

103-652



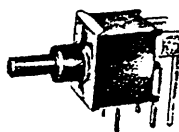
EP Series

Sealed* Tiny Pushbutton Switches

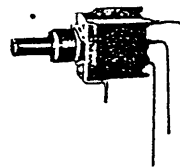
*Process sealed—withstands soldering and cleaning processes.



EP11SD1CBE



EP21SD1ABE



EP12SD1AVBE

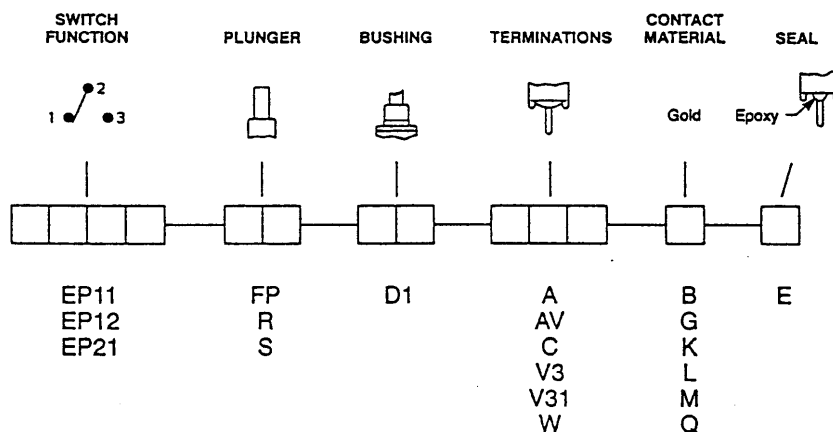


EP12SD1V38E

.R1 ④ models available, see page C-50.

Easy Build-A-Switch

Below is a complete listing of available options for EP SERIES SEALED TINY PUSHBUTTON SWITCHES. Build-A-Switch allows you to mix and match options to create the switch you need—simply select desired option from each category. Switches with standard options are shown on page C-50; all available options are shown and described on pages C-50 thru C-54. When building a part number, some ordering format boxes may not be filled. Dashes, hyphens or spaces in the part number are not significant and are shown for clarity only. Complete HOW TO ORDER information is at the end of this section, page C-54. Actuator caps available separately, see section K. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods. EP Series surface mount models also available, see pages C-55 and C-56.



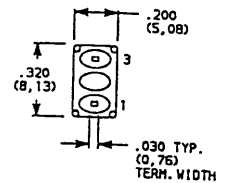
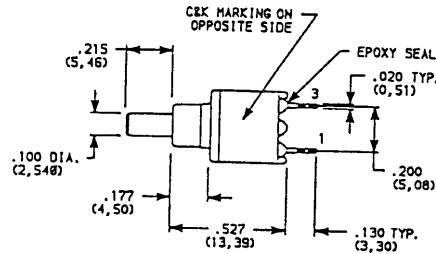
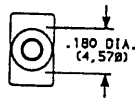


EP Series

Sealed* Tiny Pushbutton Switches

*Process sealed—withstands soldering and cleaning processes.

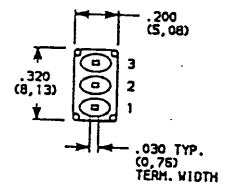
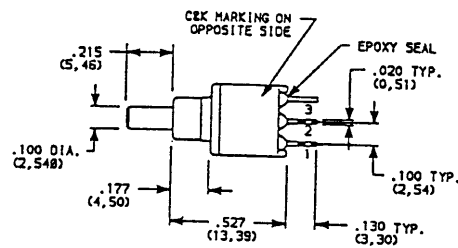
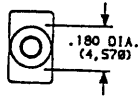
SWITCHES WITH STANDARD OPTIONS



SPST Model

Part No. Shown: EP11SD1CBE

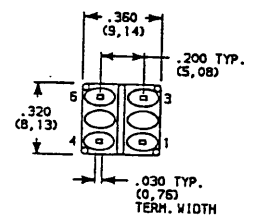
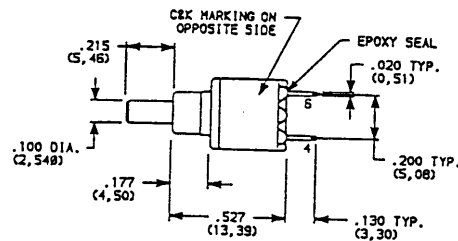
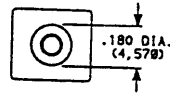
Terminal Nos.
For Reference Only



