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.

■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.

■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.

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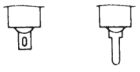
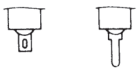
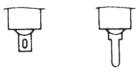
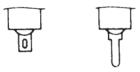
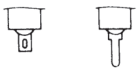
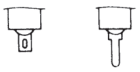
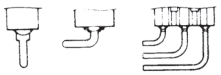
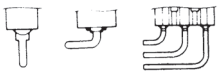
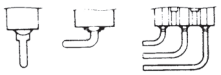
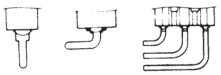
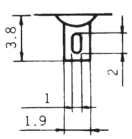
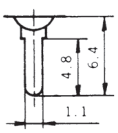
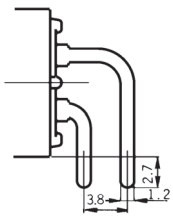
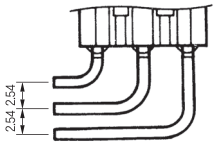
8 Series Toggles Selection Table

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
Board mounting washable **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
Board mounting **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 

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■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

(※1)

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

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	

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8G

Washable Toggle Switches

Washable

RoHS Compliant

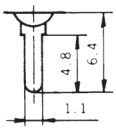
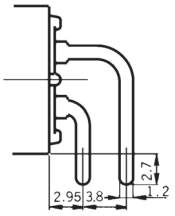
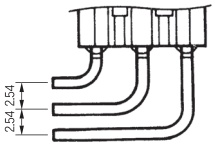
■Features

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℃	
Storage temperature range		−40～+85℃	

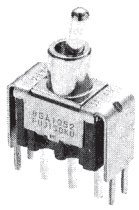
■Terminals

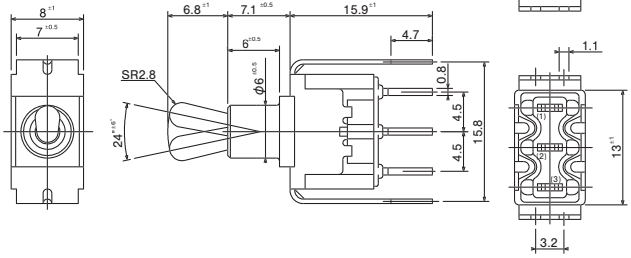
PC Straight (Style:2)	Right Angle (Style:4)	Vertical Mounting (Style:6)
t=0.8 PC 	t=0.8 R/A 	t=0.8 w=1.2 V/M 

8G : Short Toggle

SPDT

PC Straight





Part No. \ Switching function	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.

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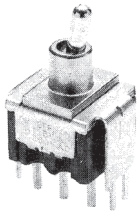
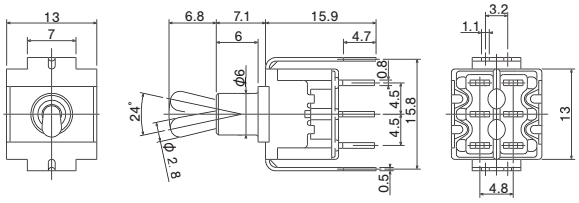
DPDT

PC Straight

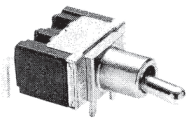


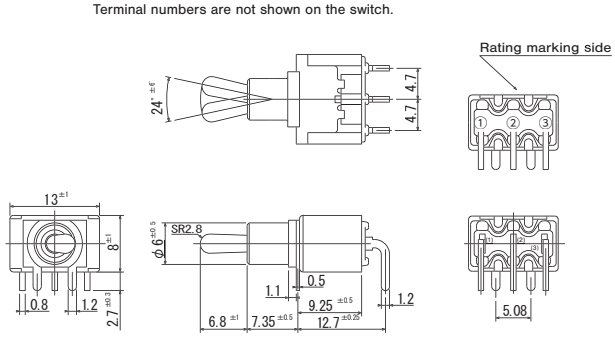


Part No. \ Switching function	Viewed from rating marking side		
8G2012-Z	ON	–	ON
Connecting terminals	2–3 5–6	–	2–1 5–4

