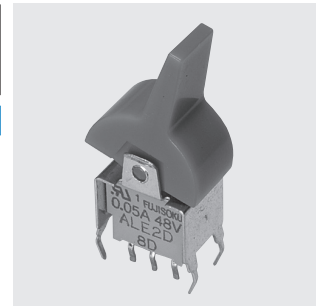


ALE

Washable

RoHS Compliant

Standard Lever & Rocker Switches



UL

Features

1. High reliability

The twin-contact clip mechanism is employed for the contact section to ensure high reliability.

2. Process sealed structure

All types of the switch feature the completely sealed structure.

3. Designed for dry circuit applications

Since the contacts are gold-plated, the switches are best suited for use in the dry circuit areas.

4. Designed for PC board applications

The terminal pitches are all in inch size (2.54 mm).

5. Improved operability

The independent detent structure provides a light operating touch.

6. All models are of UL approved type.

(File No. E42375)

Specifications

Rating	Max : 0.4VA (60VAC/DC 50mA) Min : 1μA 20mVAC/DC UL:48VAC/DC 50mA
Initial contact resistance	50mΩ max. (1.5mA 200μVAC)
Dielectric strength	250VAC 1 minute
Insulation resistance	500MΩ min. (500VDC)
Electrical life	10,000 cycles at maximum rating 50,000 cycles at 0.4VA min. (D,E type) 30,000 cycles at 0.4VA min. (F,G type)
Operating temperature range	-20~+85°C
Storage temperature range	-40~+85°C

Part Numbering

A **LE** **2** **D** - **2** **M** **4** - **10** - **Z**

Series code Actuator shape Number of poles Switching function Terminal style Actuator shape Bushing style Clip mechanism

Code	Type
LE	Lever and rocker type

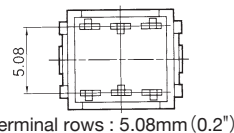
Fig.	Number of poles
1	1 pole
2	2 poles

Code	Switching function
D	ON - ON
E	ON - OFF - ON
F	ON - (ON)
G S	(ON) - OFF - (ON)

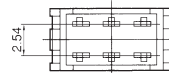
Fig.	Terminal style
2	PC Straight
5	Right angle (0.2inch pitch)

Code	Actuator shape
M	Standard

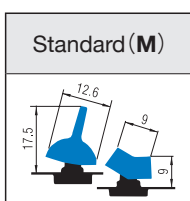
Fig.	Bushing style
4	With bracket



(Compact type)
Terminal line for double poles are 2.54mm (0.1")

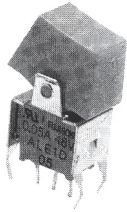


Actuator Shape

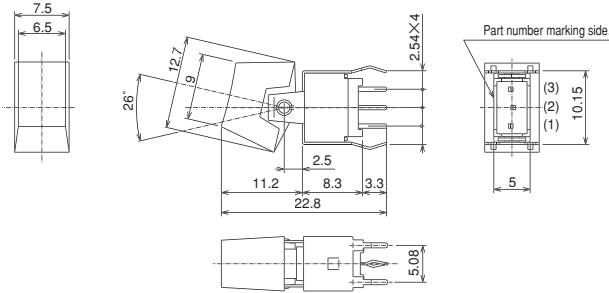


SPDT

PC Straight



Mount with **Rocker**

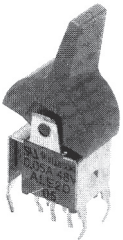


Terminal numbers are not shown on the bottom of the switch.

Switching function	Viewed from part No. and rating marking side		
Part No.			
▲ ALE1D-2M4-10-Z	ON	—	ON
☆ ALE1E-2M4-10-Z	ON	OFF	ON
☆ ALE1F-2M4-10-Z	ON	—	(ON)
☆ ALE1G-2M4-10-Z	(ON)	OFF	(ON)
Connecting terminals	2-3	—	2-1

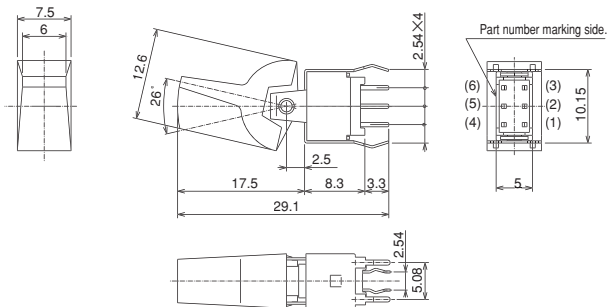
DPDT

PC Straight



Mount with **Lever**

Distance between two terminal rows : 2.54 mm

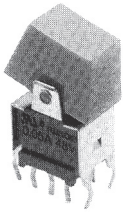


Terminal numbers are not shown on the bottom of the switch.

