

General Specifications

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Note: Find additional explanation of operating range in Supplement section.

Other Ratings

Contact Resistance: 50 milliohms maximum
Insulation Resistance: 500 megohms minimum @ 500V DC
Dielectric Strength: 500V AC minimum between contacts for 1 minute minimum;
500V AC minimum between contacts & case for 1 minute minimum
Mechanical Life: 100,000 operations minimum for On-None-On & On-Off-On
50,000 operations minimum for other circuits
Electrical Life: 50,000 operations minimum
Nominal Operating Force: 1.47N (momentary); 1.18N (maintained) for .394" (10.0mm) toggles
2.73N (momentary); 1.84N (maintained) for all other toggles
Contact Timing: Nonshorting (break-before-make)
Angle of Throw: 26°

Materials & Finishes

Toggle: Glass fiber reinforced polyamide for antistatic; nickel plated brass for all others
Case Housing: Glass fiber reinforced polyamide
Support Bracket: Tin plated phosphor bronze
Movable Contact: Phosphor bronze with gold plating
Stationary Contacts: Brass with gold plating
Terminals: Brass with gold plating

Environmental Data

Operating Temperature Range: -30°C through +85°C (-22°F through +185°F)
Humidity: 90 ~ 95% humidity for 240 hours @ 40°C (104°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

PCB Processing

Soldering: Wave Soldering Recommended. See Profile A in Supplement section.
Manual Soldering: See Profile B in Supplement section.
Cleaning: Automated cleaning. See Cleaning Specifications in Supplement section.

Standards & Certifications

The A Series toggles have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

Distinctive Characteristics

Subminiature size saves space on PC boards.

Specifically developed for logic-level applications.

Totally sealed body construction prevents contact contamination and allows time- and money-saving automated soldering and cleaning.

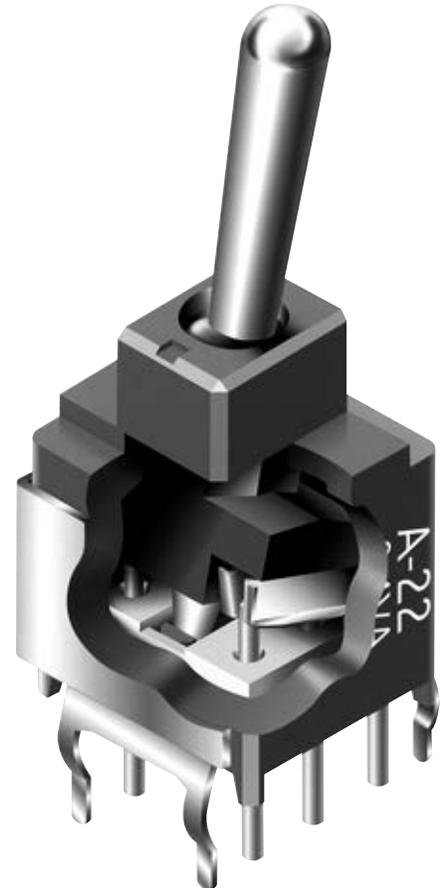
Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smoother, positive detent actuation, increased contact stability and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement contents.)

Molded-in, epoxy sealed or ultrasonically welded terminals lock out flux, solvents, and other contaminants.

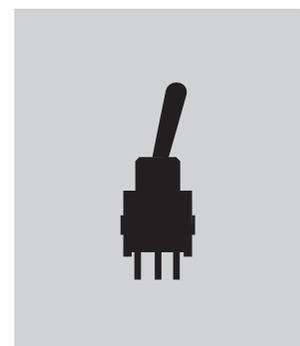
.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing.

Toggle option in antistatic material available for dissipating electrostatic discharges.

Matching indicators available.