SPDT Model

Part No. Shown: EP12SD1CBE

Terminal Nos.
For Reference Only



DPST Model

Part No. Shown: EP21SD1CBE

Terminal Nos.
For Reference Only

SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
SP	EP11	OFF	MOM.	OPEN	1-3	SPST
	EP12	ON	MOM.	2-1	2-3	SPDT
DP	EP21	OFF	MOM.	OPEN	1-3,4-6	DPST

MOM. = Momentary

All models with all options when ordered with G, L, M or Q contact material. EP12 model not CSA.

See AGENCY APPROVALS, page VIII.

EP21 model not available with FP plunger option.



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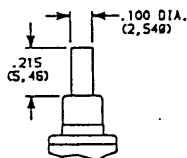
EP Series

Sealed* Tiny Pushbutton Switches

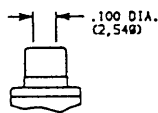
*Process sealed—withstands soldering and cleaning processes.

ACTUATOR

S (STD.)

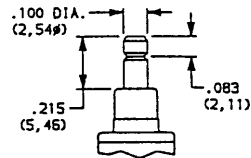


FP FLUSH PLUNGER



NOTE: Not available with EP21 model.

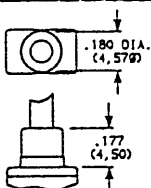
R SNAP-FITTING



NOTE: Not available with EP21 model.

BUSHING

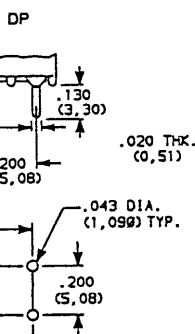
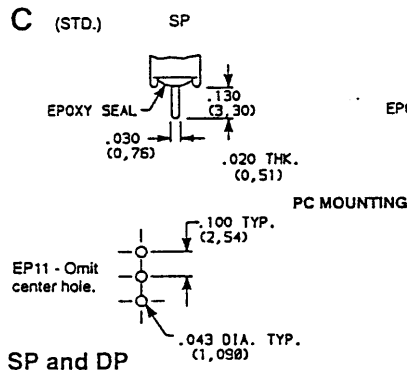
D1 (STD.)



NOTE: Internal actuator o-ring standard.

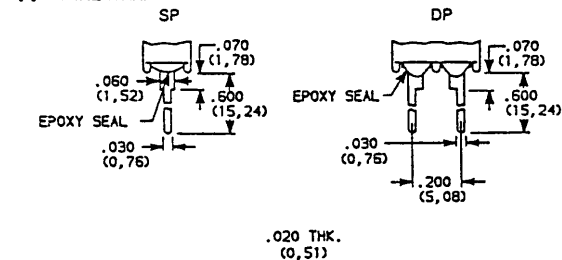
TERMINATIONS

C (STD.)



NOTE: B contact material standard.

W WIRE WRAP

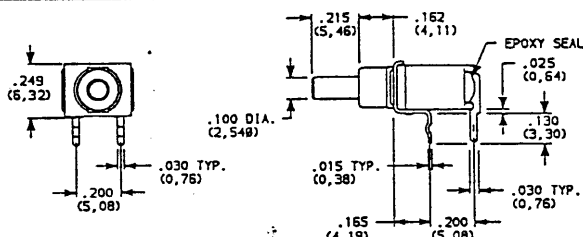


NOTE: B contact material standard.

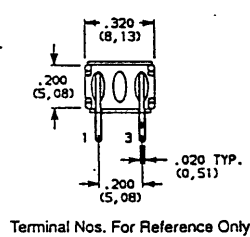
A



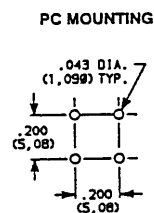
SPST
EP11 Model Only



Part No. Shown: EP11SD1ABE



Terminal Nos. For Reference Only

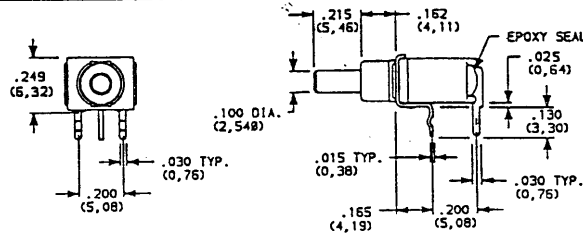


NOTE: B contact material standard.

