

8 Series

Toggle Switches

■ Introduction

The 8 Series Toggles is our high-reliability miniature switch product offering. This product line meets and exceeds all basic international switch standards.

With 8 toggle options, PC and solder lug terminals, power and logic level current ratings, 1-4 pole and many circuit offerings these switches can be used in many industries and various applications within these industries.

Four of the 8 Series lines are washable. Specifically designed for PC applications with automated solder and cleaning methods.

The 8 Series is available with UL Recognition and CSA Certification upon request from the customer.

■ Applications





















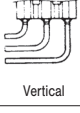


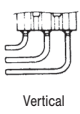


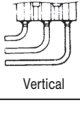


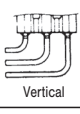
- Communication equipment
- Computer peripheral equipment
- Measuring instruments
- Medical equipment
- Automotive diagnosis

The switches can be used in a wide range of fields from industrial to consumer equipment.

■ Features of 8 Series Toggles

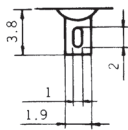
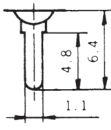
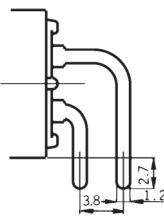
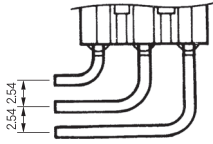
- 1. Terminal style :**
Solder, Straight, Right angle and vertical mount PC terminals.
- 2. Contacts :**
Silver or gold.
- 3. Epoxy resin case :**
UL94V-0 self-extinguishing epoxy.
- 4. Actuator styles :**
Over 30 actuator variations.
- 5. Insulation between terminal and ground :**
4 mm minimum.
- 6. Prevention of flux entry**
The epoxy resin seal on bottom of the switch helps prevent the entry of solder and flux.
- 7. Insulation barrier :**
Insulation barrier design between poles helps prevent short-circuiting between poles ensuring high reliability.
- 8. UL Recognized product File No.E43275**
- 9. CSA Certified product File No.LR38341**
- 10. For the UL Recognized and CSA Certified products please see page 358.**

8 Series Toggles Selection Table

Part No.	Name	Actuator shape	Number of poles	Switching function	Terminals	Page
8A	Standard toggle		1•2•3•4	ON - ON - ON ON - OFF - ON ※1/2 Poles ON - ON - ON ON - OFF - ON ※3/4 Poles ON - ON - ON ※8A Type 4 Poles only	  Solder Lug Straight PC	341 } 343
8B	Mustang Toggle		1•2•3•4		  Solder Lug Straight PC	344 } 345
8C	Flatted Toggle		1•2•3		  Solder Lug Straight PC	346 } 347
8E	Lever Lock Toggle		1•2•3•4		  Solder Lug Straight PC	348 } 349
8F	Splash Proof Toggle		1•2•4		  Solder Lug Straight PC	350 } 351
8J	Short Toggle		1•2•3•4		  Solder Lug Straight PC	352 } 353
Board mounting washable	8G	Short Toggle Washable	1•2	ON - ON - ON ON - OFF - ON (ON) - OFF - (ON) ON - - (ON)	   Straight PC Right Angle Vertical	354 } 355
	8GA	Standard Toggle Washable	1•2		   Straight PC Right Angle Vertical	356
Board mounting	8K	Short Toggle	1•2	ON - ON - ON	   Straight PC Right Angle Vertical	357 } 358
	8KA	Standard Toggle	1•2		   Straight PC Right Angle Vertical	359