Switching function	Viewed from part No. marking side		
Part No.			
▲ ALE2D-2M4-10-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

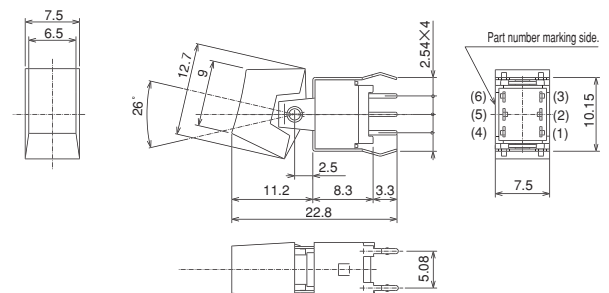
DPDT

PC Straight



Mount with **Rocker**

Distance between two terminal rows : 5.08 mm

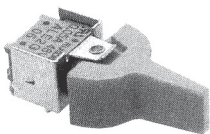


Terminal numbers are not shown on the bottom of the switch.

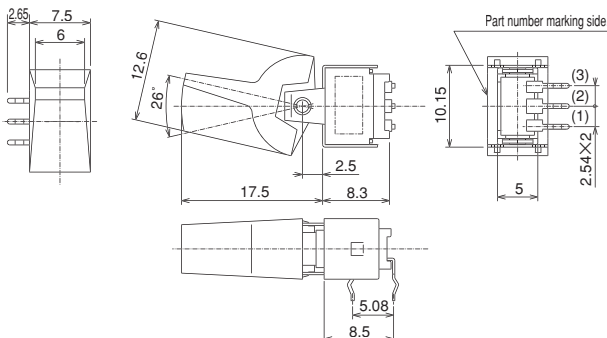
Switching function	Viewed from part No. marking side		
Part No.			
▲ ALE2S-2M4-10-Z	(ON)	OFF	(ON)
Connecting terminals	2-3 5-6	—	2-1 5-4

SPDT

0.2R/A



Mount with **Lever**

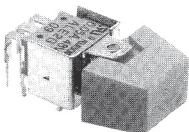


Terminal numbers are not shown on the bottom of the switch.

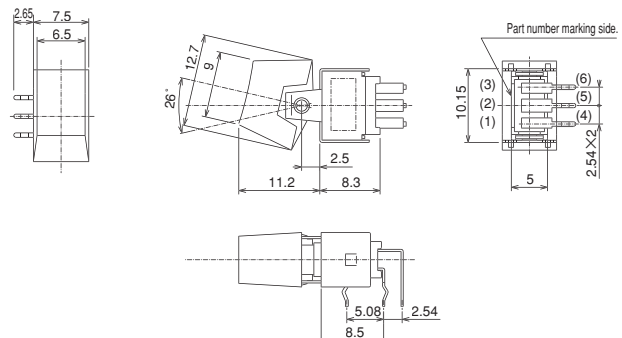
Switching function	Viewed from part No. marking side		
Part No.			
▲ ALE1D-5M4-10-Z	ON	—	ON
Connecting terminals	2-3	—	2-1

DPDT

0.2R/A



Mount with **Rocker**



Terminal numbers are not shown on the bottom of the switch.

Switching function	Viewed from part No. marking side		
Part No.			
▲ ALE2D-5M4-10-Z	ON	—	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

(ON) : Momentary

☆ : Semi-standard products.

★ : Made to order products.

ALE

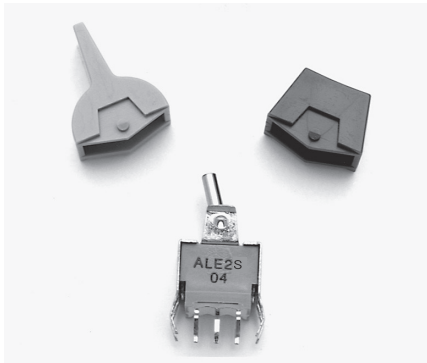
Standard Accessories

《Supplied separately》

Lever			Rocker		
Dimension	Color	Part No.	Dimensions	Color	Part No.
	White	140000050624		White	140000480673
	Red	140000050626		Red	140000480675
	Black	140000050625		Black	140000480674
	Gray	140000050630		Gray	140000480679

The lever and the rocker are standard accessories. Specify either of the lever or the rocker in part number.

Lever•rocker Installation procedure



Mount the lever or the rocker after cleaning.

PC Hole Layouts

(Top view)

PC PC Straight	1—pole Compact type	
	2—poles Compact type	
	2—poles 5.08mm Two terminal rows	
R/A Right angle terminal	1—pole Compact type	
	2—poles Compact type	

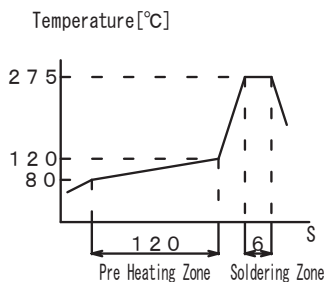
Soldering Specifications

(1) Manual Soldering

Device : Soldering iron
380°C, Max.; 3 seconds, Max.