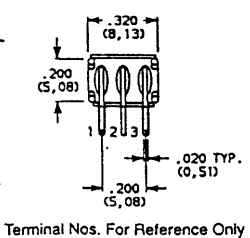
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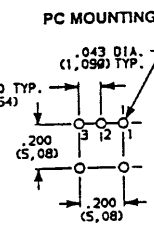
SPDT
EP12 Model Only



Part No. Shown: EP12SD1ABE



Terminal Nos. For Reference Only



NOTE: B contact material standard.



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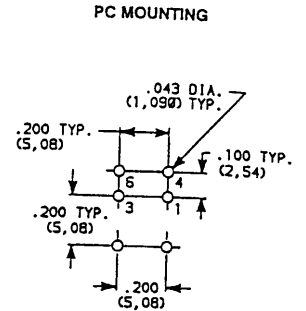
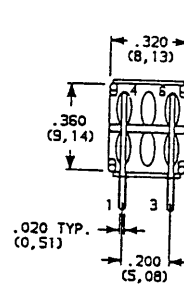
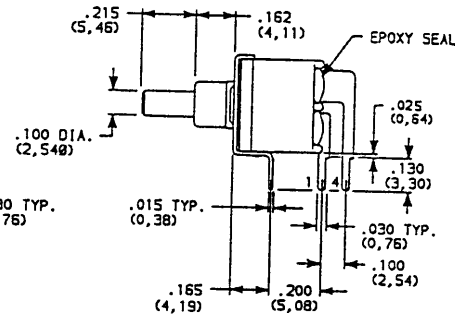
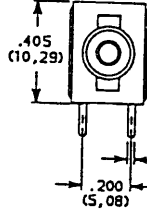
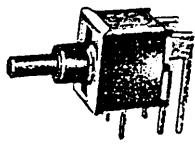
EP Series

Sealed* Tiny Pushbutton Switches

*Process sealed—withstands soldering and cleaning processes.

TERMINATIONS

A

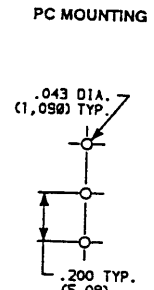
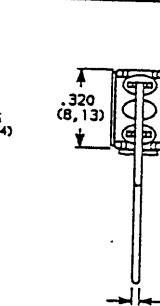
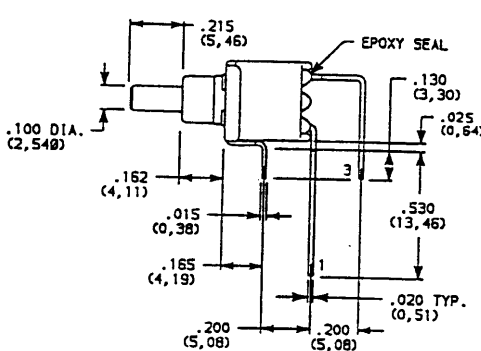
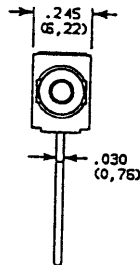
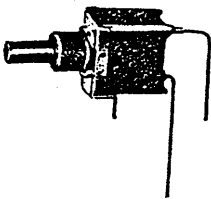


DPST Model

Part No. Shown: EP21SD1ABE

NOTE: B contact material standard.

AV

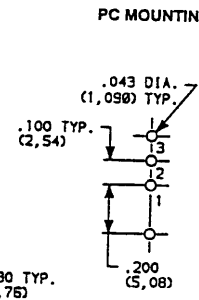
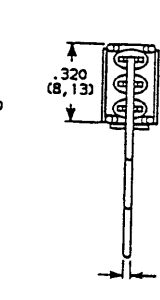
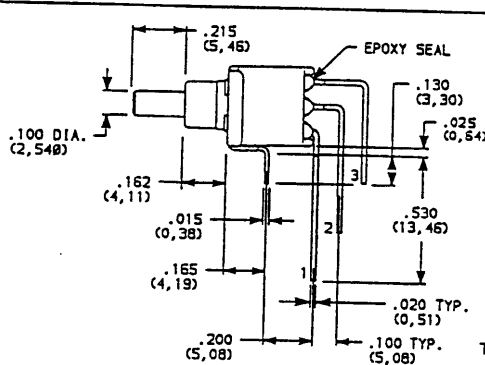
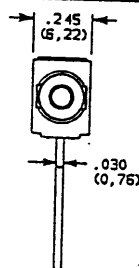
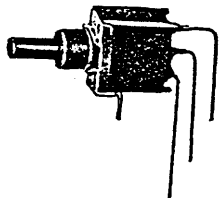


SPST
EP11 Model Only

Part No. Shown: EP11SD1AVBE

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard.

