

# C&K GT Series

## Sealed Ultraminiature Toggle Switches

### Features/Benefits

- Sealed against solder and cleaning process contaminants
- Ultraminiature size, smallest footprint available
- Thru-hole and surface mount models
- High temperature materials (UL 94V-0)
- RoHS compliant and compatible

### Typical Applications

- Hand-held telecommunications
- Small 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 m  $\Omega$  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).  
PACKAGING: Surface mount switches shipped in anti-static tape and reel packaging per EIA 481-3, see page G-48 for drawings and reel information. Tape and cover strip are conductive for use near statically sensitive components, consult Customer Service Center.

### Materials

HOUSING AND BASE: Glass filled nylon 6/6 or 4/6, flame retardant, heat stabilized (UL 94V-0).  
ACTUATOR: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0), with standard internal o-ring seal.  
SWITCH SUPPORT: Brass, tin plated.  
MOVABLE CONTACTS: Copper alloy, with gold plate over nickel plate.  
STATIONARY CONTACTS: Copper alloy, with gold plate over nickel plate.  
TERMINALS: Gold.  
TERMINAL SEAL: Epoxy. All terminals insert molded.

**NOTE:** For the latest information regarding RoHS compliance, please go to: [www.ittcannon.com/rohs](http://www.ittcannon.com/rohs).

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

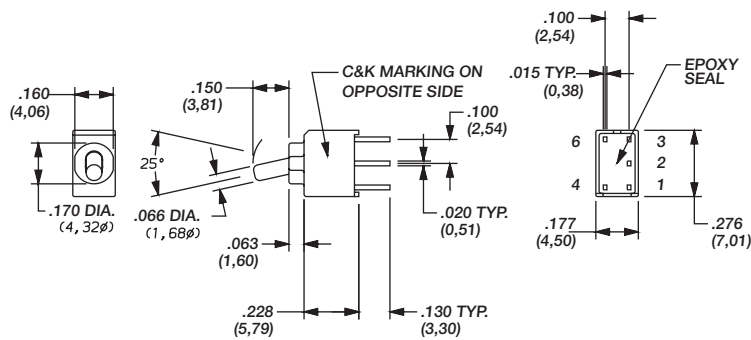
### How To Order

Complete part numbers for GT Series Sealed Ultraminiature Toggle Switches are shown on pages G-43 thru G-48.

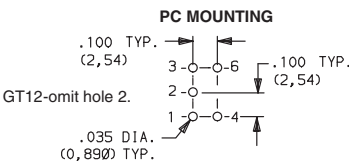


GT11MCBE  
SPDT

| PART NUMBER  | SWITCH FUNCTION                  |        |        |
|--------------|----------------------------------|--------|--------|
|              | POS.1                            | POS. 2 | POS. 3 |
| GT11MCBE     | ON                               | NONE   | ON     |
| GT13MCBE     | ON                               | OFF    | ON     |
| Conn. Terms. | 2-3                              | OPEN   | 2-1    |
| Schematic    |                                  |        |        |
| SPDT         | Note: Pins 4 and 6 not connected |        |        |
| GT12MCBE     | OFF                              | NONE   | ON     |
| Conn. Terms. | OPEN                             | N/A    | 3-1    |
| Schematic    |                                  |        |        |
| SPST         | Note: Pins 4 and 6 not connected |        |        |