SPDT

Right Angle

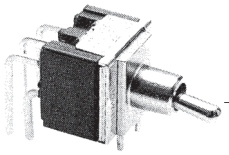


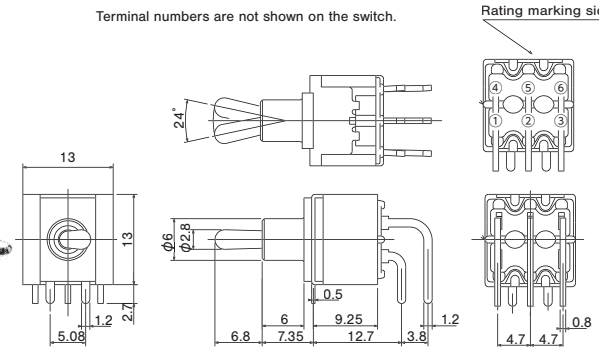


Part No. \ Switching function	Viewed from rating marking side		
8G1014-Z	ON	–	ON
★ **8G1024-Z**	ON	OFF	ON
☆ **8G1064-Z**	ON	–	(ON)
Connecting terminals	2–3	–	2–1

DPDT

Right Angle

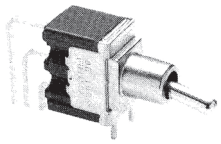


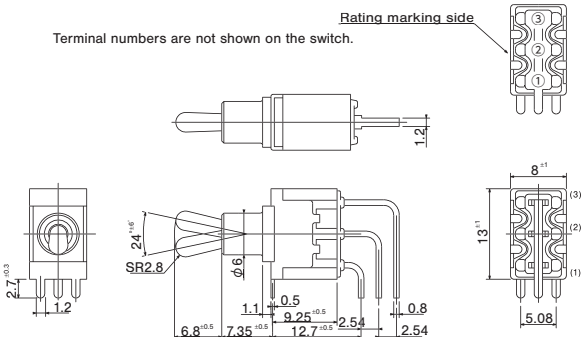


Part No. \ Switching function	Viewed from rating marking side		
8G2014-Z	ON	–	ON
Connecting terminals	2–3 5–6	–	2–1 5–4

SPDT

Vertical Mounting

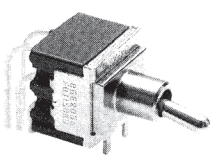


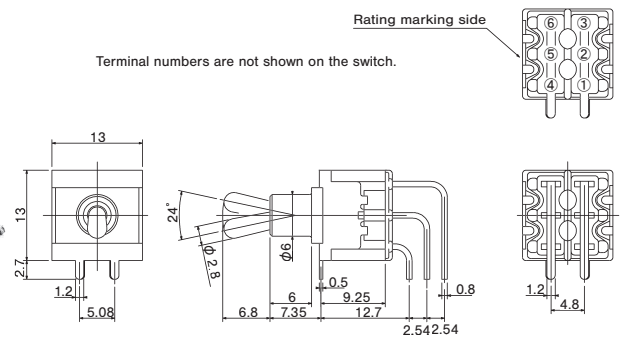


Part No. \ Switching function	Viewed from rating marking side		
8G1016-Z	ON	–	ON
Connecting terminals	2–3	–	2–1

DPDT

Vertical Mounting





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.

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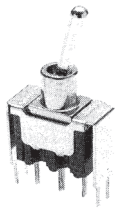
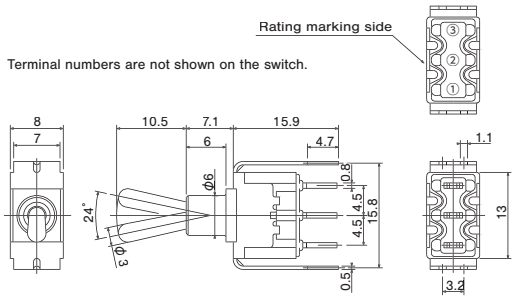
Washable

8GA：Standard Toggle

SPDT

PC Straight

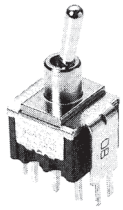


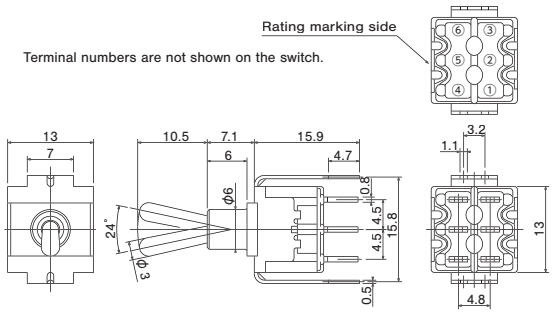


Part No. \ Switching function	Viewed from rating marking side		
8GA1012-Z	ON	–	ON
Connecting terminals	2–3	–	2–1

