuator)	Pin Plunger Lever Simulated Roller	PCB Pins Soldering Lugs Width: 13.3mm Height: 7.0mm Depth: 5.3mm

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*Not all force options work with all actuator options.



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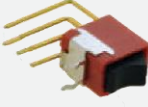
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Rocker switches are commonly used as an on/off switch that rocks (rather than trips) when pressed, meaning the rocker opens or closes the circuit. This means that one side of the rocker switch is raised while the other side is depressed much like a seesaw or a rocking horse.

E-Switch offers a range of rocker switches, from miniature size with low current ratings to industrial use switches with high power ratings and with horsepower ratings. Several rocker switches provide an IP rating of IP67, IP55 or IP54 depending the switch series. Panel mount installation is most common; however, a few E-Switch rocker series provide PC mount options. Additional options include non-illuminated or illuminated, plus actuator shapes such as rectangle, round, oval and paddle style actuators.



RoCker SwiTCh Series (SubminiaTure)

		Electrical Ratings	Poles / Functions	Actuator Options	Mounting Options	Terminal Options	Ingress Protection
	300	Silver: 5A, 120VAC [cURus] 5A, 28VDC 2A, 250VAC [cURus]	1, 2, 3, or 4 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On)	Paddle Rocker	Panel Mount: Quick Connect Vertical Solder Lug	PCB Pin Quick Connect Solder Lug	N/A
		Gold: 0.4VA, 20V (AC or DC)	2 Pole: On-On-On On-On-(On) (On)-On-(On) 4 Pole: On-On-On		PC Mount: Horizontal Right Angle Horizontal Right Angle with Bracket Vertical Vertical Right Angle Vertical with Bracket		
	300A	Silver: 5A, 120VAC [cURus] 5A, 28VDC 2A, 250VAC [cURus]	1 or 2 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On)	Paddle Rocker	Panel Mount: Quick Connect Vertical Solder Lug	PCB Pin Quick Connect Solder Lug	IP67
		Gold: 0.4VA, 20V (AC or DC)			PC Mount: Horizontal Right Angle Horizontal Right Angle with Bracket Vertical Vertical Right Angle Vertical with Bracket		
	400	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus]	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) Off-On	Rocker	Panel Mount: Vertical Solder Lug	PCB Pin Solder Lug	N/A
		Gold: 0.4VA, 20V (AC or DC)	2 Pole: On-On On-(On) On-Off-On		PC Mount: Horizontal Right Angle Horizontal Right Angle with Bracket Vertical Vertical Right Angle Vertical Right Angle with Bracket Vertical with Bracket		
	400A	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus]	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) Off-On	Rocker	Panel Mount: Vertical Solder Lug	PCB Pin Solder Lug	IP67
		Gold: 0.4VA, 20V (AC or DC)	2 Pole: On-On On-(On) On-Off-On		PC Mount: Horizontal Right Angle Horizontal Right Angle with Bracket Vertical Vertical Right Angle Vertical Right Angle with Bracket Vertical with Bracket		
	400B	Silver: 3A, 120VAC [cURus] 1A, 250VAC [cURus]	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On)	Rocker	PC Mount: Surface Mount	SMT	IP67
	400U	Gold: 0.4VA @ 24V AC or DC	2 Pole: On-None-On	Rocker Lever	PC Mount: Vertical Right Angle, PC thru-hole Right Angle, PC thru-hole PC thru-hole	PCB Pin	IP67

Specifications subject to change without notice



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RoCker SwITCh Series (reCTangular panel Mount)

*See data sheet for
more information

Electrical Ratings

Poles / Functions

Panel Cutout Dimensions

Actuator Options

Illumination Options

Ingress Protection



R1966

15A, 125VAC T65 [cURus]

1 Pole:
On-Off
On-Off-On
Off-(On)
On-Off-(On)
On-On
On-(Off)
On-(On)
(On)-Off-(On)

13mm x 19.2mm

Curved

Full

N/A



R1973

9A, 125VAC T65 [cURus]

1 Pole:
On-Off

2 Pole:
On-Off

13mm x 19.2mm

Curved

Full

N/A



R4

20A, 125VAC T65 [cURus]