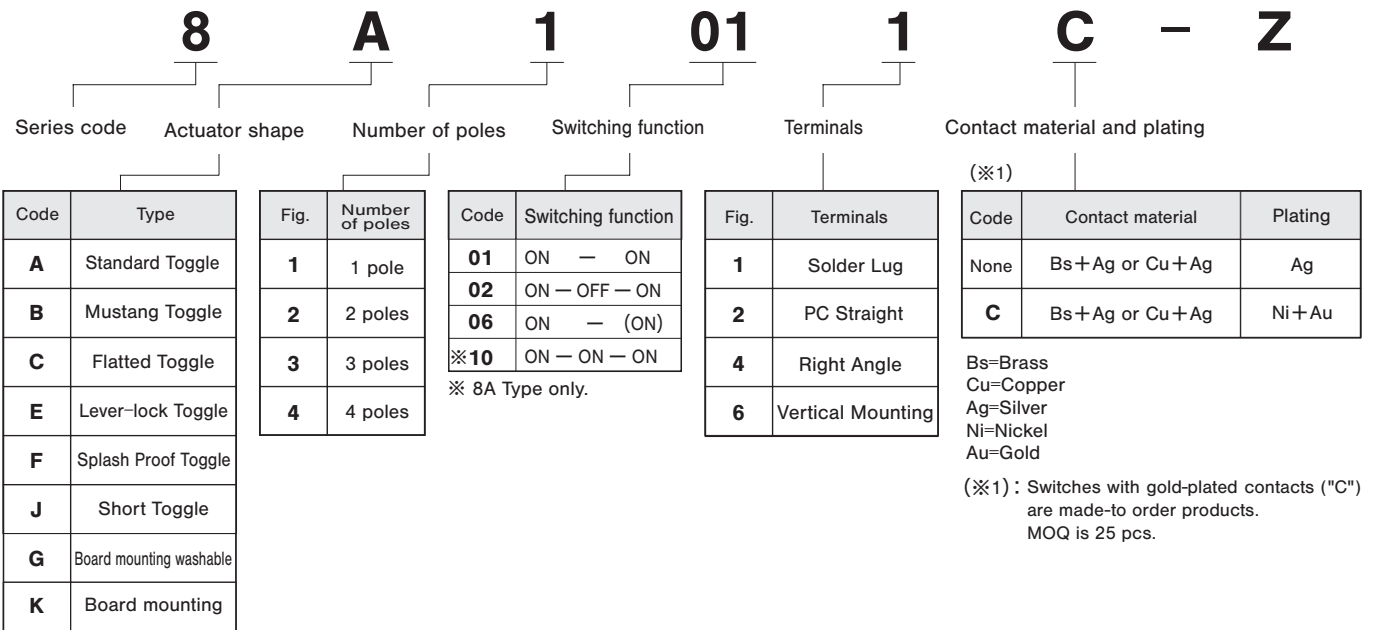
() indicates momentary actuation

■ Terminals

Solder Lug (Style:1)	PC Straight (Style:2)	Right Angle (Style:4)	Vertical Mounting (Style:6)
t=0.8 	t=0.8 PC 	t=0.8 R/A 	t=0.8 w=1.2 

8 Series Toggles

Part Numbering



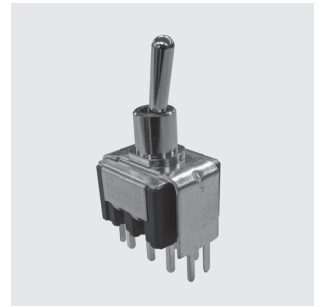
Note : Some combinations may not be available. Please check the "Table of Part Numbers" for each series.

8 Series Toggles Common Specifications

Contact specs.		Silver	Gold
Rating	Max.	AC125 V 6 A AC250 V 3 A DC30 V 4 A	AC125 V 6 A AC250 V 3 A DC30 V 4 A DC20V 25mA
Initial contact resistance		10 mΩ Max. (DC2~4 V 1 A)	20 mΩ Max. (AC200 μV 1.5 mA)
Initial dielectric strength		AC1500 V / 1 minute	
Initial insulation resistance		1000 MΩ Min. (DC500 V)	
Electrical life	Alternate type	50,000/cycles	
	Momentary type	25,000/cycles	
Operating temperature range		-30~+85°C	
Storage temperature range		-40~+85°C	

8K

Board Mounting Miniature Toggles



RoHS Compliant

Features

The 8K Toggle Switch is designed for PC boards and are easily mountable on the board. A PC support terminal is provided for stable mounting.

