ATE



0.05A 48V ATE 1D 06

Subminiature Toggle Switch

RoHS Compliant

UL

Features

- 1. Twin-contact clip mechanism for high reliability.
- 2. Process sealed structure
- 3. Gold-plated contacts.
- 4. Terminal pin pitch: 2.54 mm.
- 5. Independent detent mechanism ensures light operational feel.
- UL recognized (Excluding ATE-J series with plastic cap/rocker)

Specifications

	Max.	50mA 60VAC/DC 0.4VA AC/DC		
Rating	Min.	1 μ A 20mVAC/DC		
	UL	48VAC/DC 50mA	1	
Initial contac	t resistance	e 50m Ω Max. (1.5mA 200 μ VAC		
Dielectric strength		250VAC 1 minute		
Insulation resistance 500MΩ min.		(500VDC)		
Electrical life			/A rating. /A rating.(D.E.N.P type) /A rating.(F.G.H.R.S.T type)	
Mechanical life		D.E.N.P type 50,000 cycles F.G.H.R.S.T type 30,000 cycles		
Operating temperature range −20°C∼+85°C				
Storage temperatur	re range	-40°C∼+85°C		

Part Numbering Series code Actuator shape Number of poles Switching function Terminal style Actuator shape Bracket style Clip mechanism Fig. Number of poles Terminal style Fig. Code Switching function Fig. Code Actuator shape Bracket Code Type DN Standard Without bracket Toggle type 1 pole 2 M 1 PC Straight E P $\mathsf{ON}\mathsf{-}\mathsf{OFF}\mathsf{-}\mathsf{ON}$ 5 Right angle (0.2 inch pitch) 2 F 2 poles Flat toggle F R ON (ON) G S (ON)-OFF-(ON)Right angle (0.3 inch pitch) 6 ΗТ ON -OFF-(ON) Vertical mounting 2Space between terminal rows (Double pole): 5.08 mm

Space between terminal rows (Double pole): 2.54 mm

■ Right Angle Terminals

(0.2-inch pich) (0.3-inch pich) 1-pole 2-poles 0.2 R/A 0.3 R/A

The space between the terminal rows are available in two dimensions: 0.2 inches (5.08 mm) and 0.3 inches (7.62 mm).

[Example] 0.2-inch pitch: ATE1D-5M3-10-Z 0.3-inch pitch: **ATE1D-6M3-10-Z**

■Optional Accessories

Refer to P.371 for PC Hole Layouts.

Part name	Bracket			
Poles	Single pole Double poles			
Box size	5 mm	7.5 mm	5 mm	
Туре	ATE-2M · 2F			
Dimensions	10,15 0 4.12 2 8 8 9 9.5 11.5	10.15 © 4.12 0.7 9.5 11.5	10.15 ©4.12 9.5 11.5 0.7 2.54 0.7 2.54	
Part number	140000640314	140000640315	140000640318	

Туре	ATE-2M·5M·6M·7M
Part name	Color Cap
Dimensions	Gloss finish
White	140000470174
Red	140000470175
Black	140000470173
Gray	140000470179

ON

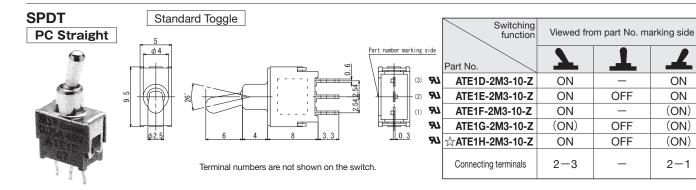
ON

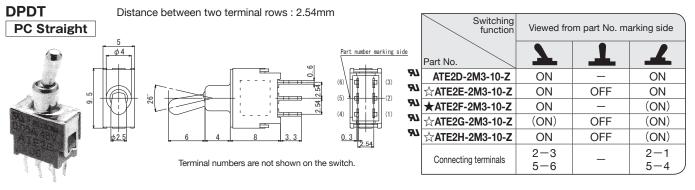
(ON)