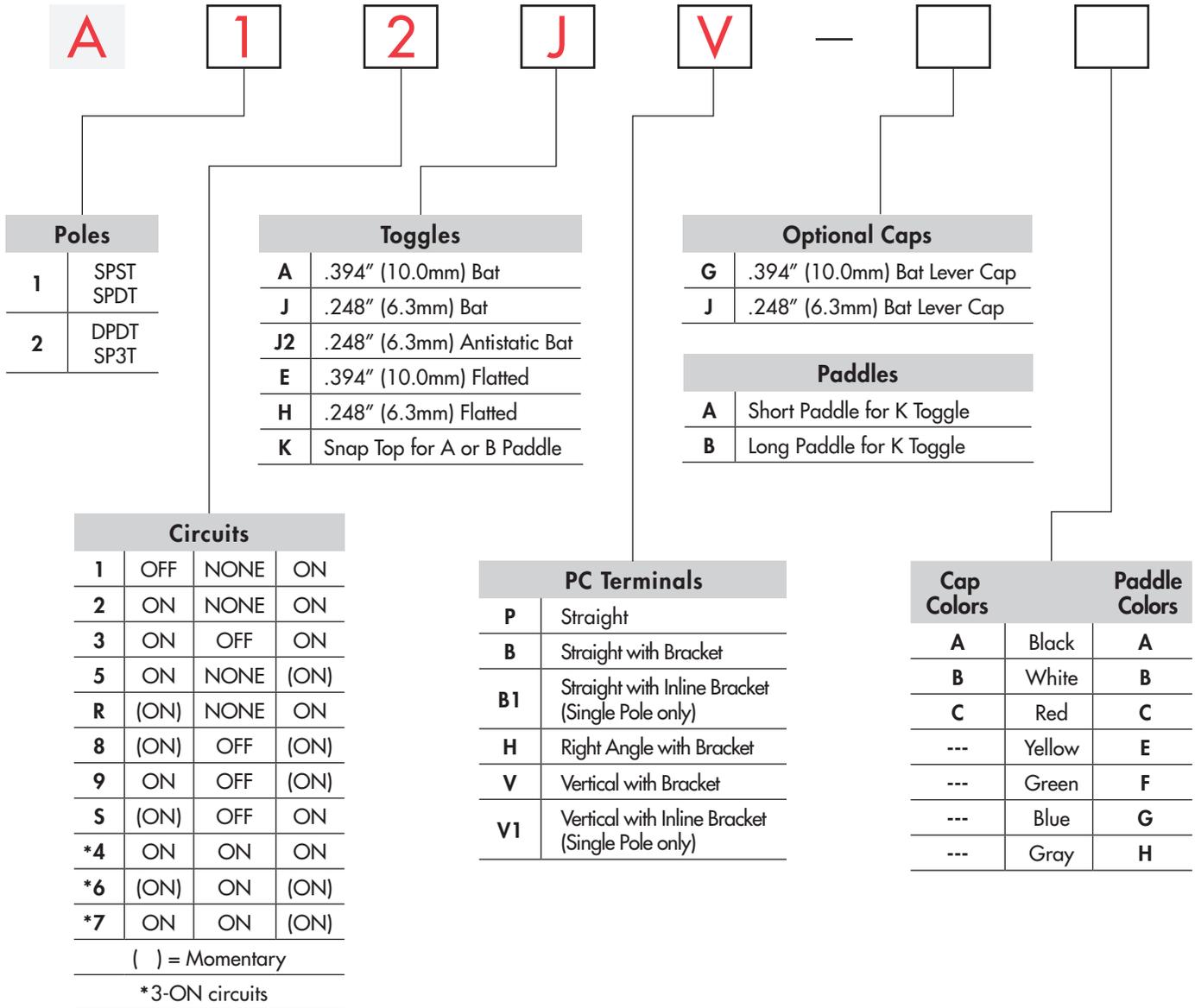


Actual Size



A	Toggles
	Rockers
	Pushbuttons
	Illuminated PB
	Programmable
	Keylocks
	Rotaries
	Slides
	Tactiles
	Tilt
	Touch
	Indicators
	Accessories
	Supplement

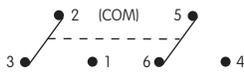
TYPICAL SWITCH ORDERING EXAMPLE



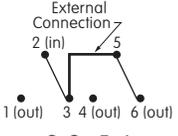
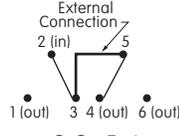
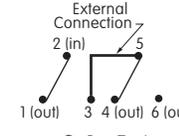
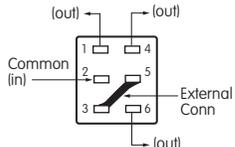
DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

