

GP Series

Sealed Ultraminiature Pushbutton Switches



Specifications

Contact Rating	0.4 VA max. @ 20 VAC or DC max.
Mechanical & Electrical Life	40,000 make-and-break cycles at full load.
Contact Resistance	Below 50 mΩ typ. initial @ 2-4 VDC, 100 mA.
Insulation Resistance	10 ⁹ Ω min.
Dielectric Strength	500 Vrms min. @ sea level.
Operating Temperature	-40°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 6 for drawings and reel information. Thru-Hole parts are shipped in trays.

Notes:

All models are RoHS compliant and compliant.

Description

The GP series of sealed ultraminiature pushbutton switches are used in instrumentation and equipment in the medical and telecommunications industries because of their reliability in even the harshest conditions. Designed to save space, GP series switches are process compatible, withstand most soldering and washing processes and feature a sealed construction with an internal o-ring and an epoxy base.

Features & Benefits

- Ultraminiature design saves space
- Process compatible, withstands most soldering and washing processes
- Thru-hole and surface mount models available
- Sealed construction—internal o-ring and epoxy base
- RoHS compliant

Applications

- Telecommunications and network equipment
- Computers and peripheral products
- Instrumentation
- Medical Applications

Materials

Housing & Base	Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0).
Actuator	Glass filled nylon 4/6, flame retardant (UL 94V-0) with standard internal o-ring seal.
Switch Support	Brass, tin plated.
Movable Contact	Copper alloy, with gold plate over nickel plate.
Stationary Contacts	Copper alloy, with gold plate over nickel plate.
Terminals	Copper alloy, with gold flash over nickel plate.
Terminal Seal	Epoxy/Urethane. All Terminals insert molded.

Notes:

Any models supplied with B contact material are RoHS compliant and compatible. Materials listed above are general specifications. Specifications available for 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.

GP Series

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Ordering Number

Part number list is shown below. For individual part details, please refer to the following pages.

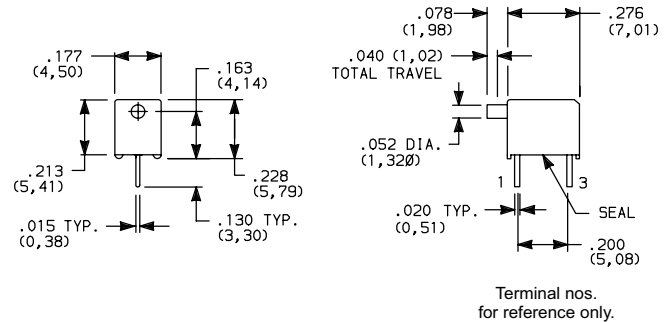
Part Number (Part Description)	Product Details
GP11MCBE	SPST Mom. PC Thru-hole, without support bracket
GP12MCBE	SPDT Mom. PC Thru-hole, without support bracket
GP11MABE	SPST Mom. PC Thru-hole, with vertical support bracket
GP12MABE	SPDT Mom. PC Thru-hole, with vertical support bracket
GP11MSABE	SPST Mom. SMT, with vertical support bracket
GP12MSABE	SPDT Mom. SMT, with vertical support bracket
GP11MSA1BE	SPST Mom. SMT, Half-Pitch, with vertical support bracket
GP12MSA1BE	SPDT Mom. SMT, Half-Pitch, with vertical support bracket
GP12MSCBE	SPDT Mom. SMT, without support bracket
GP11MSV1BE	SPST Mom. SMT, with horizontal support bracket
GP12MSV1BE	SPDT Mom. SMT, with horizontal support bracket

Notes:
MOM. = Momentary

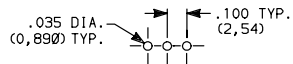
GP11MCBE SPST Dimensions inches (mm)

Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP11MCBE	OFF	MOM.	
Conn. Terms	OPEN	1-3	
GP12MCBE	ON	MOM.	
Conn. Terms	2-1	2-3	

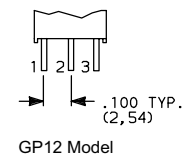
Notes: Mom. = Momentary



PC Mounting



GP11- omit center hole.