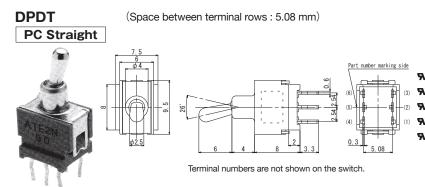
(ON)

(ON)

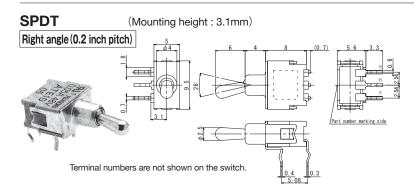
2-1



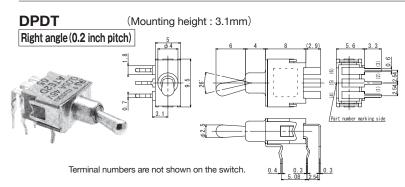




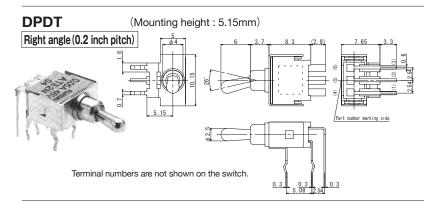
	Switching function	Viewed fro	Viewed from part No. marking side		
	Part No.	7	1	1	
7	☆ATE2N-2M3-10-Z	ON	_	ON	
7	★ATE2P-2M3-10-Z	ON	OFF	ON	
7	★ATE2R-2M3-10-Z	ON	_	(ON)	
7	★ATE2S-2M3-10-Z	(ON)	OFF	(ON)	
7	★ATE2T-2M3-10-Z	ON	OFF	(ON)	
	Connecting terminals	2-3 5-6	_	2-1 5-4	



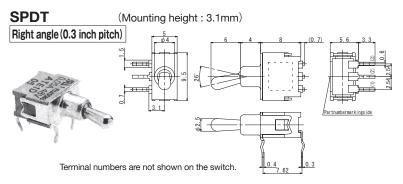
	Switching function	Viewed from part No. marking side		
	Part No.	7	1	1
R	ATE1D-5M3-10-Z	ON	_	ON
A	☆ATE1E-5M3-10-Z	ON	OFF	ON
A	★ATE1F-5M3-10-Z	ON	_	(ON)
A	☆ATE1G-5M3-10-Z	(ON)	OFF	(ON)
A	★ATE1H-5M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1



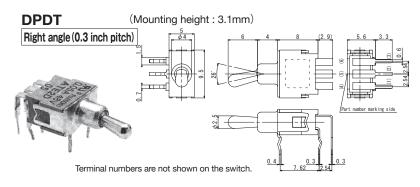
	Switching function	Viewed from part No. marking side		
	Part No.	7	1	1
<i>9</i> 7	☆ATE2D-5M3-10-Z	ON	_	ON
IR	★ATE2E-5M3-10-Z	ON	OFF	ON
<i>9</i> 1	★ATE2F-5M3-10-Z	ON	_	(ON)
IR	☆ATE2G-5M3-10-Z	(ON)	OFF	(ON)
IR	▲ATE2H-5M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



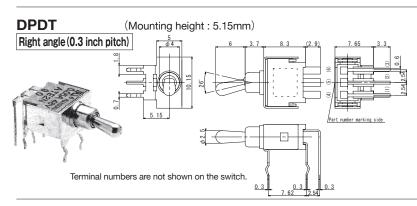
	Switching function	Viewed from part No. marking side		
	Part No.	7	4	4
97	☆ATE2N-5M3-10-Z	ON	_	ON
97	★ATE2P-5M3-10-Z	ON	OFF	ON
97	▲ATE2R-5M3-10-Z	ON	_	(ON)
977	★ATE2S-5M3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	▲ATE2T-5M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



