#### Features/Benefits

- Sealed against solder & cleaning processes
- Thru-hole and surface mount models
- Snap-fitting actuator accepts standard caps
- Tape & reel packaging available
- RoHS compliant models available



Models Available

#### **Typical Applications**

- Telecommunications and networking equipment
- Computers and peripherals
- Instrumentation and controls





#### **Specifications**

CONTACT RATING: B contact material: 0.4 VA max. @ 20 V AC or DC max. See page A-13 for additional ratings.

ELECTRICAL LIFE: EP11, EP21 models: 60,000 make-and-break cycles at full load. EP12 models: 30,000 cycles.

CONTACT RESISTANCE: Below 20 m $\Omega$ 9 typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE:  $10^9 \Omega 9 \text{ min.}$ 

DIELECTRIC STRENGTH: 1000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 85°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

DEGREE OF PROTECTION: IP57; Protection against harmful dust deposit, full-scale voltage protection, temporary immersion.

PACKAGING: Surface mount switches standard in anti-static tape and reel packaging per EIA 481-3, see page A-14 for drawings and reel information. Tape and cover strip are conductive for use near statically sensitive components, consult Customer Service Center.

#### **Materials**

CASE & BUSHING: High temperature material, glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0) on EP11 / EP12 models; glass filled nylon 6/6 on EP21.

PLUNGER: Thermoplastic polyester or glass filled nylon (UL 94V-0), with internal o-ring seal. SA surface mount: High temperature material, glass filled LCP (UL 94V-0).

SWITCH SUPPORT: Brass, matte-tin plated.

CONTACTS & TERMINALS: B contact material: Copper alloy, with gold plate over nickel plate. See page A-13 for additional contact materials.

TERMINAL SEAL: Epoxy.

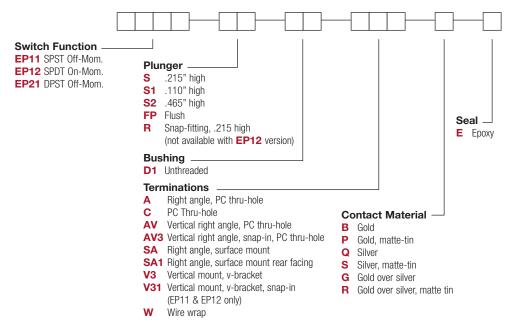
NOTE: Any models supplied with Q, B, P, S, R or G contact material are RoHS compliant.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

CAUTION: PC mounting layouts and pads as shown are designed to be compatible with the latest equipment and reflow techniques. Care should be taken in the design and location of PC lands to suit individual needs. Orientation relative to reflow direction may significantly impact solder joint integrity.

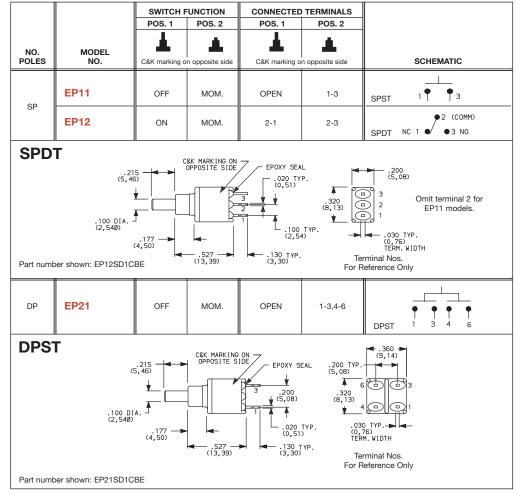
#### **Build-A-Switch**

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-10 thru A-14. For additional options not shown in catalog, consult Customer Service Center. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods.

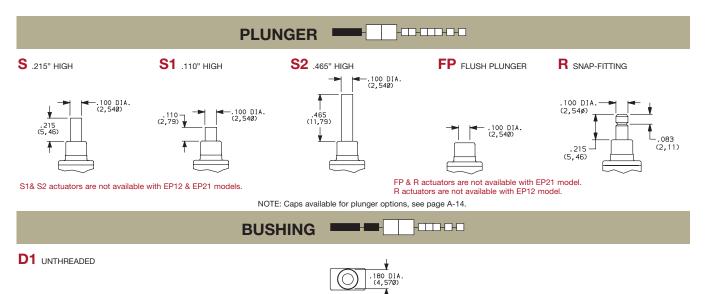




#### **SWITCH FUNCTION**



with all options when ordered with G, Q, R or S contact material.

