

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.

■ 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 :

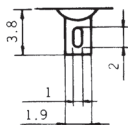
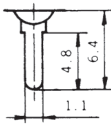
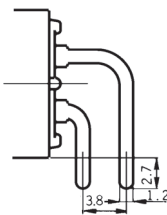
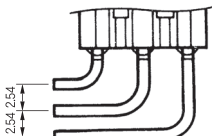
Insulation barrier design between poles helps prevent short-circuiting between poles ensuring high reliability.

8 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 - OFF - ON ※1/2 Poles 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 - 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	   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 V/M 

8 Series Toggles

Part Numbering

8

A

1

01

1

C - Z

Series code

Actuator shape

Number of poles

Switching function

Terminals

Contact material and plating

Code	Type
A	Standard Toggle
B	Mustang Toggle
C	Flatted Toggle
E	Lever-lock Toggle
F	Splash Proof Toggle
J	Short Toggle
G	Board mounting washable
K	Board mounting

Fig.	Number of poles
1	1 pole
2	2 poles
3	3 poles
4	4 poles

Code	Switching function
01	ON — ON
02	ON — OFF — ON
04	(ON) — OFF — (ON)
06	ON — (ON)
※10	ON — ON — ON

※ 8A Type only.

Fig.	Terminals
1	Solder Lug
2	PC Straight
4	Right Angle
6	Vertical Mounting

Code	Contact material	Plating
None	Bs + Ag or Cu + Ag	Ag
C	Bs + Ag or Cu + Ag	Ni + Au

(※1)

Bs=Brass
Cu=Copper
Ag=Silver
Ni=Nickel
Au=Gold

(※1): Switches with gold-plated contacts ("C") are made-to order products.
MOQ is 25 pcs.

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	

8G

Washable Toggle Switches

Washable

RoHS Compliant



Features

The 8G Washable Toggle Switch is designed for PC boards and are easily mountable on the board. A PC support terminal is provided for stable mounting. The process-sealed structure allows cleaning after soldering.

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
	Momentary type	25,000 cycles
Operating temperature range	-30~+85°C	
Storage temperature range	-40~+85°C	

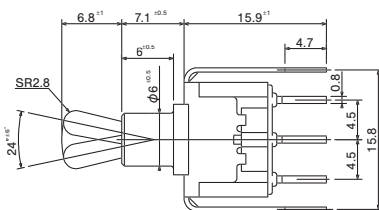
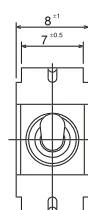
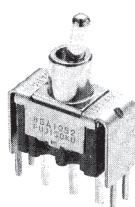
Terminals

PC Straight (Style:2)	Right Angle (Style:4)	Vertical Mounting (Style:6)
t=0.8 	t=0.8 	t=0.8 w=1.2

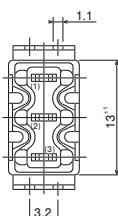
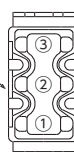
8G : Short Toggle

SPDT

PC Straight



Rating marking side



Part No.	Viewed from rating marking side		
8G1012-Z	ON	-	ON
★ 8G1022-Z	ON	OFF	ON
8G1042-Z	(ON)	OFF	(ON)
Connecting terminals	2-3	-	2-1

Terminal numbers are not shown on the switch.

(ON) : Momentary.

★ : Made to order products.

Washable

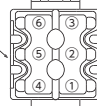
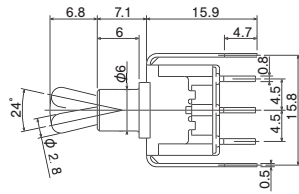
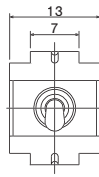
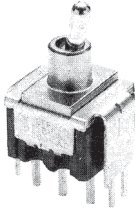
8G :Short Toggle

DPDT

PC Straight

Terminal numbers are not shown on the switch.

Rating marking side



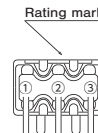
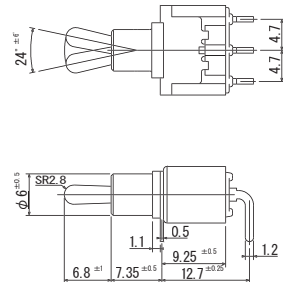
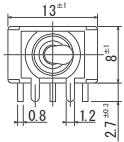
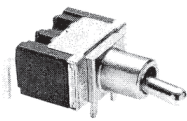
Part No.	Switching function		
	Viewed from rating marking side		
8G2012-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

SPDT

Right Angle

Terminal numbers are not shown on the switch.