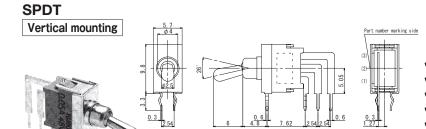
	Switching function	Viewed from part No. marking side		
	Part No.	7	4	1
<i>9</i> 1	ATE1D-6M3-10-Z	ON	_	ON
<i>9</i> 1	ATE1E-6M3-10-Z	ON	OFF	ON
<i>9</i> 1	ATE1F-6M3-10-Z	ON	_	(ON)
<i>9</i> 1	☆ATE1G-6M3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	☆ATE1H-6M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1



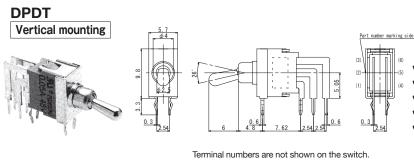
	Switching function	Viewed fro	m part No. ma	arking side
	Part No.	7	4	4
<i>9</i> 1	ATE2D-6M3-10-Z	ON	_	ON
Я	★ATE2E-6M3-10-Z	ON	OFF	ON
Я	★ATE2F-6M3-10-Z	ON	_	(ON)
R)	★ATE2G-6M3-10-Z	(ON)	OFF	(ON)
R)	▲ATE2H-6M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



	Switching function	Viewed from part No. marking side		
	Part No.	4	4	1
<i>9</i> 7	ATE2N-6M3-10-Z	ON	_	ON
<i>9</i> 7	☆ATE2P-6M3-10-Z	ON	OFF	ON
<i>9</i> 7	★ATE2R-6M3-10-Z	ON	_	(ON)
<i>9</i> 7	★ATE2S-6M3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	★ATE2T-6M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



	Switching function	Viewed from part No. marking side		
	Part No.	7	4	4
<i>P</i>	☆ATE1D-7M3-10-Z	ON	_	ON
<i>P</i>	☆ATE1E-7M3-10-Z	ON	OFF	ON
W	★ATE1F-7M3-10-Z	ON	_	(ON)
W	★ATE1G-7M3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	▲ATE1H-7M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1



Terminal numbers are not shown on the switch.

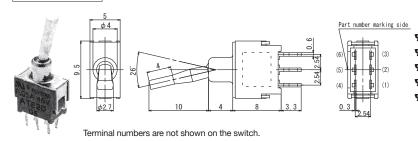
	Switching function	Viewed from part No. marking side		
e	Part No.	7	4	4
<i>9</i> 1	ATE2D-7M3-10-Z	ON	_	ON
<i>9</i> 1	★ATE2E-7M3-10-Z	ON	OFF	ON
<i>9</i> 1	★ATE2F-7M3-10-Z	ON	_	(ON)
W	▲ATE2G-7M3-10-Z	(ON)	OFF	(ON)
W	▲ATE2H-7M3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6		2-1 5-4

SPDT	Flat Toggle	
PC Straight		
5 d 4 d 4 d 4 d 4 d 4 d 4 d 4 d 4 d 4 d	Terminal numbers are not shown on	Part number marking side (3) (2) (1) (1) (2) (1) (3)

	Switching			
	function	Viewed fro	m part No. ma	arking side
	Part No.	7	4	4
<i>9</i> /	ATE1D-2F3-10-Z	ON	ı	ON
<i>9</i> 1	ATE1E-2F3-10-Z	ON	OFF	ON
<i>9</i> 0	☆ATE1F-2F3-10-Z	ON	_	(ON)
<i>9</i> 7	★ATE1G-2F3-10-Z	(ON)	OFF	(ON)
<i>9</i> 0	★ATE1H-2F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1

DPDT

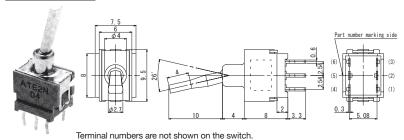
(Space between terminal rows (Double pole): 2.54 mm) PC Straight



