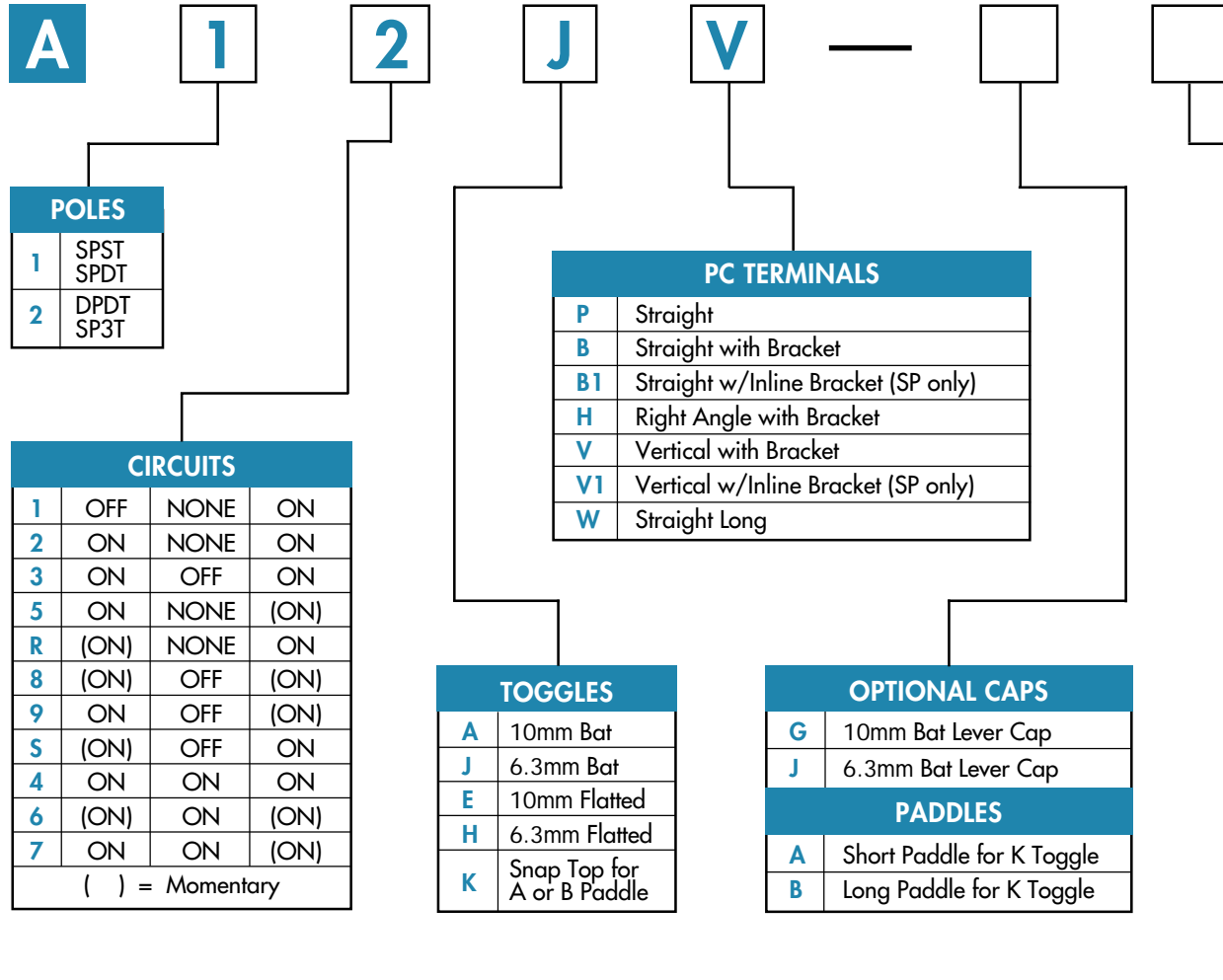




TYPICAL SWITCH ORDERING EXAMPLE



| POLES | |
|-------|--------------|
| 1 | SPST SPDT |
| 2 | DPDT SP3T |

| CIRCUITS | | | |
|----------|------|------|------|
| 1 | OFF | NONE | ON |
| 2 | ON | NONE | ON |
| 3 | ON | OFF | ON |
| 5 | ON | NONE | (ON) |
| R | (ON) | NONE | ON |
| 8 | (ON) | OFF | (ON) |
| 9 | ON | OFF | (ON) |
| S | (ON) | OFF | ON |
| 4 | ON | ON | ON |
| 6 | (ON) | ON | (ON) |
| 7 | ON | ON | (ON) |

