

C&K GP Series Sealed Ultraminiature Pushbutton Switches

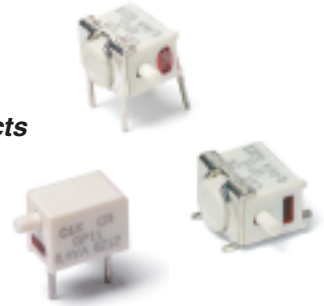


Features/Benefits

- **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**

Typical Applications

- **Telecommunications and network equipment**
- **Computers and peripheral products**
- **Instrumentation**



Specifications

CONTACT RATING: 0.4 VA max. @ 20 V AC or DC max.

MECHANICAL & ELECTRICAL LIFE: 40,000 make-and-break cycles at full load.

CONTACT RESISTANCE: Below 50 mΩ typ. initial @ 2-4 V DC, 100 mA.

INSULATION RESISTANCE: $10^9 \Omega$ min.

DIELECTRIC STRENGTH: 500 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-78 for drawings and reel information.

All models are RoHS compliant and compliant.

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.

NOTE: Any models supplied with B contact material are RoHS compliant and compatible. For the latest information regarding RoHS compliance, please go to: www.ittcannon.com/rohs.

NOTE: Materials listed above are general specifications. Specifications available for specific and custom switches, consult Customer Service Center.

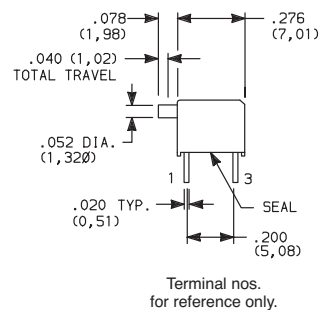
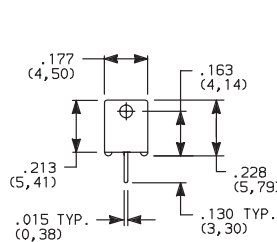
CAUTION: PC mounting layouts and pads as shown are designed to be compatible with the latest equipment and reflow techniques. Care should be taken in the design and location of PC lands to suit individual needs. Orientation relative to reflow direction may significantly impact solder joint integrity.

How To Order

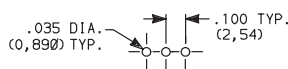
Complete part numbers for GP Series Sealed Ultraminiature Pushbutton Switches are shown on pages A-76 thru A-78.

PART NUMBER	SWITCH FUNCTION		SCHEMATIC
	POS. 1	POS. 2	
GP11MCBE	OFF	MOM.	 1 3
Conn. Terms.	OPEN	1-3	
GP12MCBE	ON	MOM.	 NC 1 2 (COMM) 3 NO
Conn. Terms.	2-1	2-3	

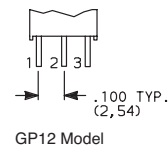
MOM. = Momentary



PC MOUNTING



GP11—omit center hole.



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



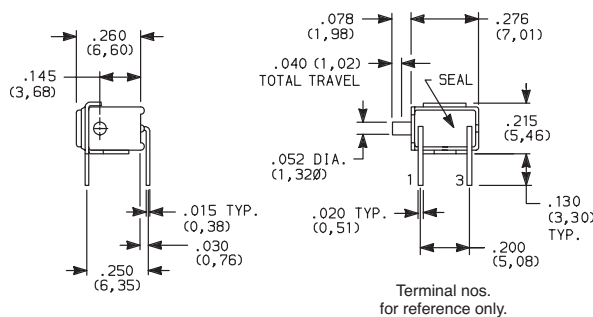
A

Pushbutton

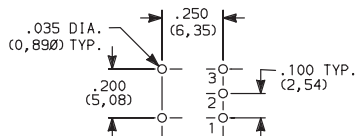
C&K GP Series Sealed Ultraminiature Pushbutton Switches



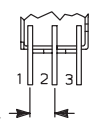
GP11MABE
SPST



PC MOUNTING



GP11- omit hole 2.