GP Series

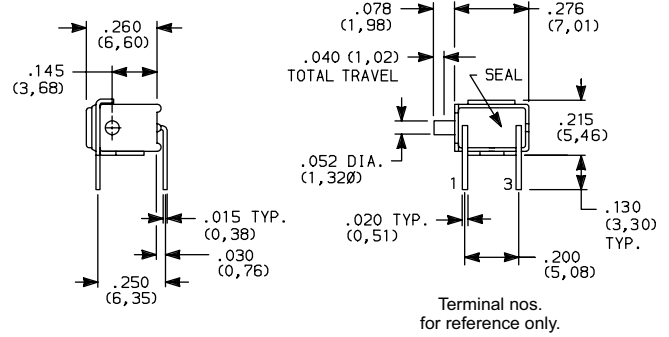
Sealed Ultraminiature Pushbutton Switches



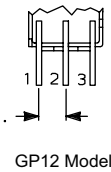
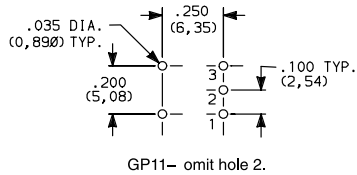
GP11MABE SPST Dimensions inches (mm)

Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP11MABE	OFF	MOM.	SPST
Conn. Terms	OPEN	1-3	
GP12MABE	ON	MOM.	SPDT
Conn. Terms	2-1	2-3	

Notes: Mom. = Momentary



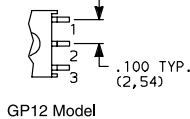
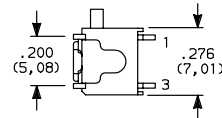
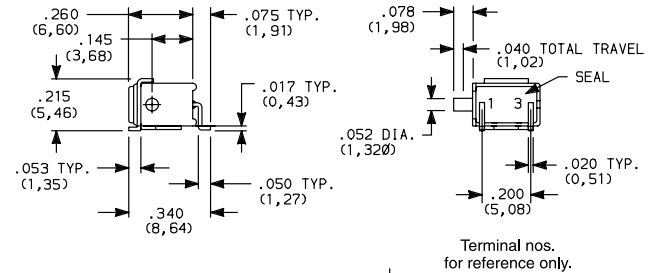
PC Mounting



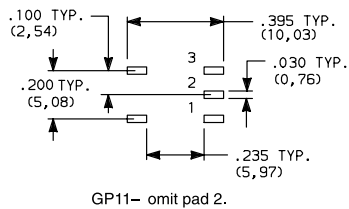
GP11MSABE SPST Dimensions inches (mm)

Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP11MSABE	OFF	MOM.	SPST
Conn. Terms	OPEN	1-3	
GP12MSABE	ON	MOM.	SPDT
Conn. Terms	2-1	2-3	

Notes: Mom. = Momentary



PC Mounting



GP Series

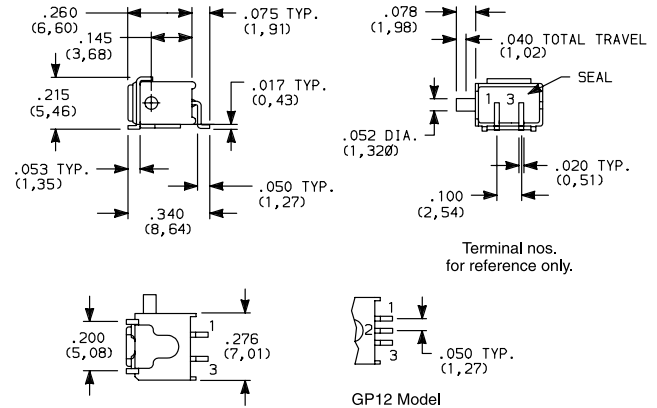
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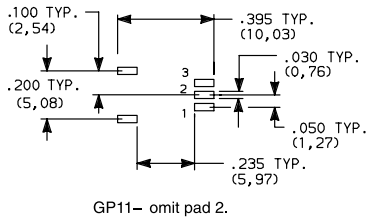
GP11MSA1BE SPST Dimensions inches (mm)

Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP11MSA1BE	OFF	MOM.	
Conn. Terms	OPEN	1-3	
GP12MSA1BE	ON	MOM.	
Conn. Terms	2-1	2-3	

Notes: Mom. = Momentary



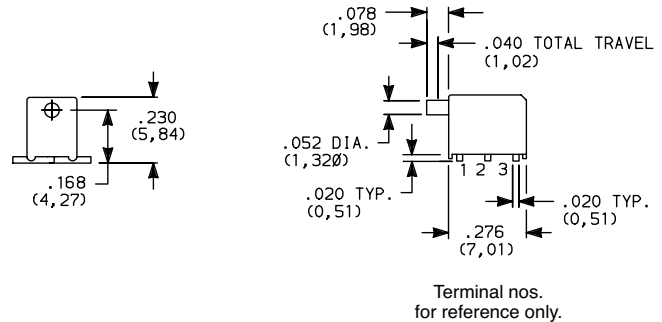
PC Mounting



GP12MSCBE SPDT Dimensions inches (mm)

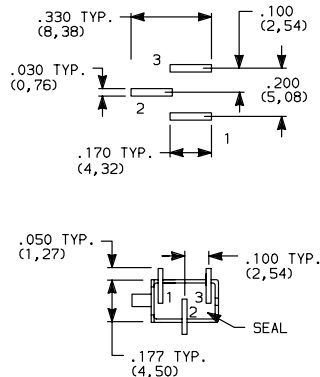
Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP12MSCBE	ON	MOM.	
Conn. Terms	2-1	2-3	

Notes: Mom. = Momentary



Notes: Recommended for infrequent use applications only. For increased switch mounting strength, order SV1 termination style with support bracket (see below).

