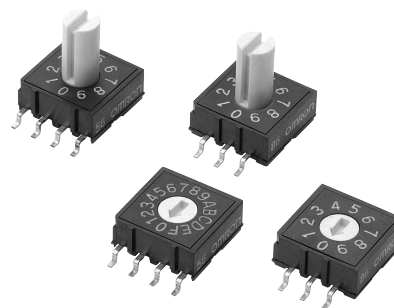


Surface-mounting Rotary DIP A6RS

Surface-mounting Rotary DIP Switches



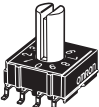
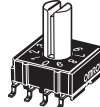
- Temperature-resistant resin allows use in peak reflow temperatures of 260° C.
- Series includes flat and extended-shaft models.
- Two different types of terminal arrangement are available to allow flexibility in the circuit design.
- RoHS Compliant.



NEW

Ordering Information

List of Models

Type of rotor			Top-actuated, flat				Top-actuated, extended shaft			
			Tube		Embossed taping		Tube		Embossed taping	
			Quantity per tube		Quantity per package		Quantity per tube		Quantity per package	
Number of positions	Terminal arrangement	Output code								
			A6RS-101RF		A6RS-101RF-P		A6RS-101RS		A6RS-101RS-P	
10	4 × 1	Real code	A6RS-101RF	48	A6RS-101RF-P	750	A6RS-101RS	48	A6RS-101RS-P	250
	3 × 3	Real code	A6RS-102RF		A6RS-102RF-P		A6RS-102RS		A6RS-102RS-P	
16	4 × 1	Real code	A6RS-161RF		A6RS-161RF-P		A6RS-161RS		A6RS-161RS-P	
	3 × 3	Real code	A6RS-162RF		A6RS-162RF-P		A6RS-162RS		A6RS-162RS-P	

Note: Orders must be made in integral multiples of the quantities given for each package (tube: 48, embossed taping: 250 or 750).

Specifications

Ratings/Characteristics

Rating	25 mA at 24 VDC
Ambient operating temperature	-25 to 80° C at 60% max. (with no icing or condensation)
Ambient operating humidity	35% to 95% (at 5 to 35° C)
Insulation resistance	100 MΩ min. (at 250 VDC)
Contact resistance	200 mΩ max. (initial value)
Dielectric strength	250 VAC for 1 minute between terminals of the same polarity
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction: Approx. 300 m/s ²
Electrical life expectancy	5,000 steps min.
Operating torque	1.96 × 10 ⁻² N·m max.
Weight	4×1, top-actuated: 0.64 g 3×3, top-actuated: 0.62 g (Add 0.13 g for the extended-shaft version of each model.)

Output Codes

10-position Models

Position	Code				Real code			
	1	2	4	8	1	2	4	8
0								
1	●							
2		●						
3	●	●						
4			●					
5	●		●					
6		●	●					
7	●	●	●					
8				●				
9	●			●				

16-position Models

Position	Code				Real code			
	1	2	4	8	1	2	4	8
0								
1	●							
2		●						
3	●	●						
4			●					
5	●		●					
6		●	●					
7	●	●	●					
8				●				
9	●			●				
A		●		●				
B	●	●		●				
C			●	●				
D	●		●	●				
E		●	●	●				
F	●	●	●	●				

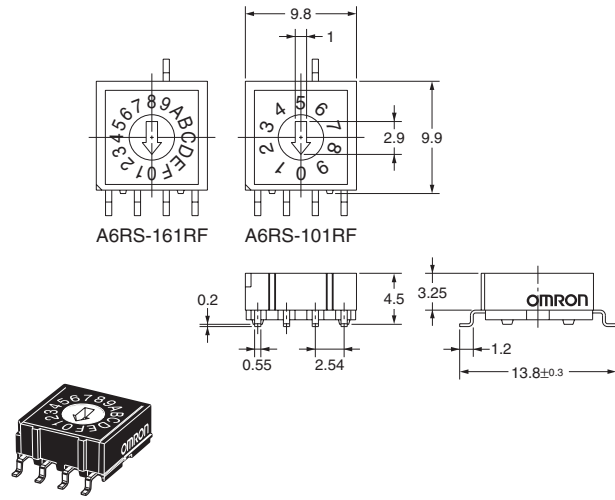
Note: "●" indicates that the internal switch is ON.

Dimensions

Note: 1. All units are in millimeters unless otherwise indicated.
 2. A tolerance of ± 0.4 mm applies to the above dimensions unless otherwise specified.