() = Momentary

| PC TERMINALS | |
|--------------|-------------------------------------|
| P | Straight |
| B | Straight with Bracket |
| B1 | Straight w/Inline Bracket (SP only) |
| H | Right Angle with Bracket |
| V | Vertical with Bracket |
| V1 | Vertical w/Inline Bracket (SP only) |
| W | Straight Long |

| TOGGLES | |
|---------|----------------------------|
| A | 10mm Bat |
| J | 6.3mm Bat |
| E | 10mm Flatted |
| H | 6.3mm Flatted |
| K | Snap Top for A or B Paddle |

| OPTIONAL CAPS | |
|---------------|---------------------|
| G | 10mm Bat Lever Cap |
| J | 6.3mm Bat Lever Cap |

| PADDLES | |
|---------|---------------------------|
| A | Short Paddle for K Toggle |
| B | Long Paddle for K Toggle |

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

A12JV

6.3mm Long Bat Toggle ———
 SPDT ———
 ON-NONE-ON Circuit ———
 Vertical PC Terminals



| CAP COLORS | | PADDLE COLORS | |
|------------|--------|---------------|--|
| A | Black | A | |
| B | White | B | |
| C | Red | C | |
| --- | Yellow | E | |
| --- | Green | F | |
| --- | Blue | G | |
| --- | Gray | H | |



GENERAL SPECIFICATIONS

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)

Note: See [Supplement Index](#) to find explanation of operating range.

Other Ratings

Contact Resistance: 50 milliohms maximum
Insulation Resistance: 500 megohms minimum @ 500V DC
Dielectric Strength: 500V AC 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: Toggles A & E: 150 grams (momentary); 120 grams (maintained)
Toggles J & H: 278 grams (momentary); 188 grams (maintained)
Contact Timing: Nonshorting (break-before-make)
Angle of Throw: 26°

Materials & Finishes

Toggle: Nickel plated brass
Case Housing: Glass fiber reinforced polyamide
Support Bracket: Tin plated phosphor bronze
Movable Contact: Phosphor bronze with gold plating over silver plating
Stationary Contacts: Brass with gold plating over nickel undercoating

Environmental Data

Operating Temp Range: -30°C through +85°C (-22°F through +185°F)
Humidity: 90 ~ 95% humidity for 96 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 acceleration (tested in 6 right angled directions, with 3 shocks in each direction)

Installation

Soldering Time & Temperature: 3 seconds @ 350°C or 5 seconds @ 270°C
Process Seal: See [Supplement Index](#) for specific processing data.

Standards & Certifications

IECQ Approved: All toggle models recognized at 0.4VA maximum @ 28V AC/DC maximum
Qualification Approval Number: JP792-3A



Series A

Washable Subminiature Toggle Switches

POLES & CIRCUITS

| | | Toggle Position () = Momentary | | | Connected Terminals | | | Throw & Schematics |
|------|---|--|--|--|---------------------|------------|----------|--|
| Pole | Model | Up | Center | Down | Up | Center | Down | Note: Terminal numbers are not actually on the switch. |
| 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 |

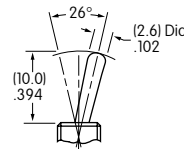
For 3 Throw (3-On)

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

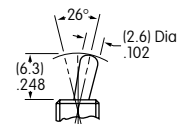
TOGGLES

Standard Material & Finish:
Brass with Bright Nickel

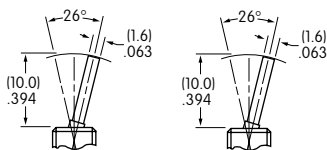
A 10mm Bat



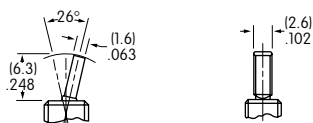
J 6.3mm Bat



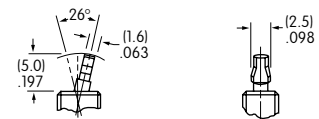
E 10mm Flatted



H 6.3mm Flatted



K Snap Top for Paddles





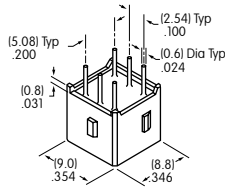
Series A

Washable Subminiature Toggle Switches

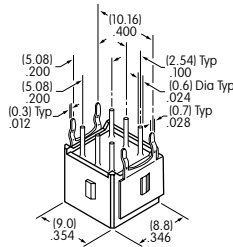
PC TERMINALS

Use of a support bracket or placement of the square bushing in a panel cutout is recommended to increase PCB mounting stability.