1 Pole:
On-Off
On-Off-On
Off-(On)
On-(Off)
On-On
On-(On)
(On)-Off-(On)
On-Off-(On)

11mm x 30mm

Curved

Full
Dott

N/A



R5

20A, 125VAC T65 [cURus]

2 Pole:
On-Off
On-Off-On
Off-(On)
On-(Off)
On-On
On-(On)
(On)-Off-(On)
On-Off-(On)

22mm x 30mm

Curved

Full

N/A



R6

10A, 125VAC T65 [cURus]

1 Pole:
On-Off
(On)-Off

6.65mm x 19.2mm

Curved

N/A

N/A



R7

16(8)A, 125/250VAC [cURus]

1 or 2 Pole:
On-Off
(On)-Off
On-(Off)
On-Off-On
On-On
(On)-On
(On)-Off-On
(On)-Off-(On)

21.1mm x 37mm

Hard PC
or TPR

Multiple
Lens
Options

IP67



RA1

16A, 125VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
On-(On)
Off-(On)
On-Off-On
On-(Off)
On-(On)
On-On
(On)-Off-(On)

13mm x 19mm

Bi-Color
Curved
Custom

Full
Signal Light

IP54 with cap



RA2

16A, 125VAC 1/3HP T105 [cURus]

1 Pole (Each Actuator):
Off-On
Off-(On)
On-(Off)
On-On
On-Off-On

22mm x 19mm

Curved

Signal Light

IP54 with cap



RA4

16A, 125VAC 1/3HP T105 [cURus]

1 or 2 Pole:
Off-On
Off-(On)
On-(Off)
On-On
On-Off-On
On-(On)

22mm x 19.2mm

Curved
Paddle

Full

IP54 with cap

Specifications subject to change without notice



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roCker SWiTCh Series (reCTangular panel mount)

		Electrical Ratings	Poles / Functions	Panel Cutout Dimensions	Actuator Options	Illumination Options	Ingress Protection	
		<i>*See data sheet for more information</i>						
	RA8	16A, 125VAC 1/3HP T105 [cURus]	1 Pole: Off-On 2 Pole: Off-On		13mm x 19mm	Bi-color Curved	Full Signal Light	IP54 with cap
	RB1	20A, 125VAC 1/4HP T65 [cURus]	1 Pole: Off-On On-(On) Off-(On) On-Off-On On-(Off) On-Off-(On) On-On (On)-Off-(On)		11mm x 30mm	Curved Flat	Dot Full Signal Light	IP54 with cap
	RB2	20A, 125VAC 1/4HP T65 [cURus]	1 or 2 Pole: Off-On On-Off-On (On)-Off-(On) 2 Pole Only: Off-(On) On-On On-Off-(On) On-(On)		22mm x 30mm	Curved Flat	Dot Full Signal Light	IP54 with cap
	RBW2	16(16)A, 125VAC 5E4 T85 [cURus]	2 Pole: Off-On *On-On		22mm x 30mm	Curved	Full	IP66
	RD1	16A, 125VAC 1/3HP T105 [cURus]	1 Pole: Off-On		6.8mm x 19.2mm	Curved	N/A	N/A
	RSC	20A, 125VAC 1/4HP T105 [cURus]	1 Pole: Off-On Off-(On) On-On		28.6mm x 13.9mm 27.2mm x 12.1mm 27.2mm x 13.9mm 28.6mm x 12.1mm	Bi-Color Curved Flat	Full Signal Light	N/A
	RVW	20A, 125VAC [cURus UL508] Momentary Switches: 1.5HP, 220-240VAC [cURus UL508]	1 or 2 Pole: Off-On Off-(On) On-(Off) On-Off-(On) On-On On-Off-On On-(On) (On)-Off-(On)		21mm x 36.8mm	Curved	N/A	IP54
	WB2	Maintained Switches: 20A, 125/250VAC T65/T85 [cURus] Momentary Switches: 20A, 125/250VAC T65/T85 [cURus]	2 Pole: Off-On Off-(On) (On)-Off-(On) On-On On-Off-On On-(On)		22mm x 30mm	Curved	N/A	IP55

Specifications subject to change without notice

*Option only available with non-illuminated version.