A12JV



POLES & CIRCUITS								
Pole	Model	Toggle Position () = Momentary			Connected Terminals			Throw & Schematics
		Up 	Center 	Down 	Up 	Center 	Down 	
SP	A11	OFF 	NONE	ON 	OPEN 	OPEN	3-1	SPST 
SP	A12 A13 A15 A1R A18 A19 A1S	ON ON ON (ON) (ON) ON (ON)	NONE OFF NONE NONE OFF OFF OFF	ON ON (ON) ON (ON) (ON) ON	2-3	OPEN	2-1	SPDT 
DP	A22 A23 A25 A2R A28 A29 A2S	ON ON ON (ON) (ON) ON (ON)	NONE OFF NONE NONE OFF OFF OFF	ON ON (ON) ON (ON) (ON) ON	2-3 5-6	OPEN	2-1 5-4	DPDT 

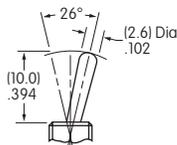
For 3 Throw (3-on)

Connected Terminals & Schematics					External Connection
Pole	Model	Up	Center	Down	
SP	A24 A26 A27	ON (ON) ON 	ON ON ON 	ON (ON) (ON) 	<p>The SP3T model utilizes a double pole base.</p> <p>External connections must be made during field installation.</p> 

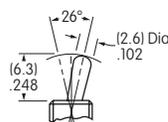
TOGGLES

Standard Material & Finish: Brass with Bright Nickel Material & Finish for J2: Matte finish black glass fiber reinforced polyamide

A .394" (10.0mm) Bat

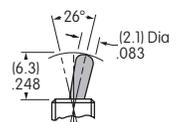


J .248" (6.3mm) Bat

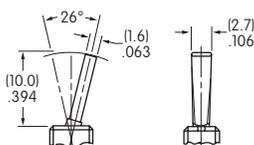


J2 .248" (6.3mm) Antistatic Bat

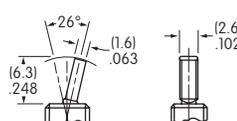
Dissipating 20Kv ESD: Straight PC
Dissipating 10Kv ESD: Straight PC with Bracket, Right Angle, & Vertical



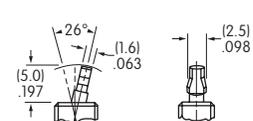
E .394" (10.0mm) Flatted



H .248" (6.3mm) Flatted



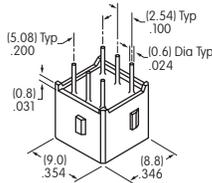
K Snap Top for Paddles



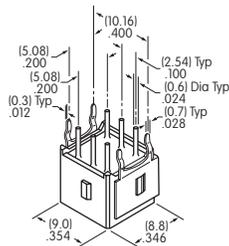
PC TERMINALS

Use of a support bracket is recommended to increase PCB mounting strength and stability.

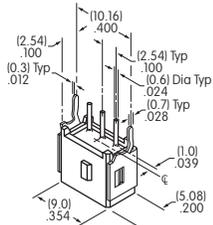
P Straight



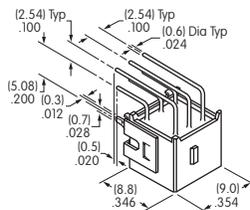
B Straight with Bracket



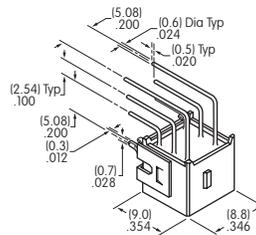
B1 Straight with Inline Bracket
Single Pole only



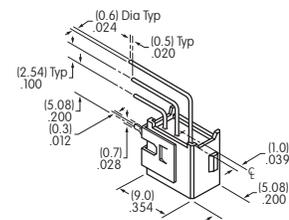
H Right Angle
with Bracket



V Vertical with Bracket



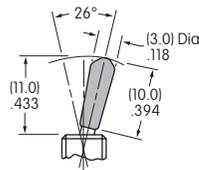
V1 Vertical with Inline Bracket
Single Pole only



