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.

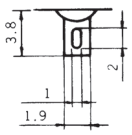
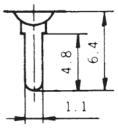
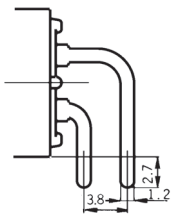
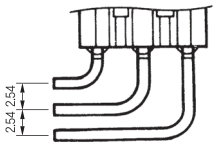
Downloaded from Arrow.com.

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 

Downloaded from Arrow.com.

■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

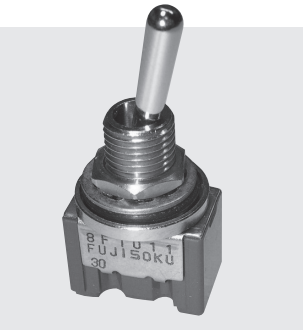
Contact specs.		Silver	Gold
Rating	Max.	AC125 V 6 A AC250 V 3 A DC30 V 4 A	AC125 V 6 A AC250 V 3 A DC30 V 4 A DC20V 25mA
Initial contact resistance		10 mΩ Max. (DC2～4 V 1 A)	20 mΩ Max. (AC200 μV 1.5 mA)
Initial dielectric strength		AC1500 V /1 minute	
Initial insulation resistance		1000 MΩ Min. (DC500 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	

Downloaded from Arrow.com.

8F

Splash Proof Toggle Switches

Panel Seal

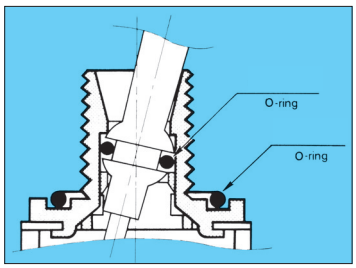


RoHS Compliant

■Features

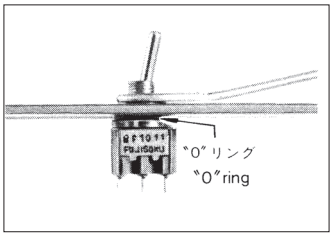
The 8F series is a panel seal toggle switch with an O-ring to provide drip-proof and dust proof effect (corresponding to IP67 rating). Since a locking ring cannot be used because the panel seal is required, “D-cutting” is provided to the sleeve to prevent the switch from rotating. Note that the switch itself is not waterproof.

●The 8F series is intended for panel seal and is not designed for use in water.



■Mounting Method

The 8F series should be mounted so that the O-ring has directly contact with the panel.



■Table of Part Numbers

Terminal Style	Switching Function \ Number of poles			1 pole	2 poles	4 poles
Solder Lug	ON	–	ON	**8F1011–Z** ★ **8F1011C–Z**	☆ **8F2011–Z**	★ **8F4011–Z**
PC Straight	ON	–	ON	★ **8F1012–Z**	★ **8F2012–Z**	——

■PC Hole Layouts Page 360.

■Panel Cut-Out Dimensions Page 360.

■Terminal Styles Page 339.

■Standard Accessories Page 360.

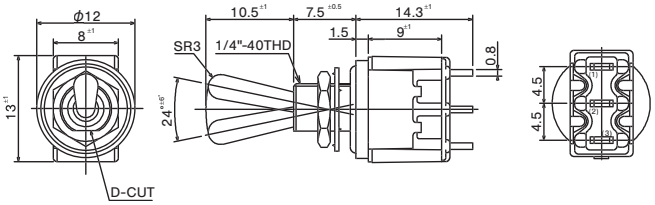
■Optional Accessories Page 361.

■Soldering,Flux Cleaning and Packaging Spec. Page 359.

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

Downloaded from Arrow.com.

SPDT

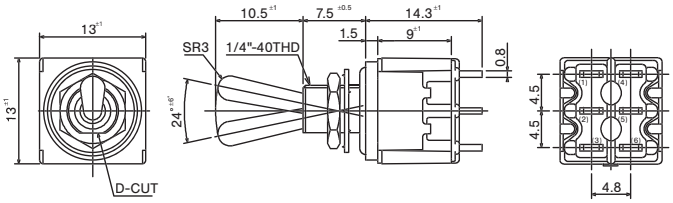


Terminal numbers are not shown on the switch.

Switching function / Part No.	D cut	D cut	D cut
8F101■-Z	ON	–	ON
Connecting terminals	2–3	–	2–1

■ : Please refer to "Table of Part Numbers" for a list of full part numbers.

DPDT

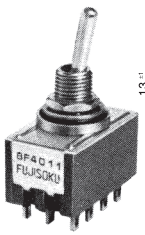


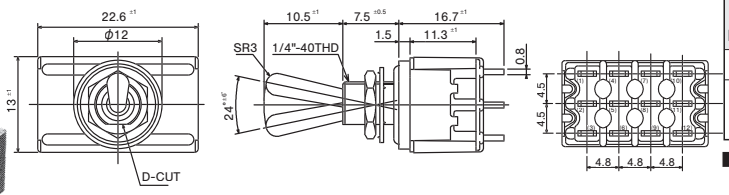
Terminal numbers are not shown on the switch.

Switching function / Part No.	D cut	D cut	D cut
8F201■-Z	ON	–	ON
Connecting terminals	2–3 5–6	–	2–1 5–4

■ : Please refer to "Table of Part Numbers" for a list of full part numbers.