(2) Auto Soldering

Device : Jet wave type or dip type
275°C, Max.; 6 seconds, Max.



●Pre-heating should be done at temperatures ranging from 80°C to 120°C and within 120 seconds.

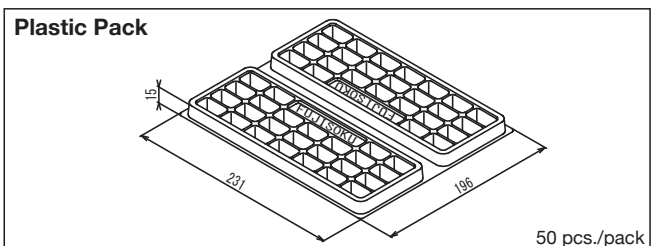
Note: Mount the accessories of knob and lever after the soldering.

Flux Cleaning

(1)For the solvent, use the fluorine- or alcohol-based solvent.
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.

Packaging Specification



50 pcs./pack

A series

Poles	Part number	Switching function	UL (※1)
1 pole	ALE1D-2M4-10-Z	ON - ON	<input type="checkbox"/>
	ALE1D-5M4-10-Z		<input type="checkbox"/>
	ALE1E-2M4-10-Z	ON -OFF- ON	<input type="checkbox"/>
	ALE1F-2M4-10-Z	ON - (ON)	<input type="checkbox"/>
	ALE1G-2M4-10-Z	(ON) -OFF- (ON)	<input type="checkbox"/>
2 poles	ALE2D-2M4-10-Z	ON - ON	<input type="checkbox"/>
	ALE2D-5M4-10-Z		<input type="checkbox"/>
	ALE2S-2M4-10-Z	(ON) -OFF- (ON)	<input type="checkbox"/>

Miniature Poewr Switches

Poles	Type	Switching function	UL (※1)	UL (※2)
1 pole	HLA112D12	ON-ON	<input type="checkbox"/>	<input type="checkbox"/>
	HLS112D		<input type="checkbox"/>	<input type="checkbox"/>
	HLS112D12		<input type="checkbox"/>	<input type="checkbox"/>

Poles	Type	Switching function	UL (※1)	UL (※2)
2 poles	HLC208N	ON-ON	<input type="checkbox"/>	<input type="checkbox"/>
	HLC208N12		<input type="checkbox"/>	<input type="checkbox"/>
	HLS208N		<input type="checkbox"/>	<input type="checkbox"/>
	HLS208N12		<input type="checkbox"/>	<input type="checkbox"/>

Miniature Rocker Switches

Poles	Part number	Switching function	UL (※1)	UL (※2)
1 pole	HLA112A	ON-OFF	<input type="checkbox"/>	<input type="checkbox"/>
	HLA112A12		<input type="checkbox"/>	<input type="checkbox"/>
	HLC112A		<input type="checkbox"/>	<input type="checkbox"/>
	HLS112A		<input type="checkbox"/>	<input type="checkbox"/>
	HLS112A12		<input type="checkbox"/>	<input type="checkbox"/>
2 poles	HLA208K	ON-OFF	<input type="checkbox"/>	<input type="checkbox"/>
	HLA208K12		<input type="checkbox"/>	<input type="checkbox"/>
	HLC208K		<input type="checkbox"/>	<input type="checkbox"/>
	HLC208K12		<input type="checkbox"/>	<input type="checkbox"/>
	HLS208K		<input type="checkbox"/>	<input type="checkbox"/>
	HLS208K12		<input type="checkbox"/>	<input type="checkbox"/>

Miniature Rocker Switches

Poles	Part number	Switching function	UL (※1)	UL (※2)	VDE (※4)	SEMKO (※5)	Poles	Part number	Switching function	UL (※1)	UL (※2)	VDE (※4)	SEMKO (※5)
1-pole	SLE6A	ON-OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1-pole	SLE10A	ON-OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A-8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A2-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A-9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A2-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A2-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A2-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A5-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A2-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A5-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A2-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SLE10A5-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SLE6A2-9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6A4-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6A4-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6A4-7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6A5-5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6A5-6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
	SLE6D		ON-ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		SLE10D-5	ON-ON	<input type="checkbox"/>	<input type="checkbox"/>
SLE6D-5	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	SLE10D2-5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
SLE6D2	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	SLE10D2-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
SLE6D2-5	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>								
SLE6D2-7	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>								
SLE6D4	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>								
SLE6D5	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>								

(※1) UL File No. E43275

(※4) VDE File No. 120752

(※2) CSA File No. LR38341

(※5) SEMKO File No. 614385