GP12 Model

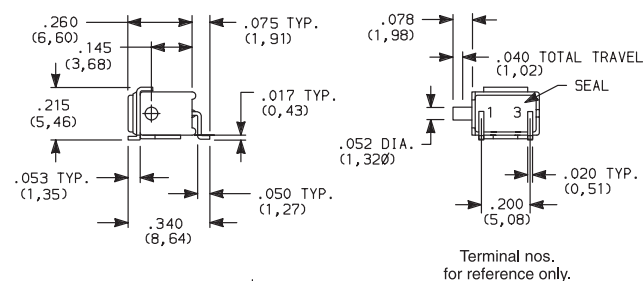
PART NUMBER	SWITCH FUNCTION		SCHEMATIC
	POS.1	POS. 2	
GP11MABE	OFF	MOM.	 SPST
Conn. Terms.	OPEN	1-3	
GP12MABE	ON	MOM.	 SPDT
Conn. Terms.	2-1	2-3	

MOM. = Momentary

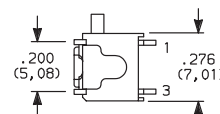
SMT



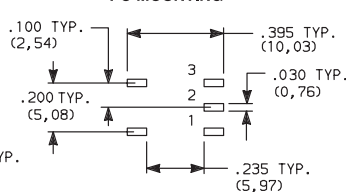
GP11MSABE
SPST



PC MOUNTING



GP12 Model



GP11- omit pad 2.

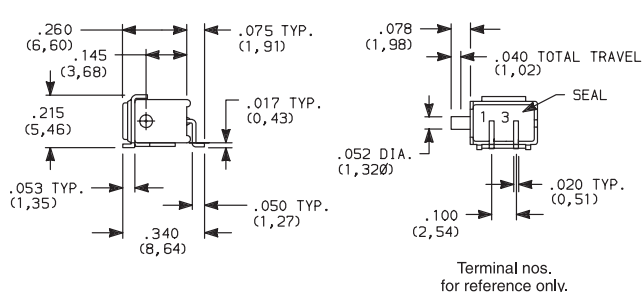
PART NUMBER	SWITCH FUNCTION		SCHEMATIC
	POS.1	POS. 2	
GP11MSABE	OFF	MOM.	 SPST
Conn. Terms.	OPEN	1-3	
GP12MSABE	ON	MOM.	 SPDT
Conn. Terms.	2-1	2-3	

MOM. = Momentary

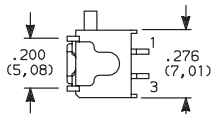
SMT



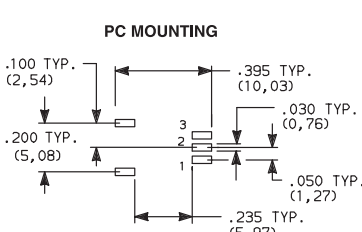
GP11MSA1BE
SPST



PC MOUNTING



GP12 Model



GP11- omit pad 2.

PART NUMBER	SWITCH FUNCTION		SCHEMATIC
	POS.1	POS. 2	
GP11MSA1BE	OFF	MOM.	 SPST
Conn. Terms.	OPEN	1-3	
GP12MSA1BE	ON	MOM.	 SPDT
Conn. Terms.	2-1	2-3	

MOM. = Momentary



ITT



Third Angle
Projection

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

A

Pushbutton

Figure 1: Dimensions of the test specimen. The figure consists of two diagrams. The left diagram shows a side view of a rectangular specimen with a circular feature on its top surface. Dimensions include a height of .230 (5,84) and a width of .168 (4,27). The right diagram shows a top view of the specimen with various dimensions and terminal numbers. Dimensions include .078 (1,98) for the top width, .040 TOTAL TRAVEL (1,02) for the top travel distance, .052 DIA. (1,320) for the circular feature diameter, .020 TYP. (0,51) for the thickness of the circular feature, .276 (7,01) for the bottom width, and .020 TYP. (0,51) for the thickness of the bottom flange. Terminal numbers 1, 2, and 3 are indicated on the right side.