DPDT

PC Straight

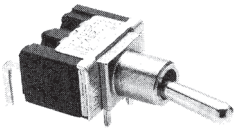


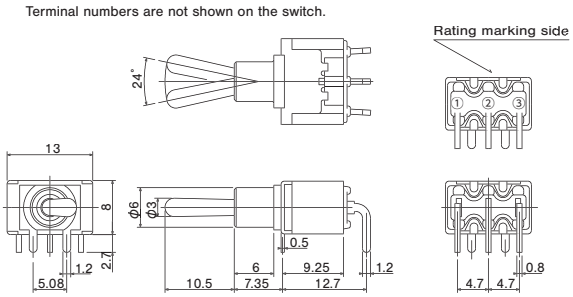


Part No. \ Switching function	Viewed from rating marking side		
★8GA2012-Z	ON	–	ON
Connecting terminals	2–3 5–6	–	2–1 5–4

SPDT

Right Angle

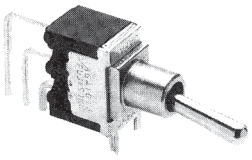


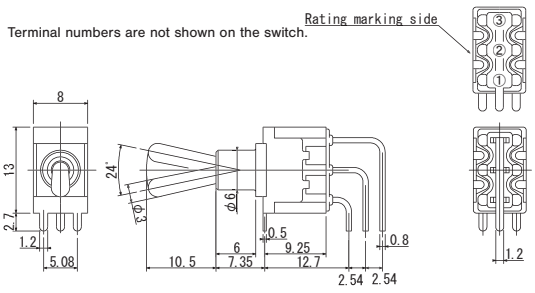


Part No. \ Switching function	Viewed from rating marking side		
8GA1014-Z	ON	–	ON
Connecting terminals	2–3	–	2–1

SPDT

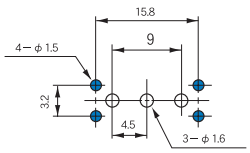
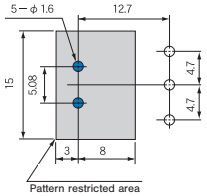
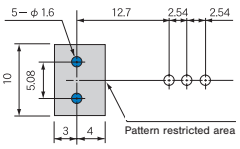
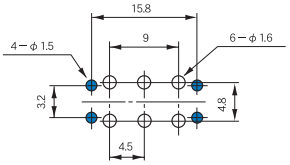
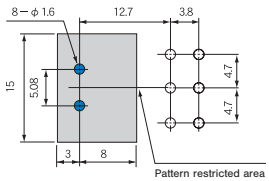
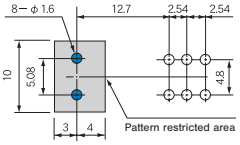
Vertical Mounting





Part No. \ Switching function	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			

☆：Semi-standard products. ★：Made to order products.

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■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.

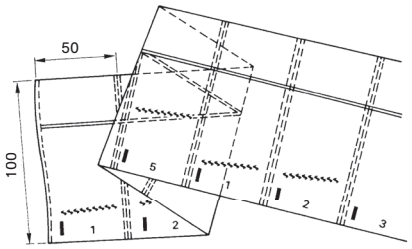
4. Mounting Accessories

Mount the accessories after soldering and flux cleaning.

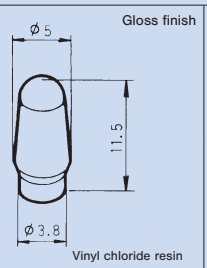
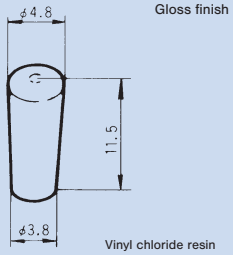
■Packaging Specification

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

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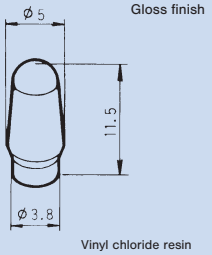
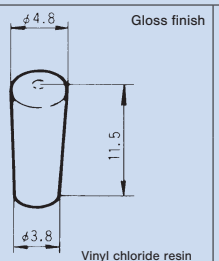
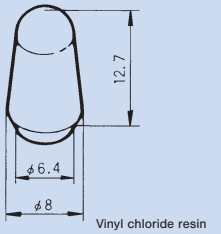
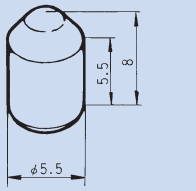
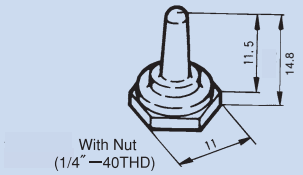
■Optional Accessories 《Sold separately》

Type	8A・8F・8GA・8KA	8A・8F・8GA・8KA	8B	8E
Part Name	Color Cap			
Dimensions				
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	

: Optional Accessories.

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