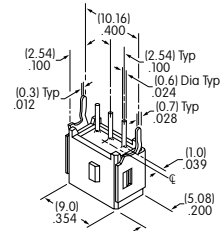
P Straight



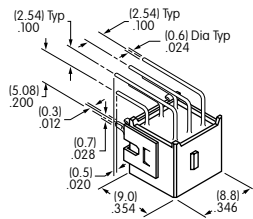
B Straight with Bracket



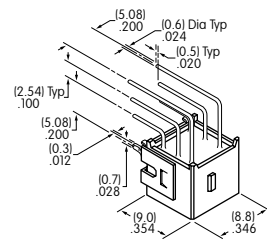
B1 Straight with Inline Bracket (SP only)



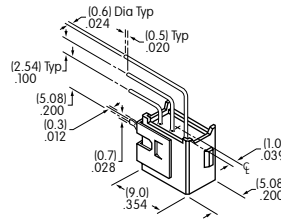
H Right Angle with Bracket



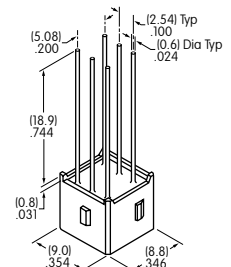
V Vertical with Bracket



V1 Vertical with Inline Bracket (SP only)



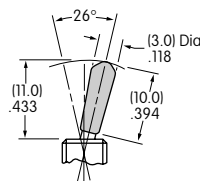
W Straight Long



CAPS & PADDLES

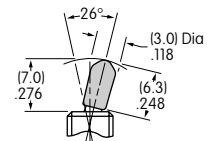
G AT4003
10mm Bat Lever Cap

Material: PVC
Colors Available:
A, B, C



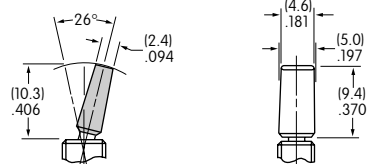
J AT4064
6.3mm Bat Lever Cap

Material: PVC
Colors Available:
A, B, C



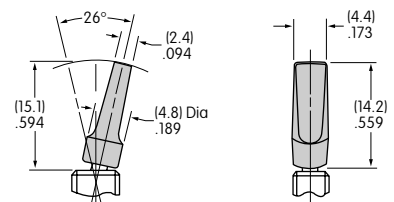
A AT467
Short Paddle

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



B AT468
Long Paddle

Material: PBT
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

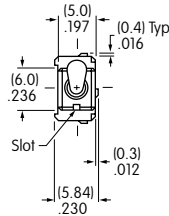


Series A

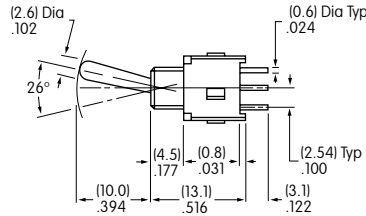
Washable Subminiature Toggle Switches

TYPICAL SWITCH DIMENSIONS

Single Pole

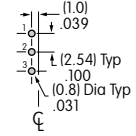
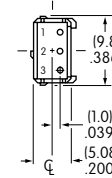


A12AP

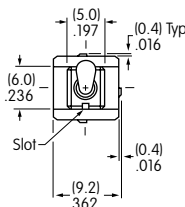


A11 models do not have Terminal 2.

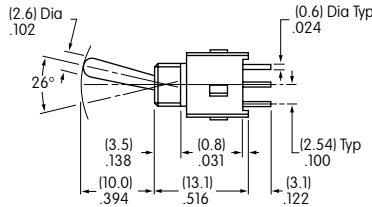
Straight PC



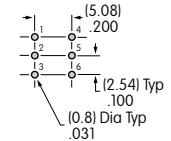
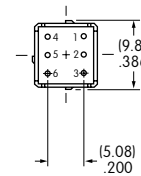
Double Pole



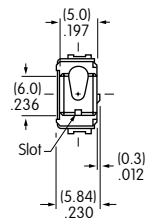
A22AP



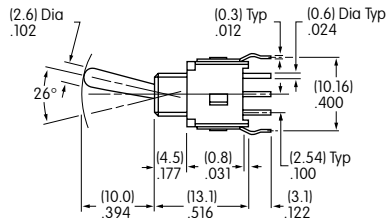
Straight PC



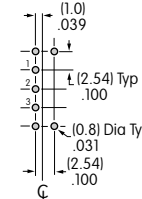
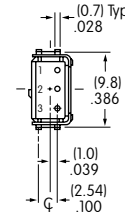
Single Pole