Specifications

Rating Max.	6 A 125 VAC·3 A 250 VAC·4 A 30 VDC
Initial contact resistance	10 mΩ max. (1A 2~4 VDC)
Initial dielectric strength	1500 VAC 1 minute
Initial Insulation resistance	1,000 MΩ min. (500 VDC)
Electrical life	Alternate type: 50,000 cycles
Operating temperature range	-30~+85°C
Storage temperature range	-40~+85°C

Terminals

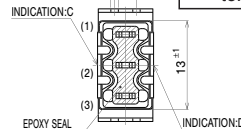
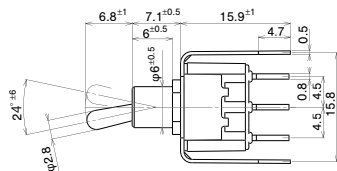
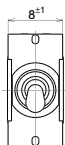
PC Straight (Style:2)	Right Angle (Style:4)	Vertical Mounting (Style:6)
t=0.8 PC 	t=0.8 R/A 	t=0.8 w=1.2 V/M

8K : Short Toggle

SPDT

PC Straight

Terminal numbers are not shown on the switch.

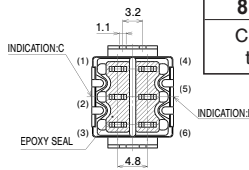
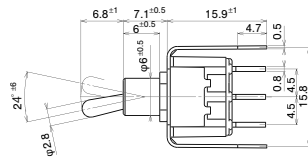
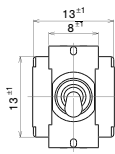


Switching function	Viewed from rating marking side		
Part No.	8K1012-Z	-	ON
Connecting terminals	2-3	-	2-1

DPDT

PC Straight

Terminal numbers are not shown on the switch.

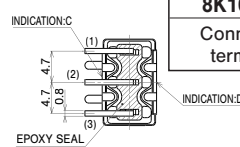
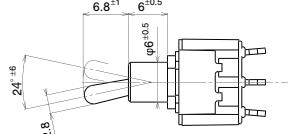
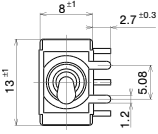


Switching function	Viewed from rating marking side		
Part No.	8K2012-Z	ON	ON
Connecting terminals	2-3 5-6	-	2-1 5-4

SPDT

Right Angle

Terminal numbers are not shown on the switch.

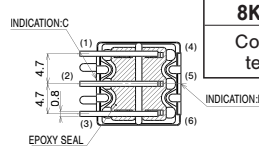
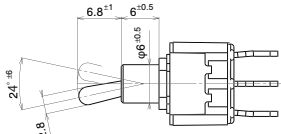
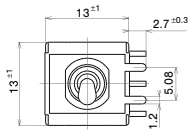


Switching function	Viewed from rating marking side		
Part No.	8K1014-Z	ON	ON
Connecting terminals	2-3	-	2-1

DPDT

Right Angle

Terminal numbers are not shown on the switch.

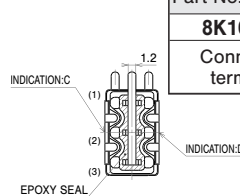
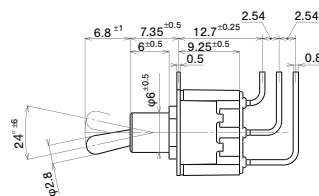
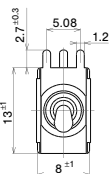


Switching function	Viewed from rating marking side		
Part No.	8K2014-Z	ON	ON
Connecting terminals	2-3 5-6	-	2-1 5-4

SPDT

Vertical Mounting

Terminal numbers are not shown on the switch.

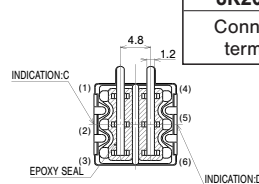
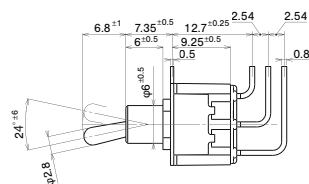
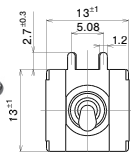
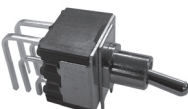


Switching function	Viewed from rating marking side		
Part No.	8K1016-Z	ON	ON
Connecting terminals	2-3	-	2-1

DPDT

Vertical Mounting

Terminal numbers are not shown on the switch.



