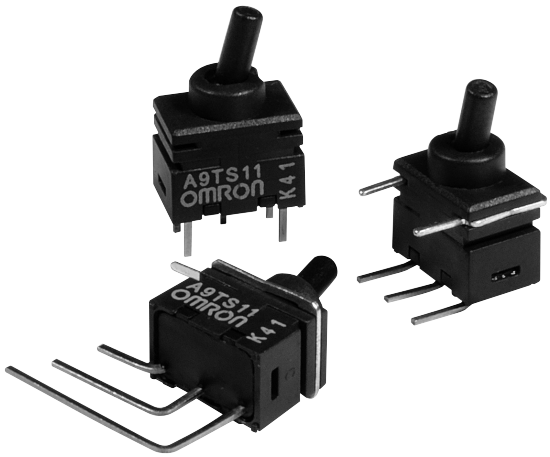
OMRON

Ultra subminiature Toggle Switch

A9TS

Ultra subminiature size.

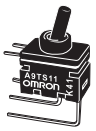
- Gold-plated clip contact ensure high reliability.
- The sealed bottom prevents flux penetration.
- Washable, equivalent to IP64 (IEC-60529).
- A9TS is smaller than A9T.
  Height: A9T 17mm A9TS 11mm (35% smaller than A9T)



Typical Applications

Security Control Boards
Electric Power Instrumentation
Program Controllers

■ List of Models

Actuator Shape			Standard					
Terminal Shape			DIP Terminal		Right Angle Terminal		Vertical Mount Terminal	
Switching Functions								
			**SPDT**	**DPDT**	**SPDT**	**DPDT**	**SPDT**	**DPDT**
ON	–	ON	**A9TS11-0011**	**A9TS21-0011**	**A9TS11-0012**	**A9TS21-0012**	**A9TS11-0013**	**A9TS21-0013**
ON	OFF	ON	**A9TS12-0011**	**A9TS22-0011**	**A9TS12-0012**	**A9TS22-0012**	**A9TS12-0013**	**A9TS22-0013**
Quantity per tray			100		25		50	

Note: **1.** Lever do not stop at "-" position.

2. Switching Functions show the view from the side of Type and Brand name marking.

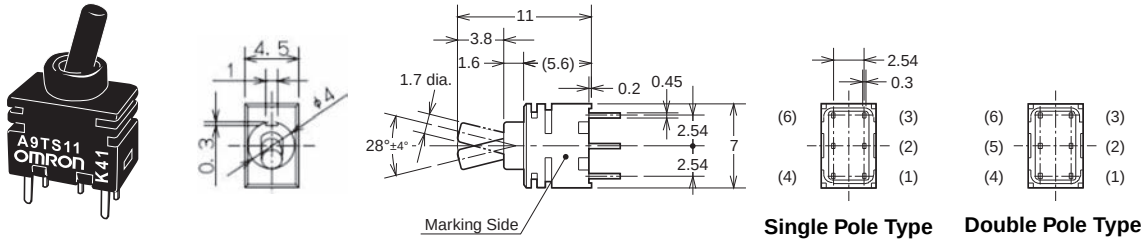
■ Ratings/Characteristics

Rating (resistive load)		14 mA at 28 VAC/DC, 0.1 μA (minimum current) at 20 mVAC/DC
Ambient operating temperature		–20 °C to +80 °C 60% RH max. (with no icing or condensation)
Ambient operating humidity		45 to 85% RH (at +5 to +35 °C)
Insulation resistance		500 MΩ min. (at 500 VDC with insulation tester)
Contact resistance (initial value)		80 mΩ max.
Dielectric strength		500 VAC for 1min between terminals, between terminals and ground
Vibration resistance	**Malfunction**	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	**Malfunction**	500 m/s² min.
Durability	**Mechanical**	50,000 operations min.
	Electrical	50,000 operations min.
Degree of protection		IEC IP64
Washing		Possible
Operating forcse		4.9 N max.
Weight		0.3 g

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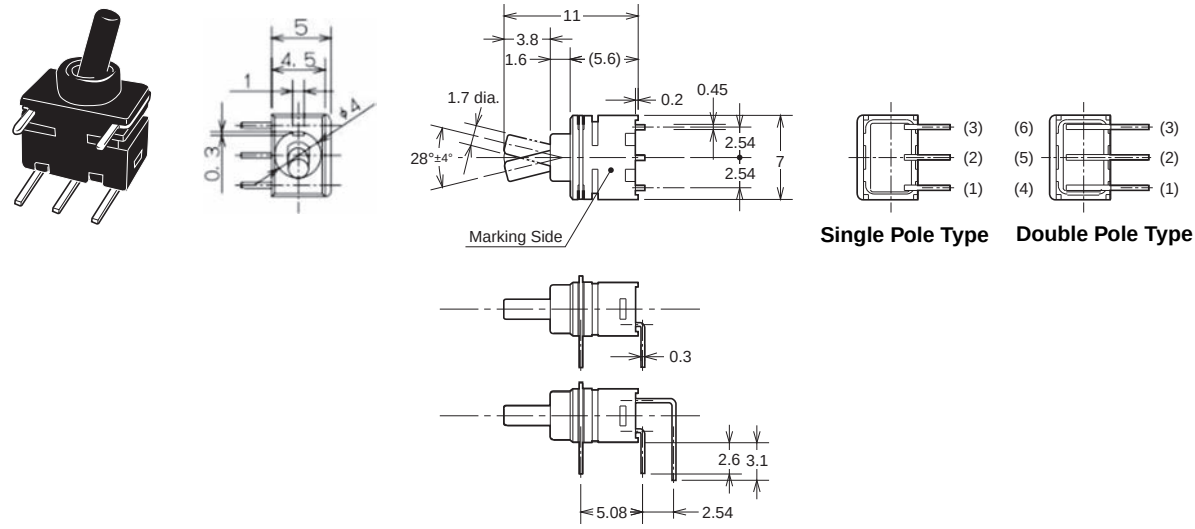
■ Dimensions (Unit: mm)