4PDT





Terminal numbers are not shown on the switch.

Switching function / Part No.	D cut	D cut	D cut
8F401■-Z	ON	–	ON
Connecting terminals	2–3 5–6 8–9 11–12	–	2–1 5–4 8–7 11–10

■ : Please refer to "Table of Part Numbers" for a list of full part numbers.

Downloaded from Arrow.com.

■Precautions (8A·8B·8C·8E·8F·8J)

1. Soldering Specifications

(1)Manual soldering

Device : Solder iron

①420℃ Max. 3 sec. Max.

(2)Auto soldering

②275℃ 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.

2. Flux Cleaning

(1)Solvent : Fluorine or Alcohol type.

(2)8A/B/C/E/F/J 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℃ or below, or after leaving the switch for five minutes or longer at room temperature.

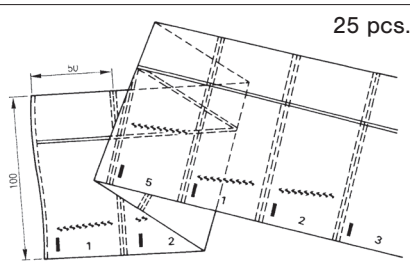
3. Mounting

- 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.
- For switches with straight terminals, solder the switch on the PC board after fixing the switch on the panel with a nut.

■Packaging Specification

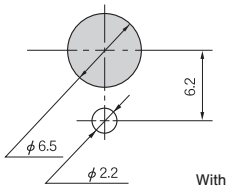
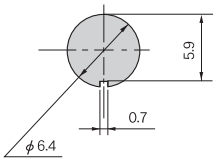
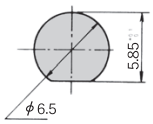
Perforated Plastic Bags

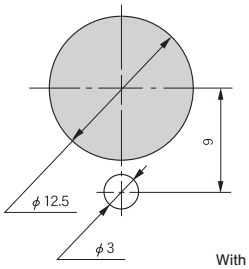
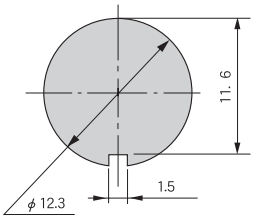
25 pcs./pack



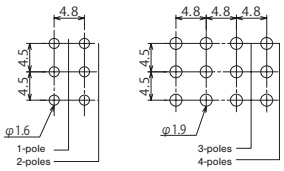
Downloaded from Arrow.com.

Panel Cut-Out Dimensions

Series	8A·8J	8C	8E	8A·8J	8C	8E	8F
Panel thickness	2.5 mm Max.	2.4 mm Max.	1.5 mm Max.	3.5 mm Max.	3.4 mm Max.	2.5 mm Max.	5 mm Max.
Dimensions	 With Locking Ring			 Without Locking Ring			

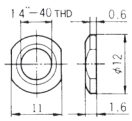
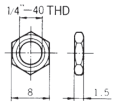
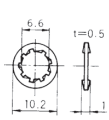
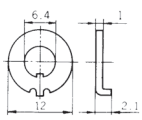
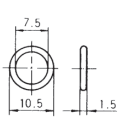
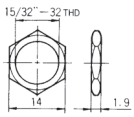
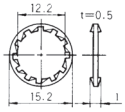
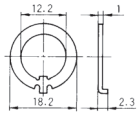
Series	8B	
Panel thickness	5.9 mm Max.	6.9 mm Max.
Dimensions	 With Locking Ring	 Without Locking Ring

PC Hole Layouts

Series	8A・8B・8C・8E・8F・8J
Dimensions	

Standard Accessories

《Q'ty／switch》

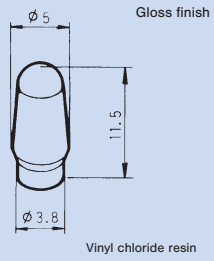
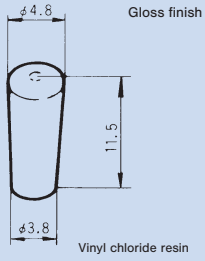
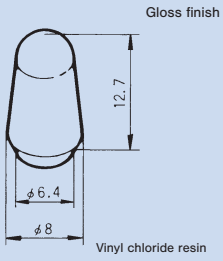
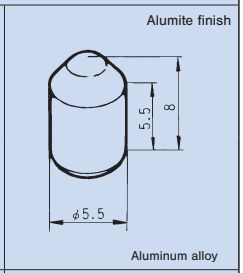
Part Name	Dress Nut	Hex Nut	Lockwasher	Locking Ring	O-Ring	Hex Nut	Lockwasher	Locking Ring
Part No.	140008010253	140008010241	140008030051	140008020062	140000610076	140008010243	140008030055	140008020065
Dimensions								
Finish	Nickel plated		Zinc plated		Nitrile rubber (Black)	Nickel plated	Zinc plated	
8A		2	1	1				
8B						2	1	1
8C	1	1	1	1				
8D		2	1	1				
8E		2	1	1				
8F		1	1		1			
8J		2	1	1				

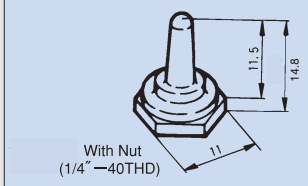
● Numbers in the above chart show the quantities of each accessories enclosed with the switch.

Downloaded from Arrow.com.

■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.

Downloaded from Arrow.com.