	Switching function	Viewed fro	m part No. ma	arking side
	Part No.	7	4	4
R	☆ATE2D-2F3-10-Z	ON	_	ON
977	★ATE2E-2F3-10-Z	ON	OFF	ON
977	★ATE2F-2F3-10-Z	ON	_	(ON)
977	☆ATE2G-2F3-10-Z	(ON)	OFF	(ON)
R	★ATE2H-2F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4

DPDT PC Straight

(Space between terminal rows (Double pole): 5.08 mm)

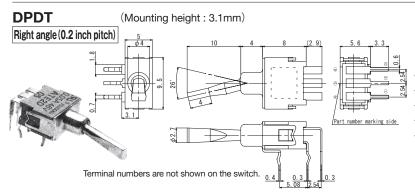


	Switching function	Viewed fro	Viewed from part No. marking side		
	Part No.	7	1	4	
<i>9</i> 0	☆ATE2N-2F3-10-Z	ON	_	ON	
R I	★ATE2P-2F3-10-Z	ON	OFF	ON	
R I	★ATE2R-2F3-10-Z	ON	_	(ON)	
R I	▲ATE2S-2F3-10-Z	(ON)	OFF	(ON)	
R J	★ATE2T-2F3-10-Z	ON	OFF	(ON)	
	Connecting terminals	2-3 5-6	_	2-1 5-4	

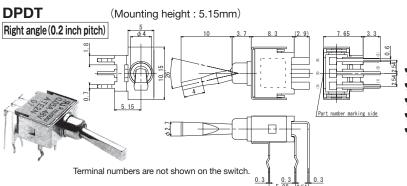
SPDT (Mounting height: 3.1mm) Right angle (0.2 inch pitch) Part number marking side

Terminal numbers are not shown on the switch.

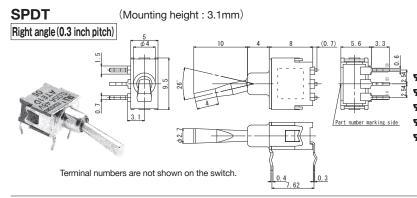
	Switching function	Viewed from part No. marking side		
	Part No.	7	4	4
<i>9</i> 1	☆ATE1D-5F3-10-Z	ON	_	ON
<i>9</i> 1	★ATE1E-5F3-10-Z	ON	OFF	ON
<i>9</i> 1	★ATE1F-5F3-10-Z	ON	_	(ON)
<i>9</i> 1	★ATE1G-5F3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	★ATE1H-5F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1



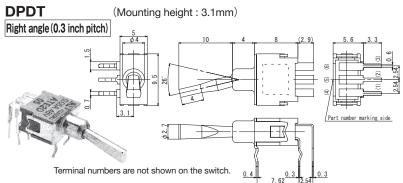
	Switching function	Viewed from part No. marking side		
	Part No.	7	4	4
R	★ATE2D-5F3-10-Z	ON	_	ON
R	▲ATE2E-5F3-10-Z	ON	OFF	ON
R	▲ATE2F-5F3-10-Z	ON	_	(ON)
<i>9</i> 1	★ATE2G-5F3-10-Z	(ON)	OFF	(ON)
R	▲ATE2H-5F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



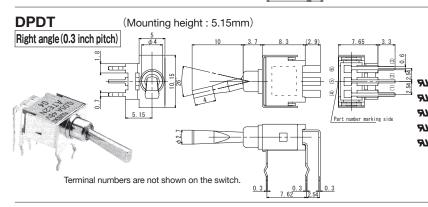
	Switching function	Viewed fro	m part No. m	arking side
	Part No.	7	4	
<i>9</i> 1	★ATE2N-5F3-10-Z	ON	-	ON
<i>9</i> 1	▲ATE2P-5F3-10-Z	ON	OFF	ON
<i>9</i> 1	▲ATE2R-5F3-10-Z	ON	_	(ON)
<i>9</i> 1	▲ATE2S-5F3-10-Z	(ON)	OFF	(ON)
<i>9</i> 1	▲ATE2T-5F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