Rating marking side



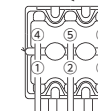
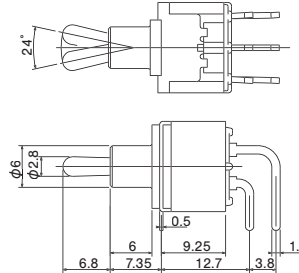
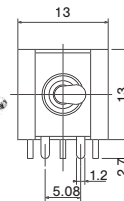
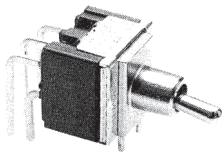
Part No.	Switching function		
	Viewed from rating marking side		
8G1014-Z	ON	—	ON
★ 8G1024-Z	ON	OFF	ON
☆ 8G1064-Z	ON	—	(ON)
Connecting terminals	2-3	—	2-1

DPDT

Right Angle

Terminal numbers are not shown on the switch.

Rating marking side



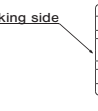
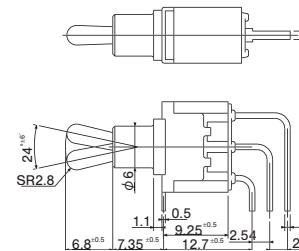
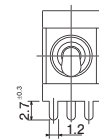
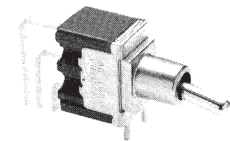
Part No.	Switching function		
	Viewed from rating marking side		
8G2014-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

SPDT

Vertical Mounting

Terminal numbers are not shown on the switch.

Rating marking side



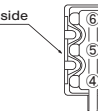
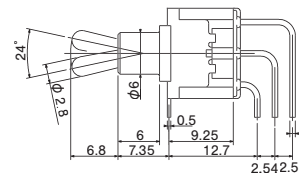
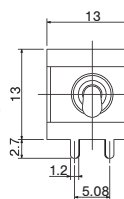
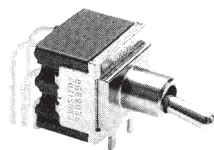
Part No.	Switching function		
	Viewed from rating marking side		
8G1016-Z	ON	—	ON
Connecting terminals	2-3	—	2-1

DPDT

Vertical Mounting

Terminal numbers are not shown on the switch.

Rating marking side

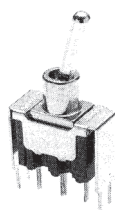


Part No.	Switching function		
	Viewed from rating marking side		
8G2016-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

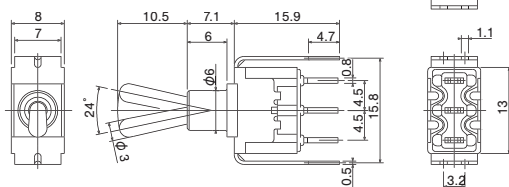
★ : Made to order products. ☆ : Semi-standard products. (ON) : Momentary.

SPDT

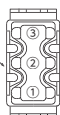
PC Straight



Terminal numbers are not shown on the switch.



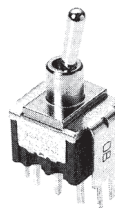
Rating marking side



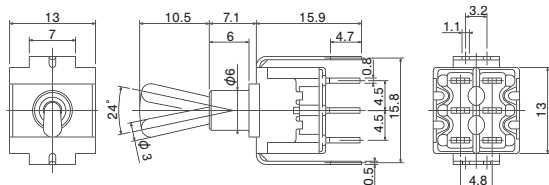
Switching function Part No.	Viewed from rating marking side		
8GA1012-Z	ON	—	ON
Connecting terminals	2-3	—	2-1