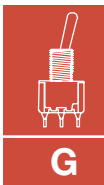
ACTUATOR SHOWN IN POS. 1



TERMINAL NOS. FOR  
REFERENCE ONLY



GT12 MODEL  
TERMINALS 1,3,4 & 6 ONLY

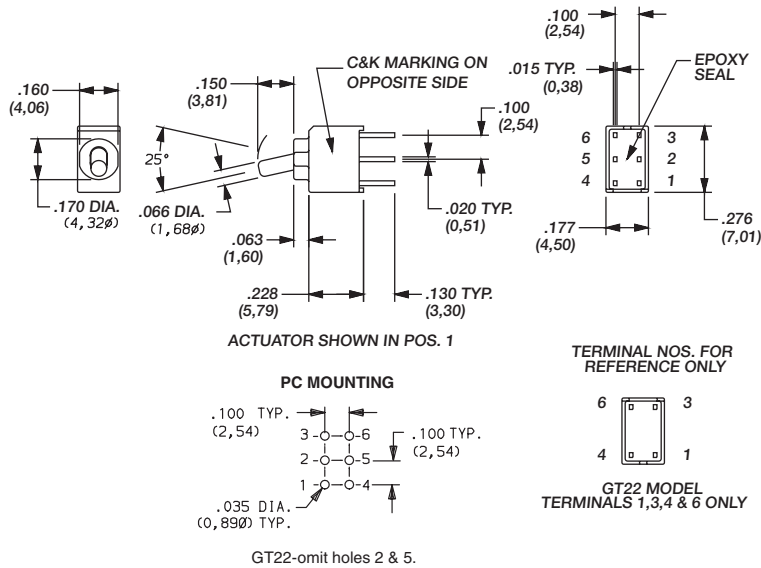


Toggle

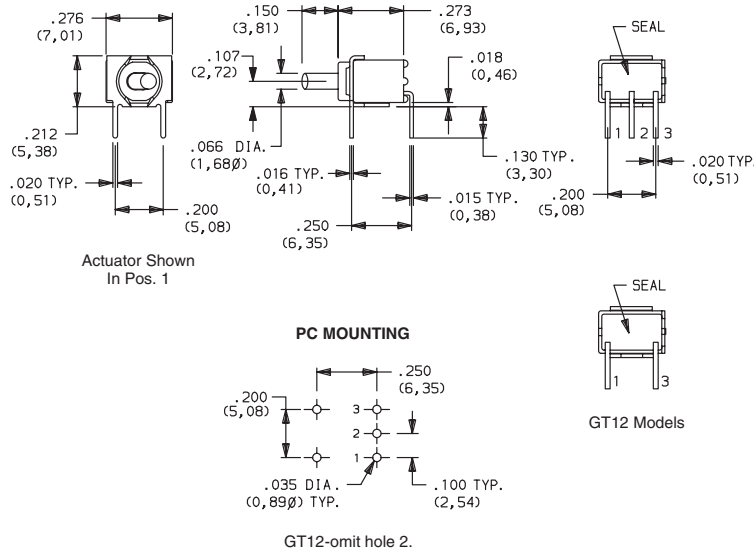


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

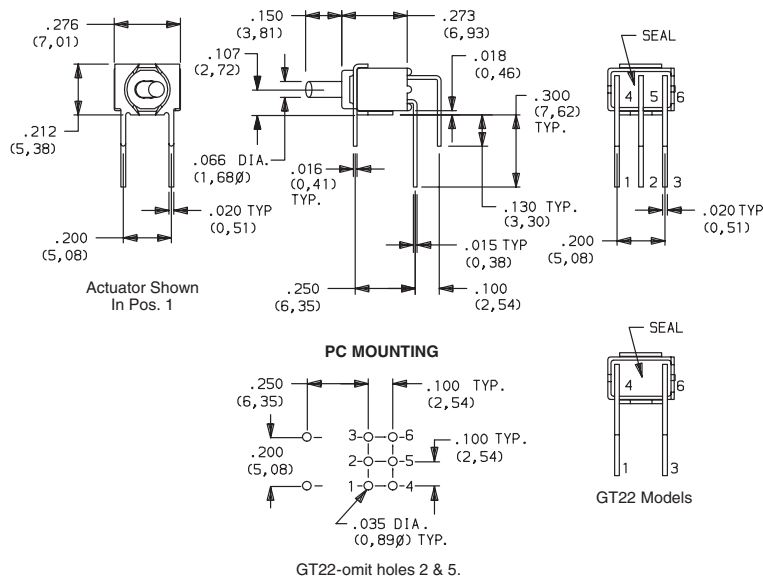
# C&K GT Series Sealed Ultraminiature Toggle Switches



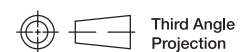
| PART NUMBER     | SWITCH FUNCTION |        |          |
|-----------------|-----------------|--------|----------|
|                 | POS.1           | POS. 2 | POS. 3   |
| <b>GT21MCBE</b> | ON              | NONE   | ON       |
| <b>GT23MCBE</b> | ON              | OFF    | ON       |
| Conn. Terms.    | 2-3, 5-6        | OPEN   | 2-1, 5-4 |
| Schematic       |                 |        |          |
| DPDT            |                 |        |          |
| <b>GT22MCBE</b> | OFF             | NONE   | ON       |
| Conn. Terms.    | OPEN            | N/A    | 3-1      |
| Schematic       |                 |        |          |
| DPST            |                 |        |          |



| PART NUMBER     | SWITCH FUNCTION |        |        |
|-----------------|-----------------|--------|--------|
|                 | POS.1           | POS. 2 | POS. 3 |
| <b>GT11MABE</b> | ON              | NONE   | ON     |
| <b>GT13MABE</b> | ON              | OFF    | ON     |
| Conn. Terms.    | 2-3             | OPEN   | 2-1    |
| Schematic       |                 |        |        |
| SPDT            |                 |        |        |
| <b>GT12MABE</b> | OFF             | NONE   | ON     |
| Conn. Terms.    | OPEN            | N/A    | 3-1    |
| Schematic       |                 |        |        |
| SPST            |                 |        |        |