AV

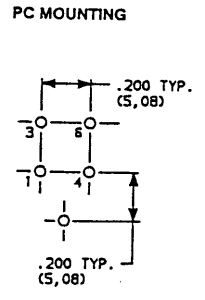
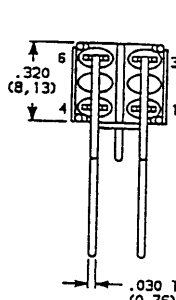
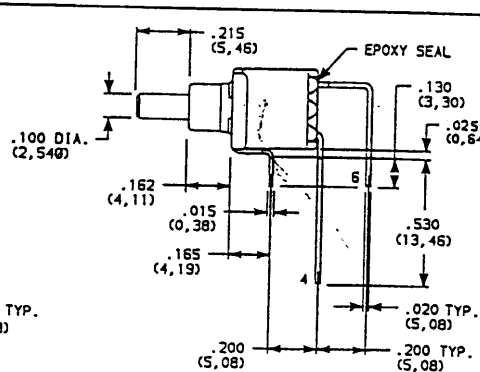
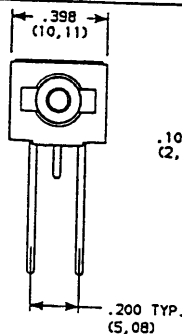
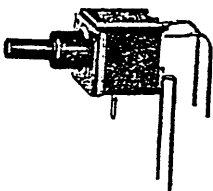


SPDT
EP12 Model Only

Part No. Shown: EP12SD1AVBE

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard.

AV



DPST
EP21 Model Only

Part No. Shown: EP21SD1AVBE

NOTE: Terminal bend radii and lead-in manufacturing option. B contact material standard.



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EP Series

Sealed* Tiny Pushbutton Switches

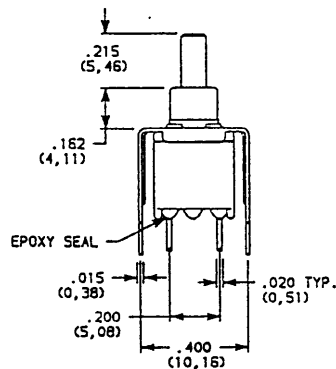
*Process sealed—withstands soldering and cleaning processes.

TERMINATIONS

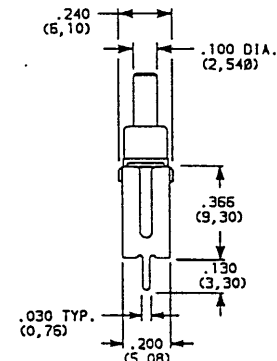


V3

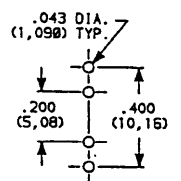
V31 SNAP-IN



V31 SNAP-IN



PC MOUNTING



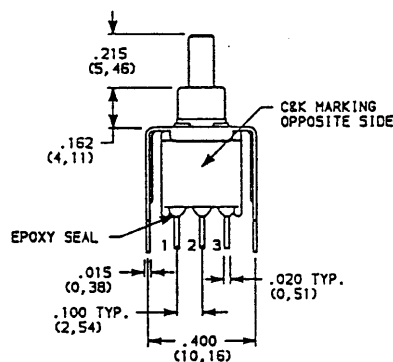
SPST
EP11 Model Only

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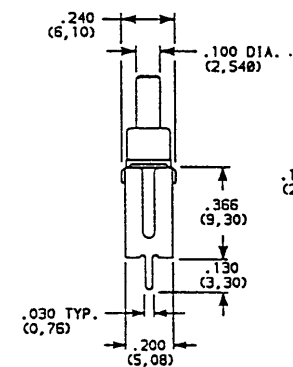
NOTE: B contact material standard.