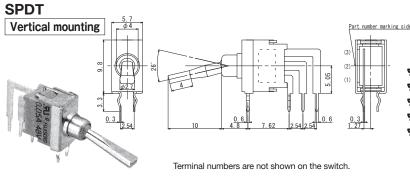
	Switching function	Viewed fro	m part No. ma	arking side
	Part No.	7	4	4
977	★ATE1D-6F3-10-Z	ON	_	ON
27	★ATE1E-6F3-10-Z	ON	OFF	ON
27	★ATE1F-6F3-10-Z	ON	_	(ON)
<i>1</i>	☆ATE1G-6F3-10-Z	(ON)	OFF	(ON)
<i>1</i>	★ATE1H-6F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1
		-	•	



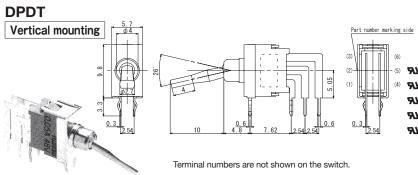
	Switching function	Viewed fro	m part No. ma	arking side
	Part No.	7	4	4
977	☆ATE2D-6F3-10-Z	ON	_	ON
977	★ATE2E-6F3-10-Z	ON	OFF	ON
977	▲ATE2F-6F3-10-Z	ON	_	(ON)
<i>1</i>	▲ATE2G-6F3-10-Z	(ON)	OFF	(ON)
97	▲ATE2H-6F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4



	Switching function	Viewed from part No. marking side		
	Part No.	7	4	4
7	★ATE2N-6F3-10-Z	ON	_	ON
7	▲ATE2P-6F3-10-Z	ON	OFF	ON
7	▲ATE2R-6F3-10-Z	ON	_	(ON)
7	▲ATE2S-6F3-10-Z	(ON)	OFF	(ON)
7	▲ATE2T-6F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4

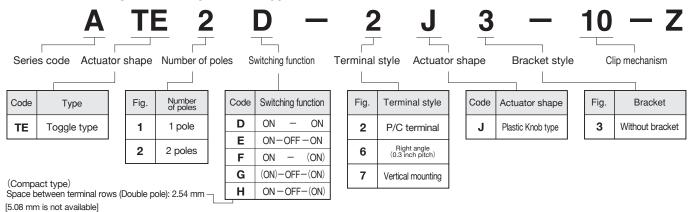


<u>ie</u>	Switching function	Viewed from part No. marking side		
	Part No.	7	1	1
977	★ATE1D-7F3-10-Z	ON	_	ON
97	▲ATE1E-7F3-10-Z	ON	OFF	ON
97	★ATE1F-7F3-10-Z	ON	_	(ON)
97	▲ATE1G-7F3-10-Z	(ON)	OFF	(ON)
P	★ATE1H-7F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3	_	2-1



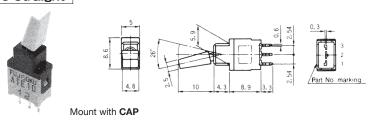
	Switching function	Viewed from part No. marking side		
	Part No.	7	1	4
7	★ATE2D-7F3-10-Z	ON	_	ON
7	★ATE2E-7F3-10-Z	ON	OFF	ON
7	★ATE2F-7F3-10-Z	ON	_	(ON)
7	▲ATE2G-7F3-10-Z	(ON)	OFF	(ON)
7	▲ATE2H-7F3-10-Z	ON	OFF	(ON)
	Connecting terminals	2-3 5-6	_	2-1 5-4

■Part Numbering(Plastic cap•Rocker type)