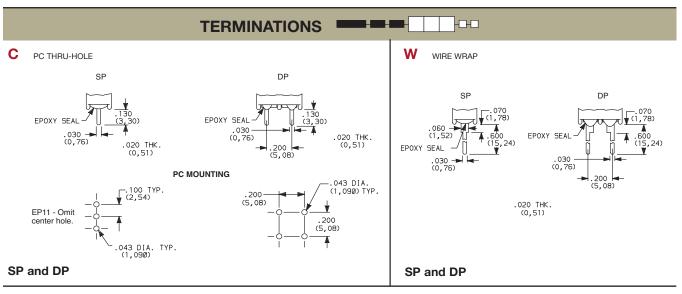


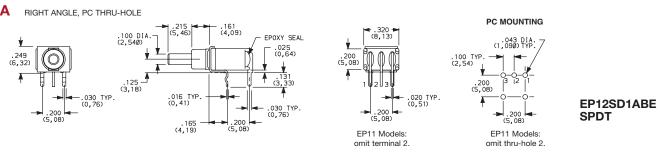
A-10

Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

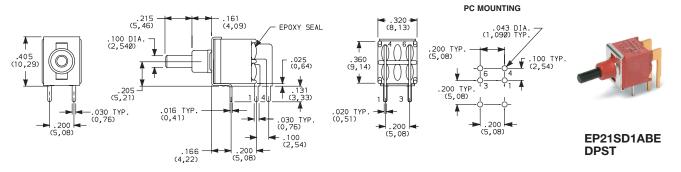
NOTE: Internal actuator o-ring standard.

Third Angle Projection

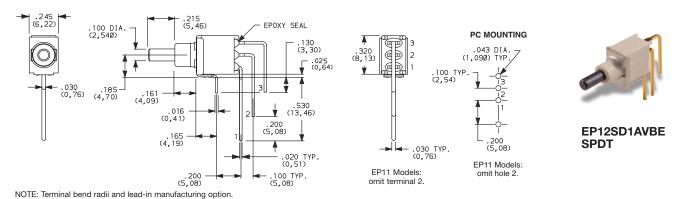




## RIGHT ANGLE, PC THRU-HOLE



#### VERTICAL RIGHT ANGLE, PC THRU-HOLE



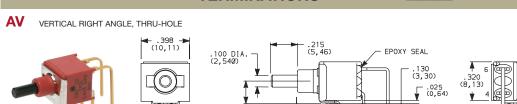




Dimensions are shown: Inches (mm) Specifications and dimensions subject to change



# **TERMINATIONS**



**EP21SD1AVBE DPST** 

6 .161 .016 .530 (13,46) .165 (4,19) .020 TYP. 200 TYP (5,08) .200

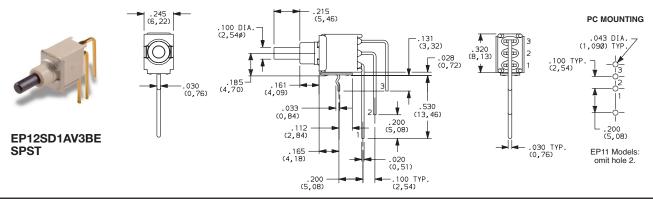
.200 TYP. 200 TYP (5,08)

PC MOUNTING

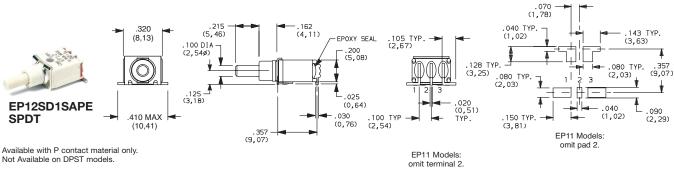
PC MOUNTING

NOTE: Terminal bend radii and lead-in manufacturing option.

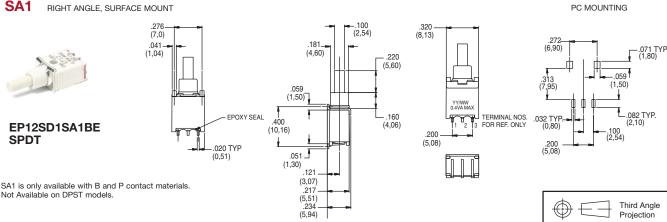
VERTICAL RIGHT ANGLE, SNAP-IN, PC THRU-HOLE



RIGHT ANGLE, SURFACE MOUNT



SA<sub>1</sub> RIGHT ANGLE, SURFACE MOUNT



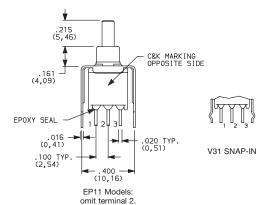


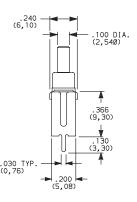
Dimensions are shown: Inches (mm) Specifications and dimensions subject to change