A12AB



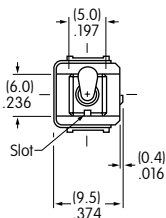
Straight PC • Bracket



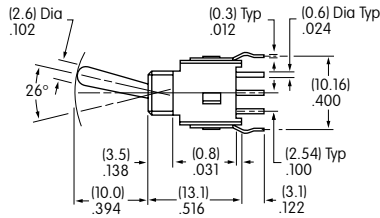
B Terminals

B1 Terminals

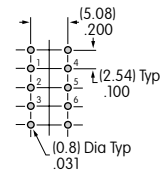
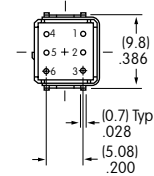
Double Pole



A22AB



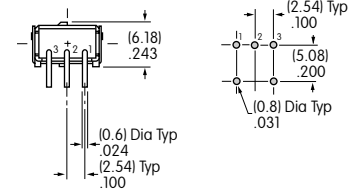
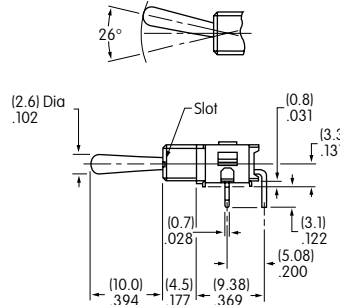
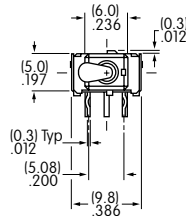
Straight PC • Bracket



TYPICAL SWITCH DIMENSIONS

Right Angle PC

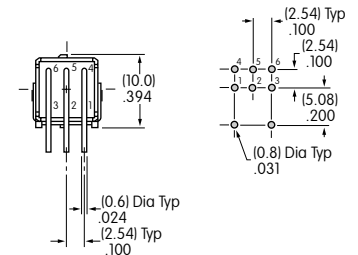
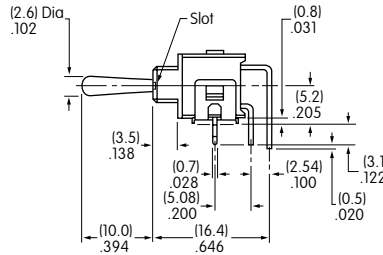
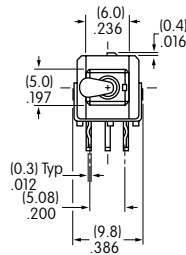
Single Pole



A12AH

Right Angle PC

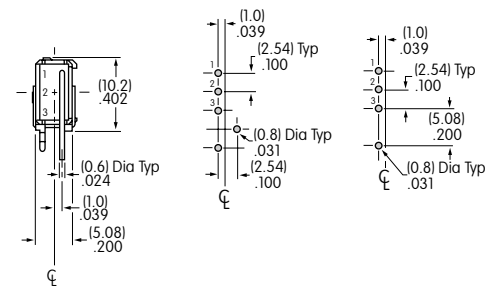
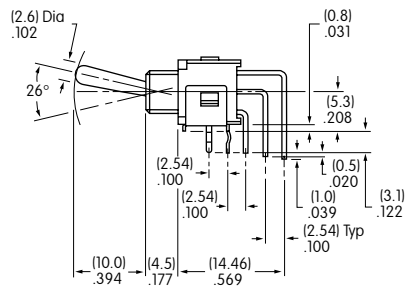
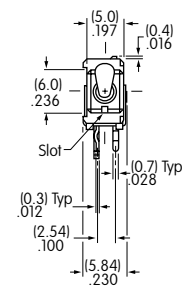
Double Pole



A22AH

Vertical PC

Single Pole



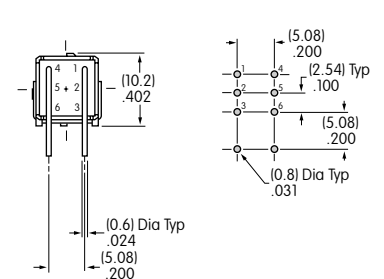
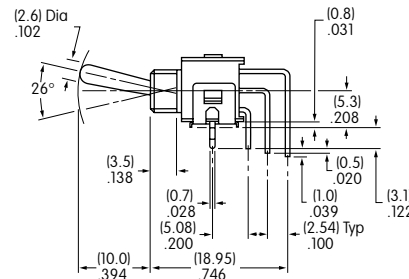
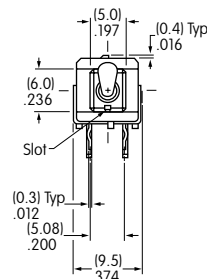
A12AV

V Terminals

V1 Terminals

Vertical PC

Double Pole



A22AV