V3

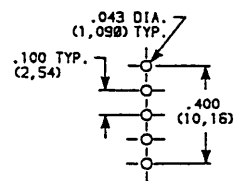
V31 SNAP-IN



V31 SNAP-IN



PC MOUNTING

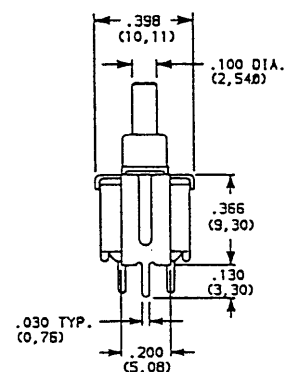
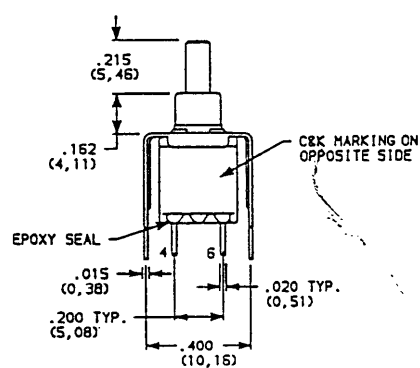
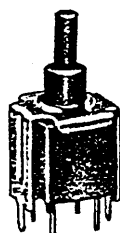


SPDT
EP12 Model Only

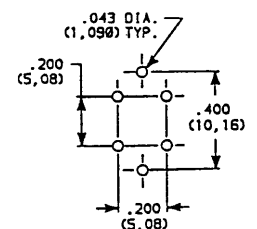
Part No. Shown: EP12SD1V3BE

NOTE: B contact material standard.

V3



PC MOUNTING



DPST

Part No. Shown: EP21SD1V3BE

NOTE: B contact material standard.



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EP Series

Sealed* Tiny Pushbutton Switches

*Process sealed—withstands soldering and cleaning processes.

CONTACT MATERIAL



OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
B	GOLD ¹	GOLD ¹	LOW LEVEL / DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
K		TIN-LEAD ⁶		
Q	SILVER ^{4,5}	SILVER ⁵	POWER	1 AMP @ 120 V AC OR 28 V DC.
M		TIN-LEAD ⁶		
G	GOLD OVER SILVER ^{2,3}	GOLD ³	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.
L		TIN-LEAD ⁶		

CONTACT MATERIAL / APPLICATION RECOMMENDATIONS — SEE CHART, PAGE X.

¹ CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.

² END CONTACTS: Coin silver, with gold plate over nickel plate.

³ CENTER CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.

⁴ END CONTACTS: Coin silver, silver plated.

⁵ CENTER CONTACTS & ALL TERMINALS: Copper alloy, silver plated.

⁶ TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.

All models, with all options when ordered with G, L, M or Q contact material.

EP21 model not CSA.

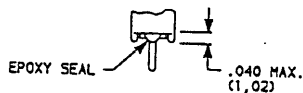
See AGENCY APPROVALS, page VIII.

B contact material standard with all terminations.

SEAL



E (STD.)



HOW TO ORDER

All available EP SERIES SEALED TINY PUSHBUTTON SWITCH options are listed on page C-49, and are described on pages C-50 thru C-54. Switches with standard options are shown on page C-50. When selecting options and building a part number, some ordering format boxes may not be filled. Dashes, hyphens or spaces in the part number are not significant and are shown for clarity only. All models are process sealed to withstand machine soldering temperatures and pressure wash cleaning methods. Actuator caps available separately, see section K. EP Series surface mount models also available, see pages C-55 and C-56.

SPECIFICATIONS

CONTACT RATING: 0.4 VA max. @ 20 V AC or DC max.
(B contact material).

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

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

INSULATION RESISTANCE: 10⁹ ohms min.

DIELECTRIC STRENGTH: 1000 V RMS 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).

MATERIALS

CASE & BUSHING: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0).

PLUNGER: Thermoplastic polyester or glass filled nylon (UL 94V-0), with internal o-ring seal.

SWITCH SUPPORT: Brass, tin plated.

CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate (B contact material).

TERMINAL SEAL: Epoxy.

NOTE: Specifications and materials listed above are general specifications for switches with standard options. For information on specific and custom switches, consult factory.



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