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roCker SwiTCh Series (Oval / round panel mount)

**See data sheet for more information*



RE1

16A, 125VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
On-On

On-Off-On

13.5mm x 23.3mm
(Oval)

Curved

Full

N/A



RR1

16A, 125VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
Off-(On)
On-(Off)
On-Off-(On)

On-On
On-Off-On
On-(On)

20mm Diameter

Curved

Dot
Full
Signal Light

IP54 with cap



RR3112

16A, 125VAC T65 [cURus]
10A, 250VAC T65 [cURus]

1 Pole:
On-Off
On-Off-On

On-On
Off-(On)

20.2mm Diameter

Curved

Full

N/A



RR3130

10A, 125VAC T65 [cURus]
6A, 250VAC T65 [cURus]

1 Pole:
On-Off

2 Pole:
On-On

On-On

18.2mm Diameter

Curved

N/A

N/A



RR3402

6A, 125VAC [cURus]
3A, 250VAC [cURus]

1 Pole:
On-Off
On-Off-On

On-On

15mm Diameter

Paddle

N/A

N/A

Specifications subject to change without notice



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RoCker SwiTCh Series (Oval / round panel mount)

**See data sheet for more information*

Electrical Ratings

Poles / Functions

Panel Cutout Dimensions

Actuator Options

Illumination Options

Ingress Protection



RR5

20A, 125VAC T65 [cURus]
12A, 250VAC T65 [cURus]

1 Pole:
Off-On

Off-(On)

20mm Diameter

Curved

N/A

N/A



RR8

16A, 125VAC 1/3HP T105 [cURus]
10A, 250VAC 1/3HP T105 [cURus]

1 Pole:
Off-On

2 Pole:
Off-On

20mm Diameter

Curved

Full

N/A



RRA

15A, 125VAC 1/3HP T105 [cURus]
10A, 250VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
On-Off-On

On-On

2 Pole:
Off-On
On-Off-On

On-On

22mm Diameter

Curved

Full

IP54 with cap



RRG3

16A, 125VAC 1/3HP T105 [cURus]
10A, 250VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
Off-(On)
On-(Off)
On-Off-(On)

On-On
On-Off-On
On-(On)
On-Off-(On)

20mm Diameter

Curved

N/A

N/A



RRGA

16A, 125VAC 1/3HP T105 [cURus]
10A, 250VAC 1/3HP T105 [cURus]

1 Pole:
Off-On
Off-(On)
On-(Off)
On-Off-(On)

On-On
On-Off-On
On-(On)
On-Off-(On)

22mm Diameter

Curved

N/A

N/A

Specifications subject to change without notice



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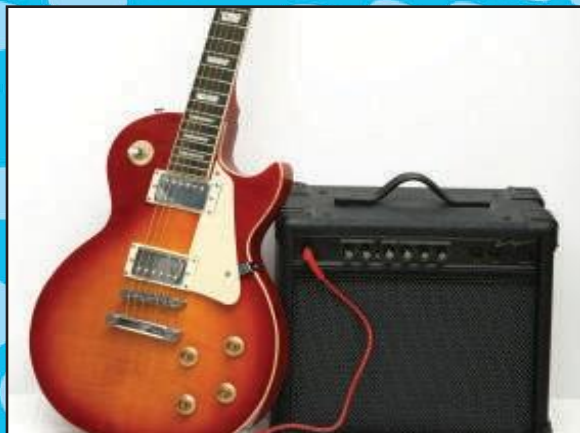
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The toggle switch is characterized by the presence of a manually operated handle or lever which controls the flow of electrical current from power supply to device such as household appliance. E-Switch offers toggle switches with multiple options such as actuators, bushings, terminals, as well as low to high current ratings, plus some with horsepower ratings for industrial applications.

Smaller size toggles are often used in equipment and devices for telecommunications, networking, instrumentation and medical devices. High power toggles are used in industrial control panels, motor-sports vehicles, commercial appliances, restaurant equipment and recreational vehicles.