Switching function	Viewed from rating marking side		
Part No.	8K2016-Z	ON	ON
Connecting terminals	2-3 5-6	-	2-1 5-4

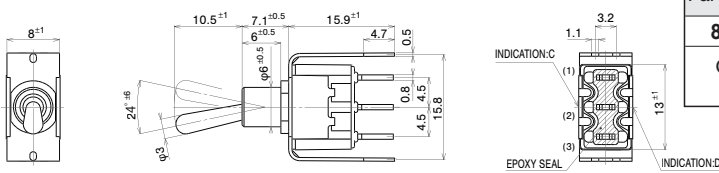
8KA : Standard Toggle

SPDT

PC Straight

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA1012-Z	-	ON
Connecting terminals	2-3	-	2-1

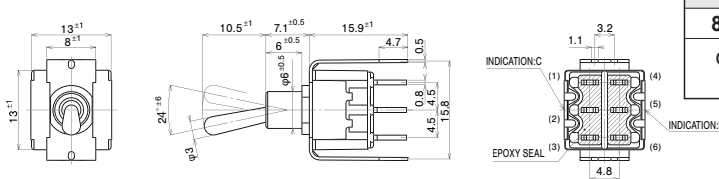


DPDT

PC Straight

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA2012-Z	-	ON
Connecting terminals	2-3 5-6	-	2-1 5-4

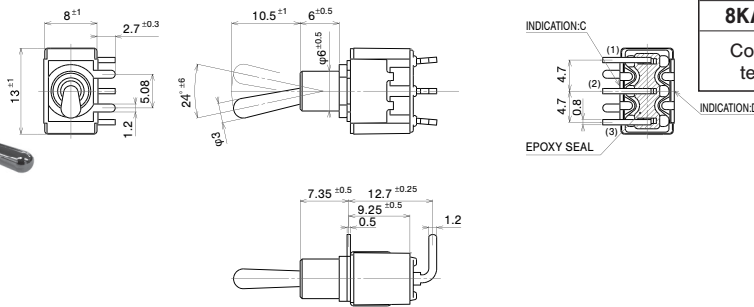


SPDT

Right Angle

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA1014-Z	-	ON
Connecting terminals	2-3	-	2-1

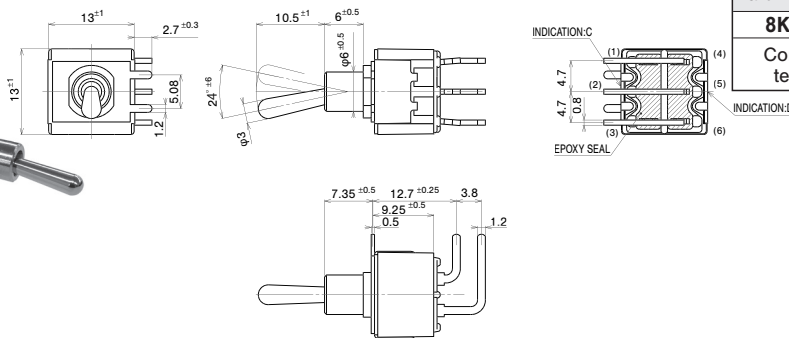
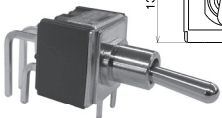


DPDT

Right Angle

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA2014-Z	-	ON
Connecting terminals	2-3 5-6	-	2-1 5-4

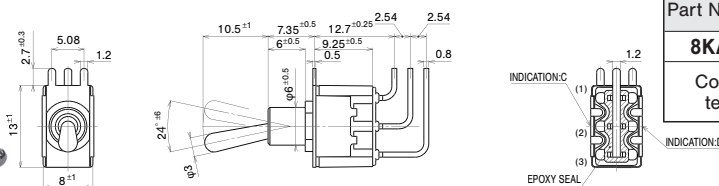
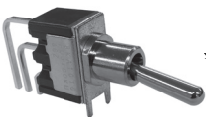