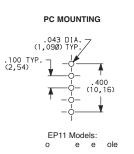
# **TERMINATIONS**

VERTICAL MOUNT, V-BRACKET

VERTICAL MOUNT, V-BRACKET, SNAP-IN

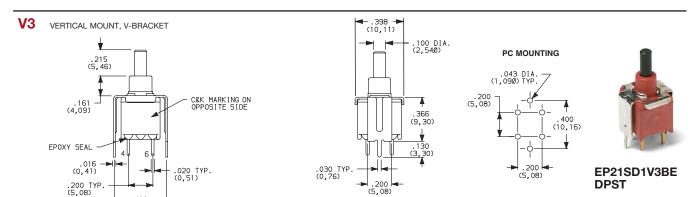








EP12SD1V3BE **SPDT** 



# **CONTACT MATERIAL**

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
В	GOLD <sup>1</sup>	GOLD <sup>1</sup>	LOW LEVEL/DRY CIRCUIT 0.4 VA	0.4 VA MAX. @ 20 V AC OR DC MAX.
Р		MATTE-TIN <sup>6</sup>		0.4 VA IVIAX. @ 20 V AC ON DC IVIAX.
Q	SILVER <sup>4,5</sup>	SILVER <sup>5</sup>	POWER	1 AMP @ 120 V AC OR 28 V DC.
S		MATTE-TIN <sup>6</sup>		
G	GOLD OVER SILVER 2,3	GOLD <sup>3</sup> MATTE-TIN <sup>6</sup>	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 VA MAX @ 20 V AC OR DC MAX. OR 1 AMP @ 120 V AC OR 28 V DC.
R				

- \* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.
- <sup>1</sup> CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate. <sup>2</sup> END CONTACTS: Coin silver, with gold plate over nickel plate.
- <sup>3</sup> CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- <sup>4</sup> END CONTACTS: Coin silver, silver plated.
- <sup>5</sup> CENTER CONTACT & ALL TERMINALS: Copper alloy, silver plated.

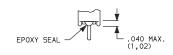
<sup>6</sup> TERMINALS: Copper alloy, with matte tin over nickel plate.

NOTE: Any models supplied with Q, B P, S ,R or G contact material are RoHS compliant.

All models with all options when ordered with G, S, R or Q contact material.









Dimensions are shown: Inches (mm) Specifications and dimensions subject to change



### **AVAILABLE HARDWARE**

.038

585A01000 WHITE

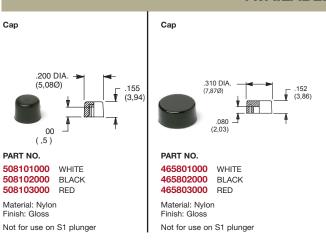
585A02000 BLACK

585A03000 RED

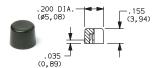
Material: Nylon

Finish: Gloss

PART NO.



Cap Compatible with snap-fitting plungers EP11 & EP12 Models. R option only. Compatible with snap-fitting plungers EP11 & EP12 Models. R option only. .310 DIA. (ø7,87) (3,89)



PART NO.

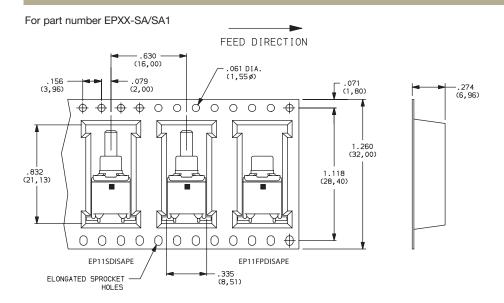
785A01000 WHITE 785A02000 BLACK 785A03000 RED

Material: Nylon Finish: Gloss

NOTE: Other colors available, consult Customer Service Center.

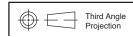
### **TAPE & REEL**

A-14



REEL INFORM	REEL INFORMATION				
OUTSIDE DIAMETER	13.00 (330,0)				
PILOT HOLE	.512 (13,0)				
QUANTITY PER REEL	600				





# **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

# **C&K Switches:**

508101000 752703000 465200202 508103000 508102000 708902000 706203000 752702000 760202263 465000201 798206000 798202263 752706000 785101000 11599112602 757300201 785A02000 785A03000 0633B 709903201 175050200 175020201 495100201 465101201 700201A56 757200A56 791600201 531300201 471300201 709901A56 135A00000 709901215 702501A56 EP11FPD1CQE EP11FPD1AQE EP11RD1CGE EP11SD1CGE EP11SD1V31GE EP12SD1AVQE EP12SD1V3QE