● DIP Terminal Models

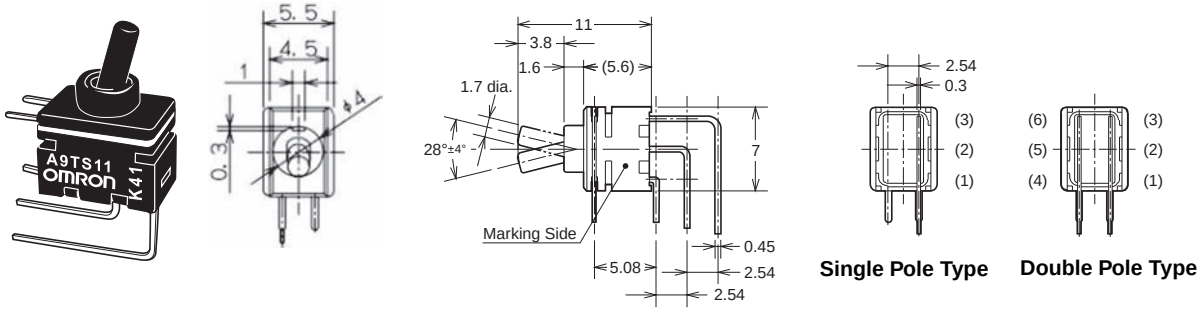


Note: NO.(4) and (6) terminals in the SPDT models are dummys to support the Switch case.

● Right Angle Terminal Models



● Vertical Mount Terminal Models

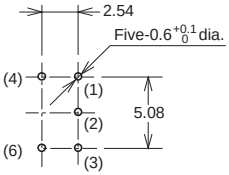


Note: Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

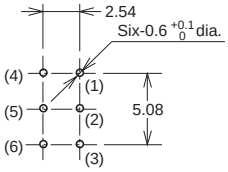
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■ PCB Dimensions (Top View)

DIP Terminal Models

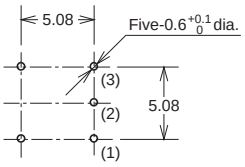


Single Pole Type

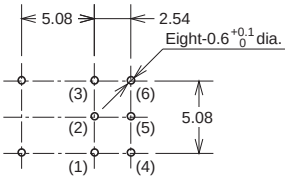


Double Pole Type

Right Angle Terminal Models

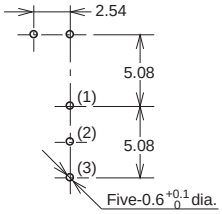


Single Pole Type

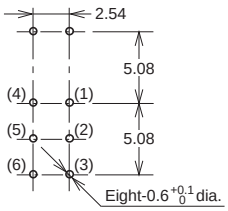


Double Pole Type

Vertical Mount Terminal Models

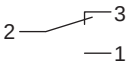
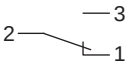
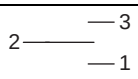
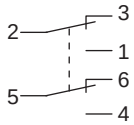
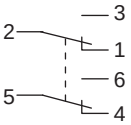
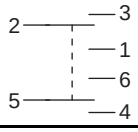


Single Pole Type



Double Pole Type

■ Switching Function / Internal Connections

	Switching Functions					
SPDT Models	ON	–	ON		–	
	ON	OFF	ON			
DPDT Models	ON	–	ON		–	
	ON	OFF	ON			

Note: Lever do not stop at "–" position.

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■ Safety Precautions

Be sure to read the Safety precautions common to all PCB-mount Manual Switch for correct use.

● Cautions

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

● Hardling

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. Apply an operating force not exceeding 9.8N {1,000gf}. Apply the operating load from the top of the actuator. Do not apply a load from angle or from side the actuator. Doing so may deform the Switch contact.

● Soldering

Observe the following conditions when soldering the Switch.

Automatic Soldering Bath

Soldering temperature: 260 °C max. (Preheating: 100 °C 120s max.)
Soldering time: 5s max.

Manual Soldering

Soldering temperature: 350 °C at the tip of the soldering iron.
Soldering time: 3s max.

● Washing

Apply alcohol based solvents to clean.
Do not clean the Switch immediately after soldering. Wait for at least five minutes after soldering before cleaning.
Ultrasonic cleaning is not available dip into Switch washing agents for two minutes maximum.

● Using Flux

Making mistakes in the type of flux or in the amount or method in which it is applied can cause flux to enter the interior of the Switch, with adverse effects on Switch performance. Assess the proper flux, conditions,and methods prior to using it.

● Environment for Storage and Use

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

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

Also, the Switch is not waterproof or splash-resistance.
Do not use the Switch in locations that are subject to contact with water. Do not subject the Switch to freezing or condensation.

Please check each region's Terms & Conditions by region website.

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