SMT



GP12MSCBE
SPDT

Diagram showing a cross-sectional view of a three-ported valve assembly. The assembly includes a central body with three ports labeled 1, 2, and 3. A seal is indicated at the bottom right. Dimensions are provided for various components:

- Top left dimension: .050 TYP. (1, 27)
- Top right dimension: .100 TYP. (2, 54)
- Bottom dimension: .177 TYP. (4, 50)

SMT



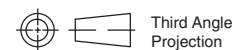
GP11MSV1BE
SPST

The technical drawing shows three views of a mechanical component:

- Top View:** Shows a rectangular plate with dimensions .230 TYP. (5,84) for width and .050 TYP. (1,27) for depth. A central feature has a diameter of .300 (7,62). A hole has a diameter of .177 TYP. (4,50).
- Front View:** Shows the profile of the part with a total height of .170 TYP. (4,32). It includes a .030 TYP. (0,76) thick section and a .100 TYP. (2,54) wide base.
- Side View:** Shows the end profile with a total width of .315 (8,00). It features a .215 (5,46) wide section and a .050 TYP. (1,27) deep feature.

GP12 Model

Terminal nos.
for reference only.



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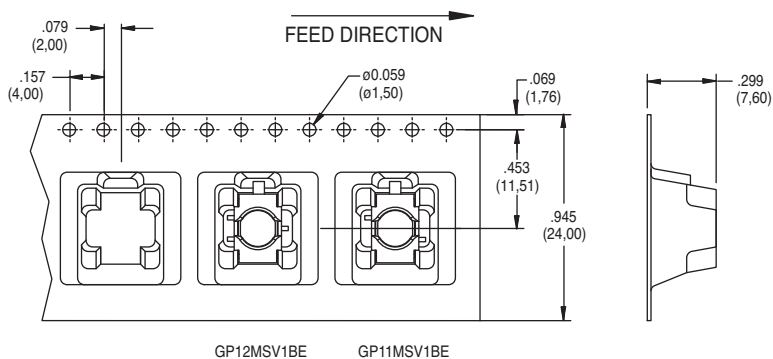
Pushbutton

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TAPE & REEL

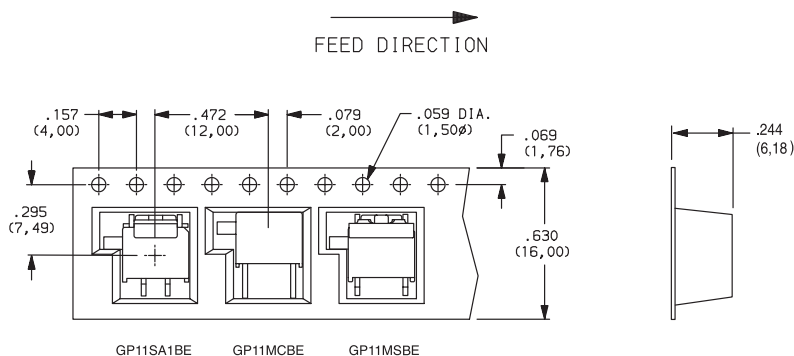
For part numbers GP11MSV1BE, GP12MSV1BE

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



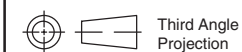
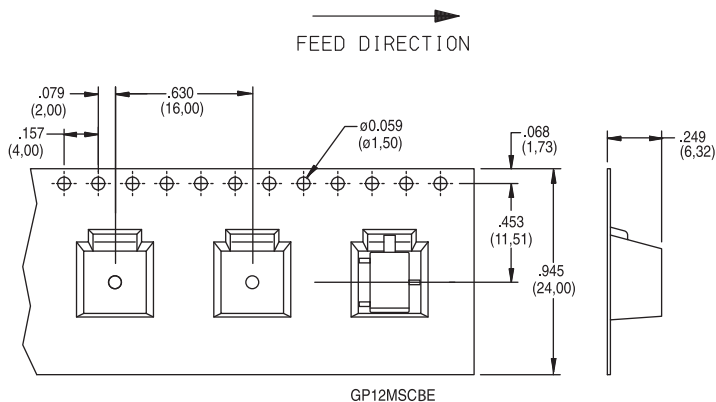
For part numbers GPXXSA1BE, GPXXMCBE, GPXXMSABE

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



For part numbers GP12MSCBE

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



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