DPDT

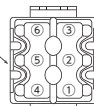
PC Straight



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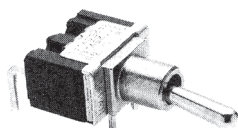
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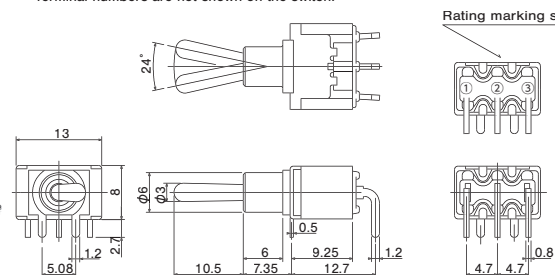
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★8GA2012-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

SPDT

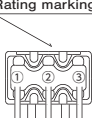
Right Angle



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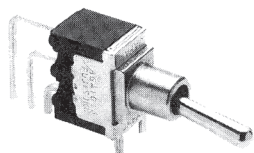
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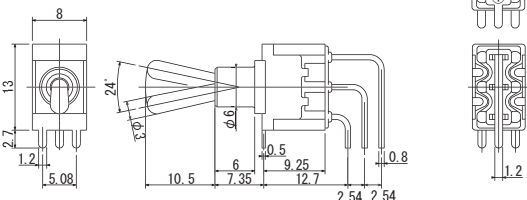
Switching function Part No.	Viewed from rating marking side		
8GA1014-Z	ON	—	ON
Connecting terminals	2-3	—	2-1

SPDT

Vertical Mounting



Terminal numbers are not shown on the switch.



Rating marking side



Switching function Part No.	Viewed from rating marking side		
☆8GA1016-Z	ON	—	ON
Connecting terminals	2-3	—	2-1

PC Hole Layouts

Terminal style	PC Straight	Right Angle	Vertical Mounting
1 pole			
2 poles			

■Precaution

1. Soldering Specifications

(1)Manual soldering

Device : Solder iron

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

(2)Auto soldering

Device : Jet wave or dip type

- ① 270°C Max. 5 sec. Max.
- ② 250°C Max. 7 sec. Max.

Pre-heating should be done at temperatures below 100°C and within 30 seconds.

2. Flux Cleaning

(1)Solvent : Fluorine or Alcohol type.

(2)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.

(3)Do not use the ultrasonic cleaning.

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.

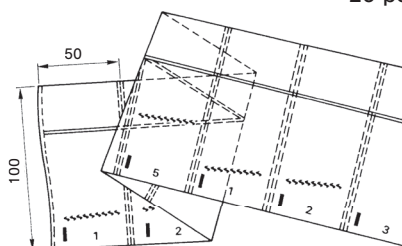
4. Mounting Accessories

Mount the accessories after soldering and flux cleaning.

■Packaging Specification

Perforated
Plastic
Bags

25 pcs./pack



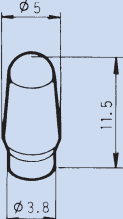
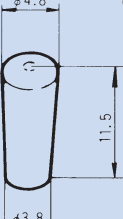
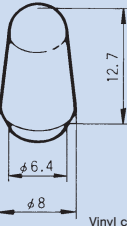
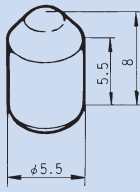
■Optional Accessories

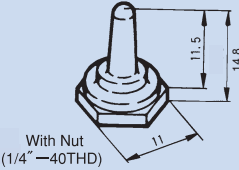
《Sold separately》

Type	8GA	
Part Name	Color Cap	
Dimensions		
White	140000470030	140000470038
Red	140000470098	140000470100
Black	140000470031	—
Gray	140000470037	140000470077

■ Optional Accessories

《Sold separately》

Type	8A • 8F • 8GA • 8KA	8A • 8F • 8GA • 8KA	8B	8E
Part Name	Color Cap			
Dimensions	 Gloss finish Vinyl chloride resin	 Gloss finish Vinyl chloride resin	 Gloss finish Vinyl chloride resin	 Alumite finish Aluminum alloy
Silver	—	—	—	140000470058
White	140000470030	140000470038	140000470063	—
Red	140000470098	140000470100	140000470108	140000470060
Black	140000470031	—	140000470064	140000470059
Gray	140000470037	140000470077	—	—

Type	8A
Part Name	Waterproof boot
Part No.	140000470422
Dimensions	 With Nut (1/4" —40THD)