| PART NUMBER     | SWITCH FUNCTION |        |          |
|-----------------|-----------------|--------|----------|
|                 | POS.1           | POS. 2 | POS. 3   |
| <b>GT21MABE</b> | ON              | NONE   | ON       |
| <b>GT23MABE</b> | ON              | OFF    | ON       |
| Conn. Terms.    | 2-3, 5-6        | OPEN   | 2-1, 5-4 |
| Schematic       |                 |        |          |
| DPDT            |                 |        |          |
| <b>GT22MABE</b> | OFF             | NONE   | ON       |
| Conn. Terms.    | OPEN            | N/A    | 3-1, 6-4 |
| Schematic       |                 |        |          |
| DPST            |                 |        |          |



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



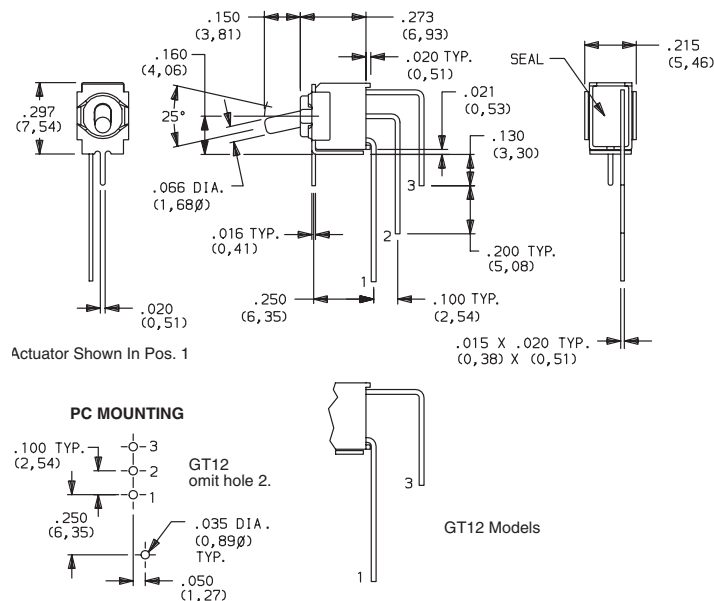
# C&K GT Series

## Sealed Ultraminiature Toggle Switches



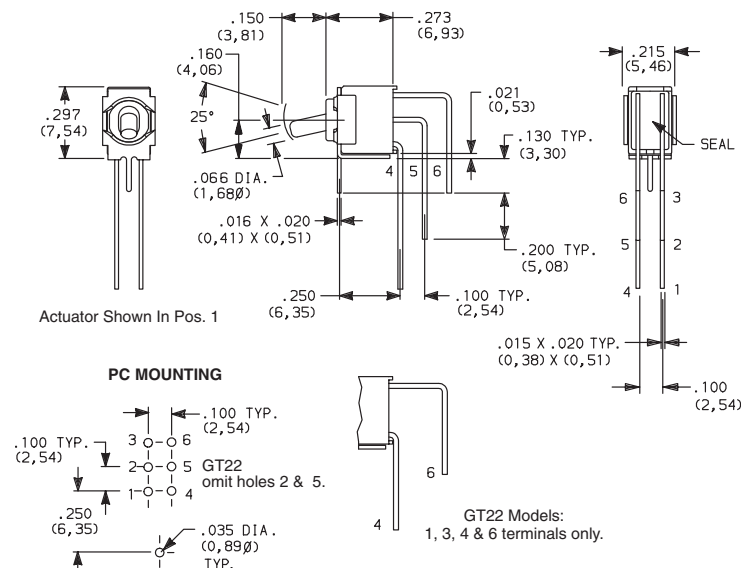
GT11MAVBE  
Vertical  
Actuation  
SPDT

| PART NUMBER      | SWITCH FUNCTION |        |        |
|------------------|-----------------|--------|--------|
|                  | POS.1           | POS. 2 | POS. 3 |
| <b>GT11MAVBE</b> | ON              | NONE   | ON     |
| <b>GT13MAVBE</b> | ON              | OFF    | ON     |
| Conn. Terms.     | 2-3             | OPEN   | 2-1    |
| Schematic        |                 |        |        |
| SPDT             |                 |        |        |
| <b>GT12MAVBE</b> | OFF             | NONE   | ON     |
| Conn. Terms.     | OPEN            | N/A    | 3-1    |
| Schematic        |                 |        |        |
| SPST             |                 |        |        |