SPDT

PC Straight

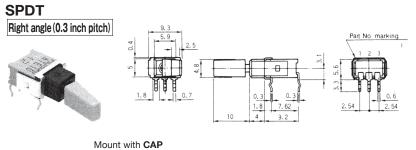


Switching function	Viewed from part No. marking side		
Part No.	1	1	1
☆ATE1D-2J3-10-Z	ON	_	ON
★ATE1E-2J3-10-Z	ON	OFF	ON
▲ATE1F-2J3-10-Z	ON	_	(ON)
▲ATE1G-2J3-10-Z	(ON)	OFF	(ON)
★ATE1H-2J3-10-Z	ON	OFF	(ON)
Connecting terminals	2-3	_	2-1

DPDT PC Straight

Switching function	Viewed from part No. marking side		
Part No.	1	4	4
★ATE2D-2J3-10-Z	ON	_	ON
▲ATE2E-2J3-10-Z	ON	OFF	ON
▲ATE2F-2J3-10-Z	ON	_	(ON)
▲ATE2G-2J3-10-Z	(ON)	OFF	(ON)
▲ATE2H-2J3-10-Z	ON	OFF	(ON)
Connecting terminals	2-3 5-6	_	2-1 5-4

Part No. marking Mount with Rocker



Switching function	Viewed from part No. marking side		
Part No.	1	1	1
★ATE1D-6J3-10-Z	ON	_	ON
▲ATE1E-6J3-10-Z	ON	OFF	ON
▲ATE1F-6J3-10-Z	ON	_	(ON)
▲ATE1G-6J3-10-Z	(ON)	OFF	(ON)
▲ATE1H-6J3-10-Z	ON	OFF	(ON)
Connecting terminals	2-3	_	2-1

DPDT
Right angle (0.3 inch pitch)
0.7 2.54 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.6 0.6

Switching function	Viewed from part No. marking side		
Part No.		4	4
▲ATE2D-6J3-10-Z	ON	_	ON
▲ATE2E-6J3-10-Z	ON	OFF	ON
▲ATE2F-6J3-10-Z	ON	_	(ON)
▲ATE2G-6J3-10-Z	(ON)	OFF	(ON)
▲ATE2H-6J3-10-Z	ON	OFF	(ON)
Connecting terminals	2-3 5-6	_	2-1 5-4

Notes:

- · Install the cap/rocker accessory after soldering and cleaning.
- · Specify the shape and coloring when ordering.

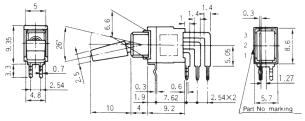
Mount with Rocker

· Space between terminal rows: 5.08 mm is not available.

SPDT

Vertical mounting





Mount with CAP

Terminal numbers are not shown on the switch.

Switching function Viewed from part No. marking side Part No. ★ATE1D-7J3-10-Z ON ON ▲ATE1E-7J3-10-Z ON OFF ON ▲ATE1F-7J3-10-Z ON (ON) ▲ATE1G-7J3-10-Z (ON) OFF (ON) ▲ATE1H-7J3-10-Z ON OFF (ON) Connecting terminals 2 - 32 - 1

1.4 0.3	Switching function	Viewed fro	m part No. ma	arking side
6 3 9 5 1 2 8	Part No.	4	4	4
	▲ATE2D-7J3-10-Z	ON	_	ON
	▲ATE2E-7J3-10-Z	ON	OFF	ON
0.7	▲ATE2F-7J3-10-Z	ON	_	(ON)
2.54×2 2.54 5.7	▲ATE2G-7J3-10-Z	(ON)	OFF	(ON)
Part No marking	▲ATE2H-7J3-10-Z	ON	OFF	(ON)
on the switch.	Connecting terminals	2-3 5-6	_	2-1 5-4

DPDT

Vertical mounting





Mount with Rocker

Terminal numbers are not shown of

Optional Accessories

《Sold separately》

Туре	ATE-2J·6J·7J	ATE-2J·6J·7J
Part name	Color Cap	Rocker
Dimensions	8.6 2.5 Matte finish 3.5 4.8 ABS resin	13.4 12 20.2 9.7 ABS resin
White	140000050884	140000481541
Red	140000050886	140000481543
Black	140000050885	140000481542

●PC hole layout is different depending on the type of Bracket.