Toggle Switch Series

		General Ratings	Electrical Ratings	Poles / Functions	Actuator Options	Bushing Options	Terminal Options	Ingress Protection	
		100	Electrical Life: 6,000 Cycles Mechanical Life: 40,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 10mΩ Max.	Silver: 5A, 120VAC [cURus] 5A, 28VDC 2A, 250VAC [cURus] Gold: 0.4VA, 20V Max. (AC or DC)	1 or 3 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) 2 or 4 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) On-On-On On- On-(On) (On)-On-(On)	Flat Locking Metal Plastic	High Torque Non-Threaded Threaded Splash Proof	Quick Connect Right Angle PCB Pin Solder Lug Vertical PCB Pin Wire Wrap	N/A
		100A	Electrical Life: 6,000 Cycles Mechanical Life: 30,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 10mΩ Max.	Silver: 5A, 120VAC [cURus] 5A, 28VDC 2A, 250VAC [cURus] Gold: 0.4VA, 20V Max. (AC or DC)	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) 2 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On)	Metal Plastic	Non-Threaded Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin Wire Wrap	IP67
		200	Electrical Life: 6,000 Cycles Mechanical Life: 30,000 Cycles Operating Temp: -20°C to 85°C Contact Resistance: 20mΩ Max.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, 20V Max. (AC or DC)	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) Off-On 2 Pole: On-On On-(On) On-Off-On	Metal	Non-Threaded Threaded	Right Angle PCB Pin Solder Lug Vertical PCB Pin	N/A
		200A	Electrical Life: 6,000 Cycles Mechanical Life: 30,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 20mΩ Max.	Silver: 3A, 120VAC [cURus] 3A, 28VDC 1A, 250VAC [cURus] Gold: 0.4VA, 20V Max. (AC or DC)	1 Pole: On-On On-(On) On-Off-On (On)-Off-(On) On-Off-(On) Off-On 2 Pole: On-On On-(On) On-Off-(On)	Metal Plastic	Non-Threaded	Right Angle PCB Pin Vertical PCB Pin	IP67
		200B	Electrical Life: 6,000 Cycles Mechanical Life: 50,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 20mΩ Max.	Gold: 0.4VA, 20V Max. (AC or DC)	1 Pole: On-(On) On-Off-(On) (On)-Off-(On) On-Off-(On)	Metal Plastic	Non-Threaded	Surface Mount	IP67
		200R	Electrical Life: 6,000 Cycles Mechanical Life: 40,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 50mΩ Max.	Gold: 0.4VA, 48V Max. (AC or DC)	1 or 2 Pole: On-None-On On-None-(On) On-Off-On On-Off-(On) (On)-Off-(On) On-Off-(On)	Metal	Non-Threaded	Surface Mount Right Angle PCB Pin Vertical Right Angle PCB Pin	N/A
		200U	Electrical Life: 40,000 Cycles Mechanical Life: 40,000 Cycles Operating Temp: -30°C to 85°C Contact Resistance: 100mΩ Max.	Gold: 0.4VA, 20V Max. (AC or DC)	1 or 2 Pole: Off-On On-On On-Off-On	Plastic	Non-Threaded	PCB Pin Right Angle PCB Pin Vertical Right Angle PCB Pin	IP67
		ST1 ST2 <i>*ST2 Pictured</i>	Electrical Life: 6,000 Cycles Mechanical Life: 100,000 Cycles Operating Temp: -20°C to 85°C Contact Resistance: 50mΩ Max.	Maintained Switches: 20A, 125VAC [cURus] 15A, 277VAC [cURus] 2HP, 125-277VAC [cURus] Momentary Switches: 20A, 125VAC [cURus] 15A, 277VAC [cURus] 1.5HP, 125-277VAC [cURus]	2 Pole: Off-On On-On Off-(On) On-Off-On On-Off-(On) (On)-Off-(On)	Metal	Threaded	Quick Connect Screw Solder Lug Wire Leads	N/A
		ST3	Electrical Life: 6,000 Cycles Mechanical Life: 100,000 Cycles Operating Temp: -20°C to 85°C Contact Resistance: 50mΩ Max.	Maintained Switches: 24A, 125VAC [cURus] 15A, 277VAC [cURus] 2HP, 125-277VAC [cURus]	3 Pole: Off-On On-On On-Off-On	Metal	Threaded	Quick Connect Screw Solder Lug Wire Leads	N/A