PC Mounting



GP Series

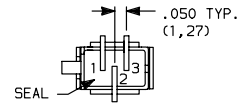
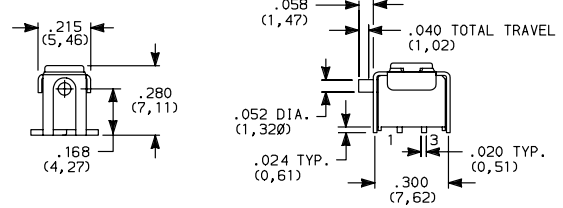
Sealed Ultraminiature Pushbutton Switches



GP11MSV1BE SPST Dimensions inches (mm)

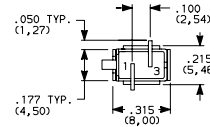
Part Number	Switch Function		Schematic
	POS. 1	POS. 2	
GP11MSV1BE	OFF	MOM.	
Conn. Terms	OPEN	1-3	
GP12MSV1BE	ON	MOM.	
Conn. Terms	2-1	2-3	

Notes: Mom. = Momentary

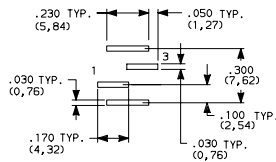


GP12 Model

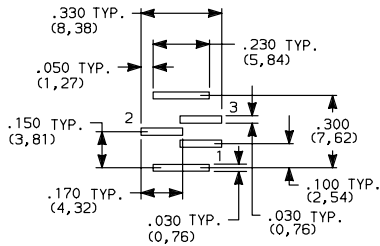
Terminal nos. for reference only.



PC Mounting GP11 Models



PC Mounting GP12 Models



GP Series

Sealed Ultraminiature Pushbutton Switches

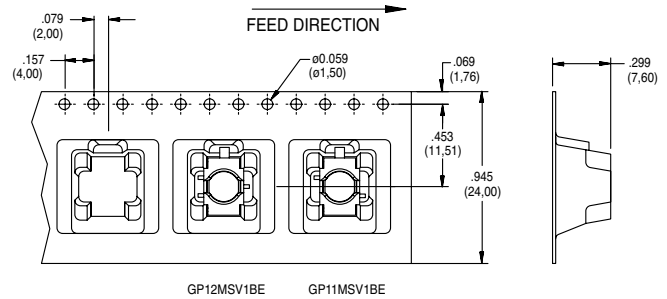


Tape & Reel

Part Numbers GP11MSV1BE, GP12MSV1BE

Reel Information

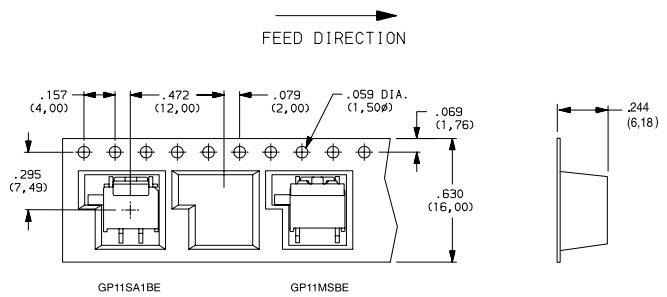
Outside Diameter	13.00 (330.0)
Pilot Hole	0.512 (13.0)
Quantity per Reel	600



Part Numbers GPXXSA1BE, GPXXMSABE

Reel Information

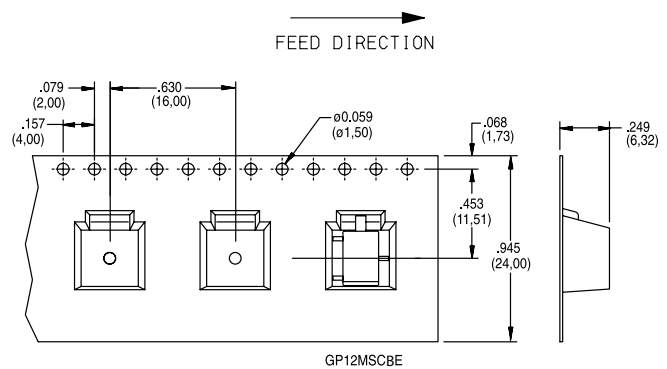
Outside Diameter	13.00 (330.0)
Pilot Hole	0.512 (13.0)
Quantity per Reel	600



Part Number GP12MSCBE

Reel Information

Outside Diameter	13.00 (330.0)
Pilot Hole	0.512 (13.0)
Quantity per Reel	600



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