CAPS & PADDLES

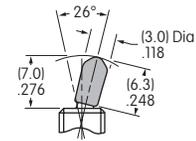
G AT4003
.394" (10.0mm) Bat Lever Cap

Material: PVC
Colors Available:
A, B, C



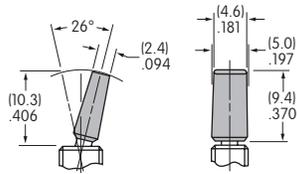
J AT4064
.248" (6.3mm) Bat Lever Cap

Material: PVC
Colors Available:
A, B, C



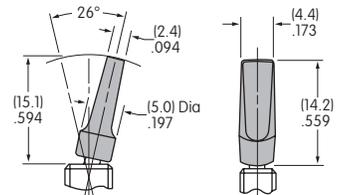
A AT467
Short Paddle

Material: Polyamide
Colors Available:
A, B, C, E, F, G, H



B AT468
Long Paddle

Material: Polyamide
Colors Available:
A, B, C, E, F, G, H

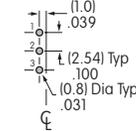
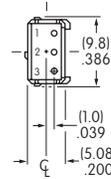
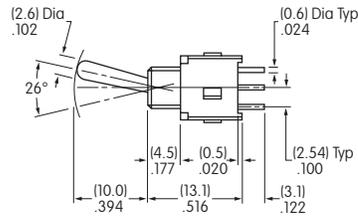
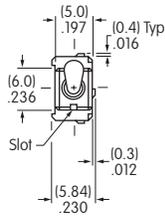


Color Codes:

- A** Black
- B** White
- C** Red
- E** Yellow
- F** Green
- G** Blue
- H** Gray

TYPICAL SWITCH DIMENSIONS

Single Pole



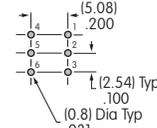
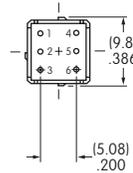
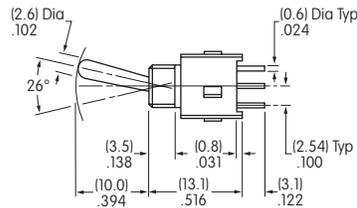
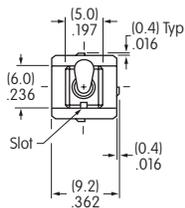
Straight PC



A11 models do not have Terminal 2

A12AP

Double Pole

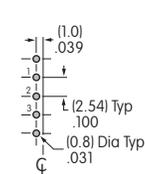
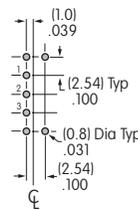
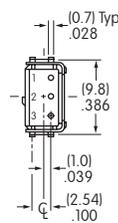
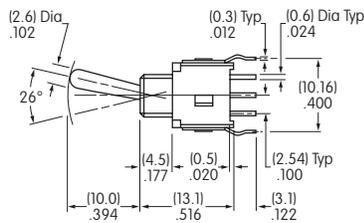
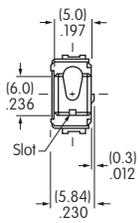


Straight PC



A22AP

Single Pole



Straight PC • Bracket

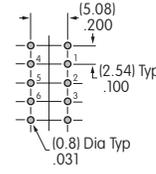
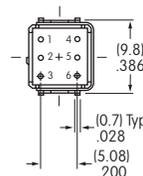
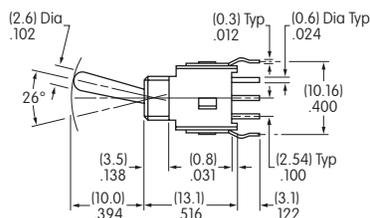
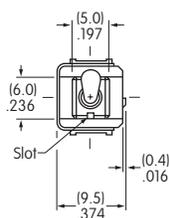


B Terminals

B1 Terminals

A12AB

Double Pole



Straight PC • Bracket

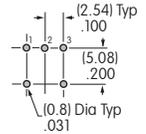
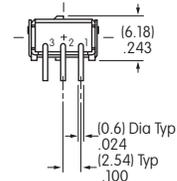
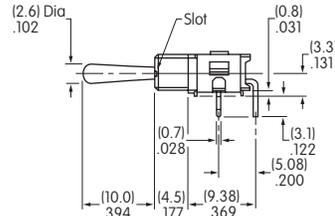
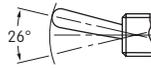
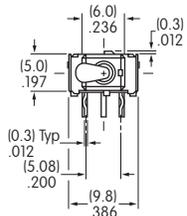