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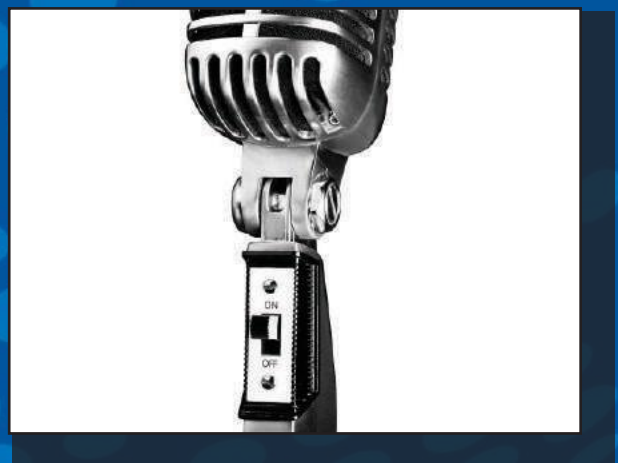
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A slide switch utilizes a mechanical lever turning electrical current on and off. Depending on the number of positions available, the lever can move (slide) between an open or closed state. Compact in size, E-Switch offers slide switches with multiple termination options.

Slide switches are commonly used in computer server/peripheral equipment, instrumentation devices, test & measurement equipment and consumer electronics and household appliances.



		Electrical Ratings	Number of Poles	Number of Positions	Terminal Options	Panel Mount Capable	Ingress Protection
	500	Silver: 5A, 120VAC [cURus] 2A, 250VAC [cURus] Gold: 0.4VA, 20V (AC or DC)	Up to 2 Poles	Up to 3 Positions	PCB Pin Solder Lug Quick Connect Wire Wrap	●	N/A
	500A	Silver: 3A, 120VAC [cURus] 1A, 250VAC [cURus] Gold: 0.4VA, 20V (AC or DC)	Up to 2 Poles	Up to 3 Positions	PCB Pin	N/A	N/A
	500R	Gold: 0.4VA, 20V (AC or DC)	Up to 2 Poles	Up to 3 Positions	Right Angle PCB Pin Vertical PCB Pin	N/A	IP67
	600	Silver: 1A, 30VDC Gold: 0.4 VA, 20V (AC or DC)	1 Pole	Up to 3 Positions	Right Angle PCB Pin Vertical PCB Pin Surface Mount	●	N/A
	EG	200mA, 30VDC	Up to 6 Poles	Up to 6 Positions	PCB Pin Surface Mount	●	N/A
	EG1215	25mA, 24VDC	1 Pole	2 Positions	Surface Mount	N/A	N/A
	EG1315	25mA, 24VDC	1 Pole	3 Positions	Surface Mount	N/A	N/A
	EGL2290	300mA, 6VDC	2 Poles	2 Positions	Surface Mount	N/A	N/A

Specifications subject to change without notice



DIP switch refers to a set of electrical switches packaged in a small box or housing, which are arranged in a line or circle (rotary DIP). The function is to provide a range of electrical inputs to an electronic device based on the position of the individual switches within the line or circle. The main advantage of a DIP switch is the ability to quickly change positions.

Common applications for DIP switches include computer server/peripheral equipment, instrumentation devices, test & measurement equipment, audio/visual equipment, consumer electronics and medical equipment.



Dip Switch Series



KAE

Life Cycles: 2,000
Operating Force: 1,000gf Max.
Operating Temp: -20°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 3.05
Width: 6.3
Length: Varies per # of positions

1, 2, 3, 4,
5, 6, 7, 8,
9, 10, 12

Extended
Recessed

SMT
(Gull Wing)
PCB Pin
(Splayed or
straight)

Tape and Reel
Tube

●



KAN

Life Cycles: 2,000
Operating Force: 800gf Max.
Operating Temp: -40°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 1.5
Width: 4.5
Length: Varies per # of positions

2, 4, 6,
8, 10

Recessed

SMT
(Gull Wing)

Tape and Reel
Tube

●



KAP

Life Cycles: 2,000
Operating Force: 400gf Max.
Operating Temp: -40°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 10.8
Width: 10.2
Length: Varies per # of positions

2, 3, 4, 5,
6, 7, 8, 9,
10, 12

Extended
Recessed

PCB Pin

Tube

●



KAC

Life Cycles: 2,000
Operating Force: 800gf Max.
Operating Temp: -20°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 5.0
Width: 6.0
Length: Varies per # of positions

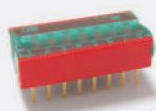
2, 4, 6,
8, 10

Extended

SMT
(Gull Wing)
PCB Pin
(Splayed)