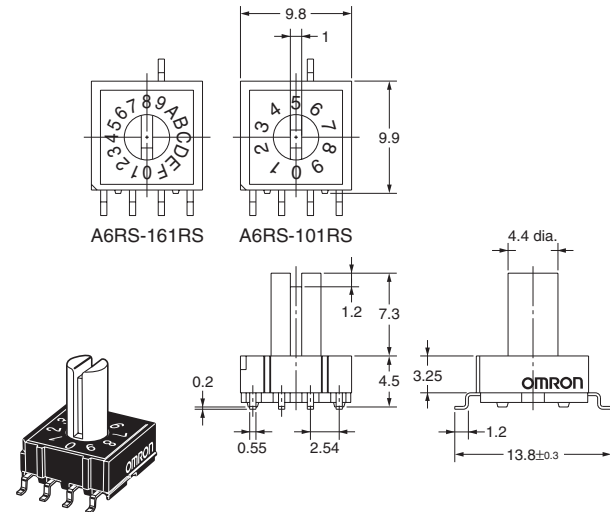
Top-actuated Flat Models with 4×1 Terminal Arrangement

A6RS-101RF
 A6RS-101RF-P
 A6RS-161RF
 A6RS-161RF-P



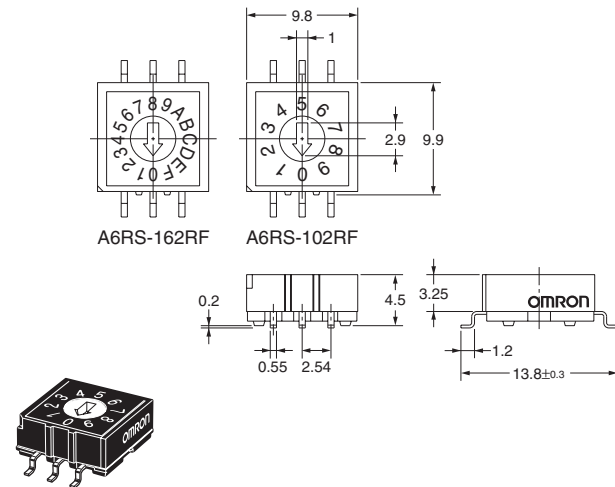
Top-actuated Extended-shaft Models with 4×1 Terminal Arrangement

A6RS-101RS
 A6RS-101RS-P
 A6RS-161RS
 A6RS-161RS-P



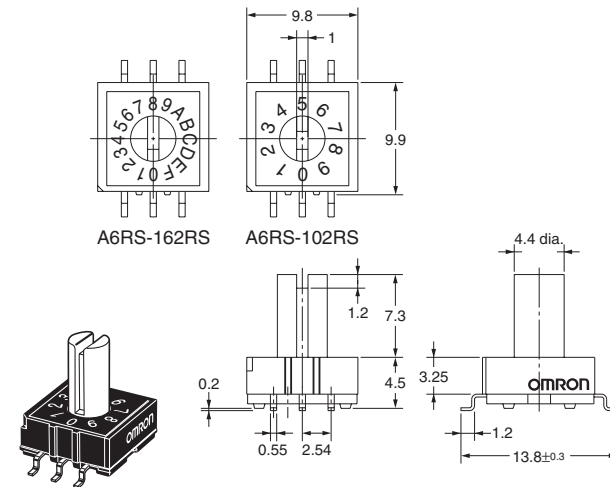
Top-actuated Flat Models with 3×3 Terminal Arrangement

A6RS-102RF
 A6RS-102RF-P
 A6RS-162RF
 A6RS-162RF-P



Top-actuated Extended-shaft Models with 3×3 Terminal Arrangement

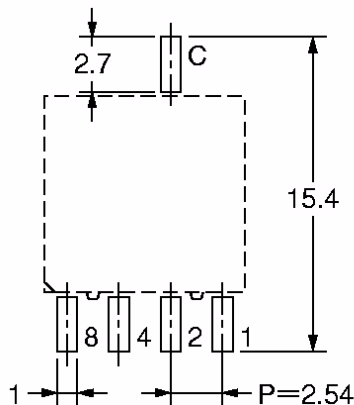
A6RS-102RS
 A6RS-102RS-P
 A6RS-162RS
 A6RS-162RS-P



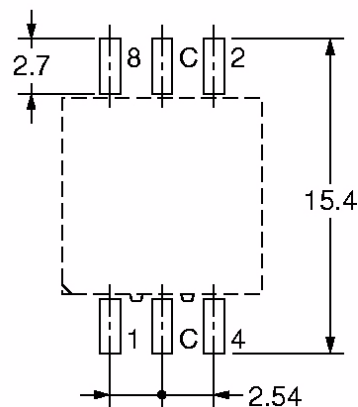
PCB Cutout Dimensions

■ Top-actuated Models

4x1 Terminal Arrangement



3x3 Terminal Arrangement



Safety Precautions

■ Cautions

Use the DIP Switch within the rated voltage and current ranges, otherwise the DIP Switch may have a shortened life expectancy, radiate heat, or burn out. This particularly applies to the instantaneous voltages and currents when switching.

Circuit Design

Although the minimum current is 10 μ A (3.5 VDC), contact reliability may need to be improved in some cases. This is particularly true when switching causes an increase in instantaneous current, such as in C-MOS IC applications. Do not let the peak current exceed the rated value here or any other time.

Only BCD/hexadecimal 1-2-4-8 code is available for A6RS models. If BCD/hexadecimal 1-2-4-8 complement code is required, make the appropriate provisions in the circuit.