SPDT

Vertical Mounting

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA1016-Z	-	ON
Connecting terminals	2-3	-	2-1



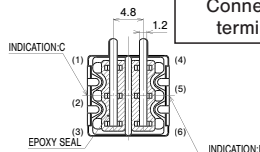
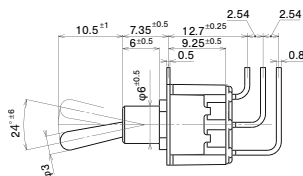
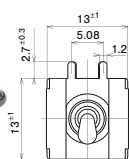
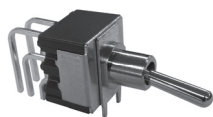
• Optional accessories (Color Caps) for 8KA series are shown on P.361.

DPDT

Vertical Mounting

Terminal numbers are not shown on the switch.

Switching function	Viewed from rating marking side		
Part No.	8KA2016-Z	—	—
Connecting terminals	2-3 5-6	—	2-1 5-4



PC Hole Layouts

Terminal style	PC Straight	R/A Right Angle	V/M Vertical Mounting
1 pole			
2 poles			

Precaution (8K • 8KA)

1. Soldering Specifications

(1) Manual soldering (1)

Device : Solder iron

① 350°C Max. 3 sec. Max. ② 310°C Max. 7 sec. Max.

(2) Auto soldering (2)

275°C Max. 6 sec. Max.

The above-stated soldering conditions shall apply only to switches with straight terminals. Auto soldering is not possible with right-angle terminals. Switches with right-angle terminals should be soldered manually according to the conditions specified in (1) above.

(3) When soldering two or more terminals to the common land, use the solder resist to isolate the terminals.

3. Mounting

● Do not bend the terminals before mounting the switch on the PC board.

● After mounting the switch, do not place the device in such a way that the device weight will be applied on to the actuator of the switch.

2. Flux Cleaning

(1) Solvent : Fluorine or Alcohol type.

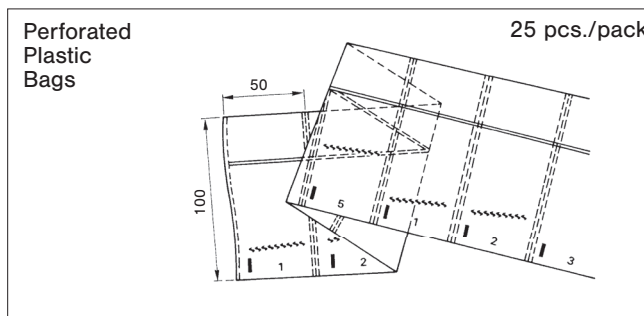
(2) 8K • 8KA series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

(3) Cleaning after soldering should be done after the terminal temperature falls to 90°C or below, or after leaving the switch for five minutes or longer at room temperature.

4. Mounting Accessories

Mount the accessories after soldering.

Packaging Specification



■ **Optional Accessories**

《Sold separately》

Type	8A · 8F · 8GA · 8KA	8A · 8F · 8GA · 8KA	8B	8E
Part Name	Color Cap			
Dimensions	<p style="text-align: center;">Gloss finish Vinyl chloride resin</p>	<p style="text-align: center;">Gloss finish Vinyl chloride resin</p>	<p style="text-align: center;">Gloss finish Vinyl chloride resin</p>	<p style="text-align: center;">Alumite finish Aluminum alloy</p>
Silver	-	-	-	140000470058
White	140000470030	140000470038	140000470063	-
Red	140000470098	140000470100	140000470108	140000470060
Black	140000470031	-	140000470064	140000470059
Gray	140000470037	140000470077	-	-

Type	8A	8B	
Part Name	Boot	Plate	Plate
Part No.	140000470422	140008040021	140008040025
Dimensions	<p style="text-align: center;">With Nut (1/4" -40THD)</p>	<p style="text-align: center;">Red Black Aluminum plate t=0.5</p>	<p style="text-align: center;">Red Black Aluminum plate t=1</p>