A22AB

TYPICAL SWITCH DIMENSIONS

Right Angle PC

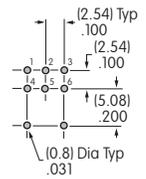
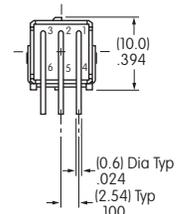
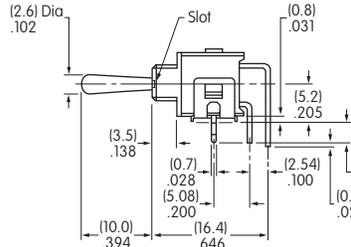
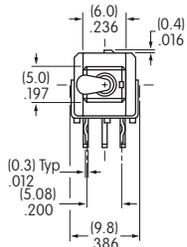
Single Pole



A12AH

Right Angle PC

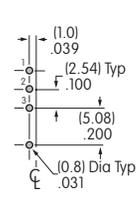
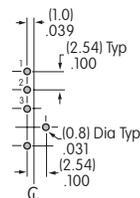
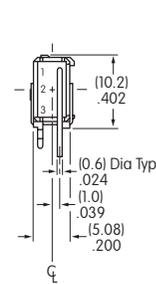
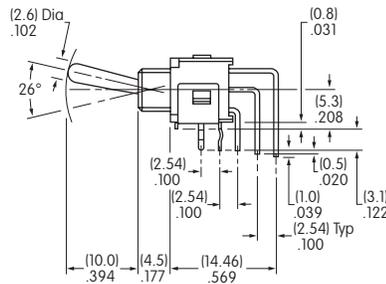
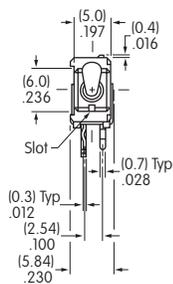
Double Pole



A22AH

Vertical PC

Single Pole



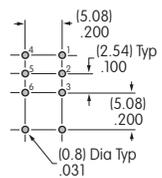
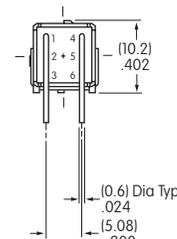
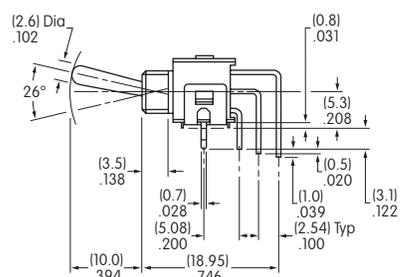
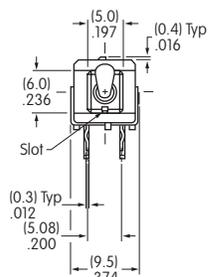
A12AV

V Terminals

V1 Terminals

Vertical PC

Double Pole



A22AV

Mouser Electronics

Authorized Distributor

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[A12KV-AA](#) [A13AB1-GA](#) [A22AW-GA](#) [A11JW](#) [A12HW](#) [A12JW](#) [A12KP](#) [A18AW](#) [A18HW](#) [A1RAV](#) [A1SJV](#) [A22AW](#)
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[A11JP](#) [A11JV](#) [A11KP-AA](#) [A11KP-AB](#) [A12AP-GA](#) [A12AW](#) [A12EH](#) [A12EP](#) [A12JP-JA](#) [A12JP-JC](#) [A12KP-AC](#)
[A12KP-BH](#) [A13AH](#) [A13AP](#) [A13AP-GA](#) [A13EP](#) [A13EW](#) [A13HP](#) [A13JP](#) [A13JP-JC](#) [A15JP](#) [A18AP](#) [A18AP-GA](#)
[A18EP](#) [A18EW](#) [A18HV](#) [A18HV1](#) [A18JP](#) [A18KP](#) [A18KP-AB](#) [A18KP-AE](#) [A18KP-AF](#) [A18KP-AH](#) [A18KV1-AA](#)
[A22HP](#) [A22JP](#) [A23AW](#) [A23EP](#) [A23JP](#) [A24AP](#)