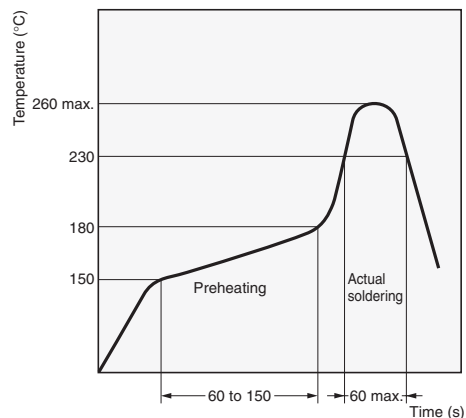
Mounting

Normally the default striker setting is OFF for slide-type DIP Switches and the default rotor setting is 0 for Rotary DIP Switches. Do not change these settings when mounting, soldering, washing or drying Switches. In rare cases, the striker may be deformed by heat generated during soldering.

Precautions for Correct Use

■ Soldering

- Make sure that Surface-mounting Rotary DIP Switches are set to 0 before soldering. Misalignment may result in reducing the operating load capacity.
- Observe the following conditions for reflow soldering the A6RS. (Measurement location: Top of Switch)



■ Washing

The A6RS cannot be washed. Attempting to wash it may result in malfunction due to flux and foreign matter from the PCB flowing into the A6RS together with the cleaning fluid.

■ RoHS Compliant

The “RoHS Compliant” designation indicates that the listed models do not contain the six hazardous substances covered by the RoHS Directive.

Reference: The following standards are used to determine compliance for the six substances.

- Lead: 1,000 ppm max.
- Mercury: 1,000 ppm max.
- Cadmium: 100 ppm max.
- Hexavalent chromium: 1,000 ppm max.
- PBB: 1,000 ppm max.
- PBDE: 1,000 ppm max.

■ Environment for Storage and Use

To prevent discoloration of the terminals and other problems during storage, do not store the A6RS in locations subject to the following conditions.

1. High temperatures or humidity
2. Corrosive gases
3. Direct sunlight

Also, the A6RS is not waterproof or splash-resistant. Do not install or use the A6RS in locations that are subject to contact with water.

Do not subject the A6RS to freezing or condensation.

■ Using Flux

The type of flux or the amount or method in which it is applied, including its use in reflow soldering, can have adverse effects on Switch performance. Assess the proper flux, conditions, and methods prior to using it.

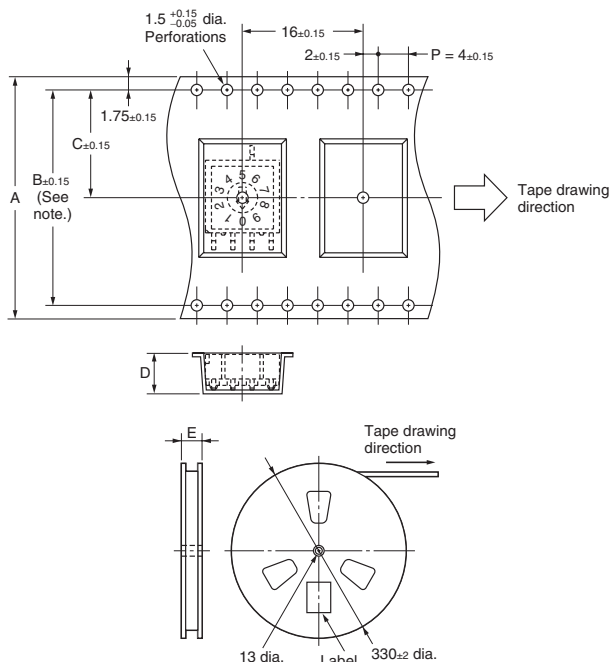
■ Handling

Do not apply excessive operating force to the Switch. Otherwise the Switch may be damaged or deformed, and the switch mechanism may malfunction as a result. Do not apply an operating force exceeding 9.8 N.

Set rotary-type DIP Switches with a flat-blade screwdriver that fits into the screwdriver groove. Using a screwdriver of inappropriate dimensions, or using a tool other than a flat-blade screwdriver may cause damage to the groove that may make the Switch impossible to operate.

Extended-shaft models can also be manually set, but be sure not to apply an excessive amount of force to the Switch when setting it.

■ Packing Specifications



Note: The perforations on the bottom of the diagram are not present on the flat type.
The shape of pockets are not the same for each type.

Applicable models	A6RS-□RF-P	Applicable models	A6RS-□RS-P
Standards	Conforms to JEITA	Standards	Conforms to JEITA
Package quantity	750 per reel	Package quantity	250 per reel

Models	A6RS-□RF-P	A6RS-□RS-P
Dimensions		
A	24	32
B ±0.15	—	28.4
C ±0.15	11.5	14.2
D	(5.4 to 5.5)	(12.2 to 12.5)
E	(29)	(37)

Omron Electronic Components, LLC

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