Type	ATE-2J	
Part name	Bracket	
Dimensions	9.25	
Part number	140000640296	

Color Cap and Rocker Installation Procedure for ATE-J type



■PC Hole Layouts –

PC terminal (Top voew)

Series code	ATE-2M·2F·2J	ATE-2M·2F			ATE-2J
Installation	Whithout bracket		When optional bracket is used		
IIIStallation	Willingt bracket	140000640314	140000640315	140000640318	140000640296
1-pole	3- \$1 2.54 2.54	2.54 2.54 2.54 2.54	2.54 2.54 2.54 2.54 7. \$\psi\$ 1	2.54 2.54 2.54 2.54 7-41	2.54 2.54 2.54 7. \$1
2—poles 2.54mm Tow terminal rows	2.54 2.54 6- \$1	2.54 2.54 2.54 8-\$1	2.54 2.54 2.54 10. ≠1	2.54 2.54 2.54 2.54 10-\$\phi\$1	2.54 2.54 2.54 10- \$1
2—poles 5.08mm Tow terminal rows	2.54 2.54 6- \$1	2.54 2.54 2.54 8-¢1	2.54 2.54 2.54 10- \(\psi \) 10- \(\psi \) 1	2.54 2.54 2.54 10-\$\psi\$	

Right Angle terminal • Vertical Mount terminal

(Top view)

Series code	ATE-5M · 5F	ATE-6M · 6F · 6J	ATE-7M·7F·7J
Terminal	R/A 0.2—inch pich	R/A 0.3—inch pich	Vertical mount
1—pole	5.08 5- \sigma 1	7.62 5- \$1	7.62 2.54 2.54 5- \$1
2-poles	5.08 2.54 8- \sigma 1	7.62 2.54 8-\$1	7.62 2.54 2.54 8- \$1

■Bracket Mounted Dimensions. —

Time	ATE-2M	ATE-2F	
Туре	Standard	Flat	
Dimensions	8.3 3.7 E.8	8 3 3 7 10 10 10 10 10 10 10 10 10 10 10 10 10	

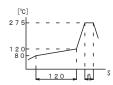
■ Soldering Specifications

(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

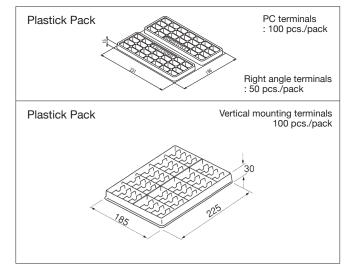
(3)Install the cap/rocker accessory after soldering and cleaning.

Flux Cleaning

(1)Solvent: Fluorine or Alcohol type.

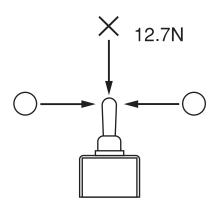
(2)Cleaning after soldering should be done after the terminal temperature falls to 90°C or below, or after leaving the switch for five minutes or longer at room temperature.

■ Packaging Specifications



■Mounting of Switch -

- •Use PC boards with hole diameter of 1mm.
- Do not bend the terminal pins 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.
- ●Do not apply load exceeding 12.7 N to the actuator.



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PS83-121G A101MD9AB04 A101SD9AB04 A101SDCQ04 A103SD9AQ04 A107TZB04 A123P32YZQ A123S1YZG A127S1YCQ 1
1825192-0 A131S1YZQ A201SCWZB04 A207SYCB04 A208J61ZQ0004 A221K12KAG A221S1YZQ A221T1TCQ A232K12KZQ

A232M1YCQ A323S1CWZQ A423S1CWZG-M8 A423S1YZQ 12149A-3V 12156AX408 12147AGKX679