Tape and Reel
Tube

N/A



KAS

Life Cycles: 2,000
Operating Force: 1,000gf Max.
Operating Temp: -40°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 6.0
Width: 9.9
Length: Varies per # of positions

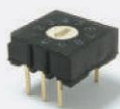
2, 3, 4, 5,
6, 7, 8, 9,
10, 12

Extended
Recessed

PCB Pin
(Vertical &
Right Angle)

Tube

●



DR

2x3, 3x3, 4x1 Layout
Life Cycles: 15,000 Steps
Operating Force: 500gf-cm Max.
Operating Temp: -40°C to 85°C

Switch: 25mA, 24VDC
Carry: 100mA, 50VDC

Height: 4.5
Width: 9.8
Length: 9.9

10, 16

Extended
Flush

PCB Pin

Tape and Reel
Tube

N/A



RDM

3x3 Layout
Life Cycles: 25,000 Steps
Operating Force: 700gf-cm Max.
Operating Temp: -60°C to 125°C

Switch: 100mA, 42VDC
Carry: 400mA, 42VDC

Height: 3.65 (Vert)
Height: 5.80 (RA)
Width: 7.4
Length: 7.4

10, 16

Extended
Flush

PCB Pin
(Vertical &
Right Angle)
SMT

Tape and Reel
Tube

IP67



RDT

2x3, 3x3 Layout
Life Cycles: 10,000 Steps
Operating Force: 700gf-cm Max.
Operating Temp: -40°C to 85°C
(Through Hole), -60°C to 125°C
(SMT)

Switch: 150mA, 42VDC
Carry: 200mA, 42VDC

Height: 6.50 (Vert)
Height: 12.05 (RA)
Width: 10.0
Length: 10.0

04, 06, 08,
10, 16

Extended
Flush

PCB Pin
(Vertical &
Right Angle)
SMT

Tape and Reel
Tube

IP67

Specifications subject to change without notice



E-SWITCH®

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The screenshot shows the E-Switch website interface with various navigation and content areas. Red boxes and lines highlight specific features and their locations on the site:

- Web Forms:** Located at the top of the page, including links for Contact Us, Catalog Request, Sample Quote Request, Distributor Stock Check, and Extranet Login.
- Resources:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- Monthly Marketing:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- E-Bits Video Series:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- Product Catalog:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- Digital Postcards:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- E-Switch News:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- Virtual Solutions:** Located on the left side, including links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch.
- Distributor Stock Check:** Located at the top right of the page.
- Extranet Login:** Located at the top right of the page.
- Social Media:** Located on the right side, including links for Facebook, Twitter, LinkedIn, and YouTube.
- 3D Drawing Request:** Located on the right side, including a link for Request 3D Model.
- Product Matrix:** Located on the right side, including a link for Product Matrix.
- Featured Products:** Located on the right side, including a link for Featured Product.
- Virtual Applications:** Located on the right side, including a link for Virtual Applications.
- Training Center:** Located on the right side, including a link for Training Center.
- New Product Alerts Signup:** Located at the bottom right of the page, including a link for New Product Alerts Signup.

Visit www.e-switch.com to download 3D models, ROHS certifications, PDF specifications and drawings.

Plus, see our newest product releases and follow E-Switch on social media by clicking on the icons.



reCommendeD Soldering Guidelines & IP Ratings

Most contamination problems can be prevented by exercising care during the cleaning and soldering process. Care should be taken not to immerse or spray unsealed switches during flux removal. Contact E-Switch for specific soldering recommendations and specifications not found in this catalog. Generalized soldering procedures are outlined below.

HAND SOLDERING AND TEMPERATURES

Recommend soldering irons of 30 watt maximum with a tip temperature of 345°C (650°F) for 2-3 seconds and solder of 0.030 - 0.40 diameter.

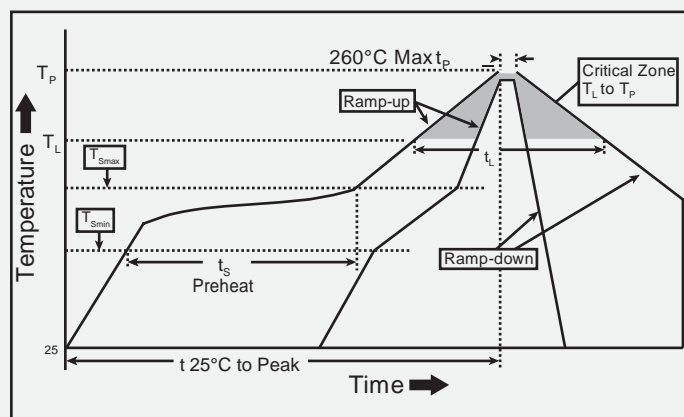
SMT REFLOW (LEAD AND LEAD-FREE)

“TYPICAL” SMT REFLOW (Pb and Pb-Free)

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-Up Rate (T_{Smax} to T_P)	3°C/second max.	3°C/second max.
Preheat		
-Temperature Min. (T_{Smin})	100°C	150°C
-Temperature Max. (T_{Smax})	150°C	200°C
-Time (t_{Smin} to t_{Smax})	60-120 seconds	60-180 seconds
Time maintained above:		
-Temperature (T_L)	183°C	217°C
-Time (t_L)	60-150 seconds	60-150 seconds
Time within 5°C of actual Peak Temperature (t_P)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6°C/second max.	6°C/second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

Classification Reflow Profile

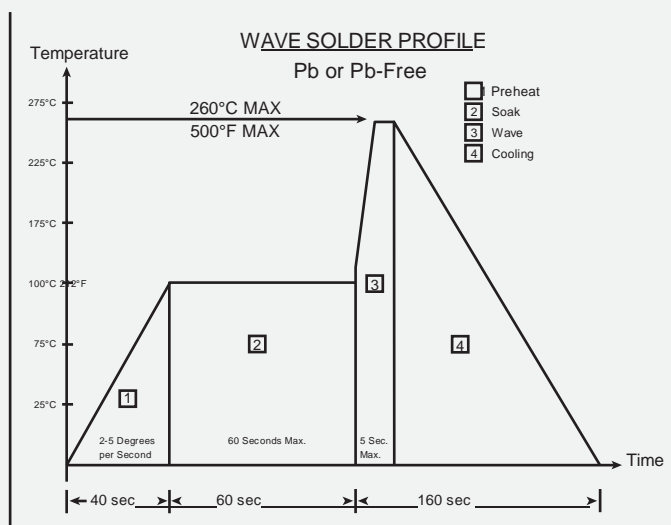


WAVE SOLDER TIME AND TEMPERATURES

When wave soldering, we recommend using a no-clean flux soldering process, rather than a process that requires washing. The fluxing process must be controlled so as not to have flux migrate inside the switch.

WAVE SOLDER

(Includes Pb-Free, max. component side preheat temp-130°C)



Good venting is required. No-clean flux vapors can enter the switch if adequate venting is not available. The vapors will condense on the internal contacts and become an insulator when they solidify.

- Preheat temperature/time: Circumferential temperature of the P.C. Board not to exceed 100°C (212°F) for 60 seconds.
- Soldering temperature/time: not to exceed 260°C (500°F) for 5 seconds.

IP Rating Chart

First Number	Definition	Second Number	Definition
Protection against solid objects		Protection against liquids	
0	No protection	0	No protection
1	Protected against solid objects over 50mm (e.g. accidental touch by hands)	1	Protected against vertically falling drops of water
2	Protected against solid objects over 12mm (e.g. fingers)	2	Protected against direct sprays up to 15° from the vertical
3	Protected against solid objects over 2.5mm (e.g. tools and wires)	3	Protected against direct sprays up to 60° from vertical
4	Protected against solid objects over 1mm (e.g. tools, wires and small wires)	4	Protected against sprays from all directions - limited ingress permitted
5	Protected against dust - limited ingress (no harmful deposit)	5	Protected against low pressure jets of water from all directions - limited ingress permitted
6	Totally protected against dust	6	Protected against strong jets of water (e.g. for use on shipdecks - limited ingress permitted)
		7	Protected against the effects of temporary immersion between 15cm and 1m. Duration of test 30 min.
		8	Protected against long periods of immersion under pressure





E-SWITCH®

About Us

E-Switch, headquartered in Minneapolis, Minnesota, has been delivering quality electromechanical switches to the telecom, high tech, medical, electronics, instrumentation, industrial, audio/visual, appliance and consumer markets since 1979. With international offices in Singapore and Hong Kong, E-Switch's global reach includes North America, Europe, Asia and Latin America.

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