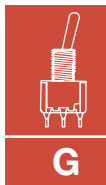
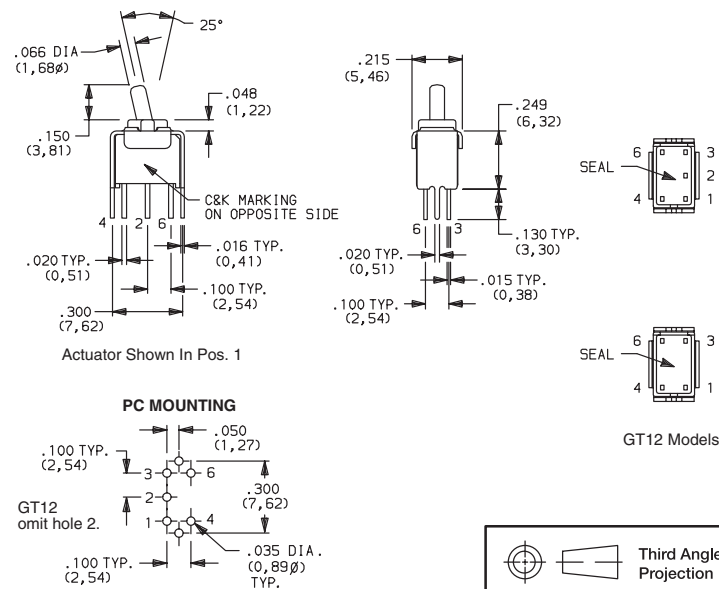
GT21MAVBE  
Vertical  
Actuation  
DPDT

| PART NUMBER      | SWITCH FUNCTION |        |          |
|------------------|-----------------|--------|----------|
|                  | POS.1           | POS. 2 | POS. 3   |
| <b>GT21MAVBE</b> | ON              | NONE   | ON       |
| <b>GT23MAVBE</b> | ON              | OFF    | ON       |
| Conn. Terms.     | 2-3, 5-6        | OPEN   | 2-1, 5-4 |
| Schematic        |                 |        |          |
| DPDT             |                 |        |          |
| <b>GT22MAVBE</b> | OFF             | NONE   | ON       |
| Conn. Terms.     | OPEN            | N/A    | 3-1, 6-4 |
| Schematic        |                 |        |          |
| DPST             |                 |        |          |



GT11MV3BE  
SPDT

| PART NUMBER      | SWITCH FUNCTION                  |        |        |
|------------------|----------------------------------|--------|--------|
|                  | POS.1                            | POS. 2 | POS. 3 |
| <b>GT11MV3BE</b> | ON                               | NONE   | ON     |
| <b>GT13MV3BE</b> | ON                               | OFF    | ON     |
| Conn. Terms.     | 2-3                              | OPEN   | 2-1    |
| Schematic        |                                  |        |        |
| SPDT             | Note: Pins 4 and 6 not connected |        |        |
| <b>GT12MV3BE</b> | OFF                              | NONE   | ON     |
| Conn. Terms.     | OPEN                             | N/A    | 3-1    |
| Schematic        |                                  |        |        |
| SPST             | Note: Pins 4 and 6 not connected |        |        |

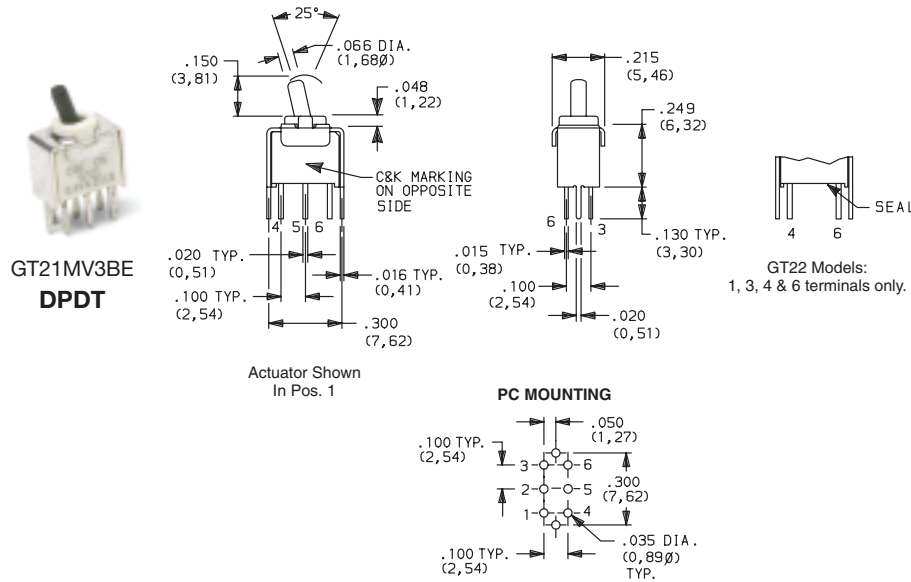


Toggle

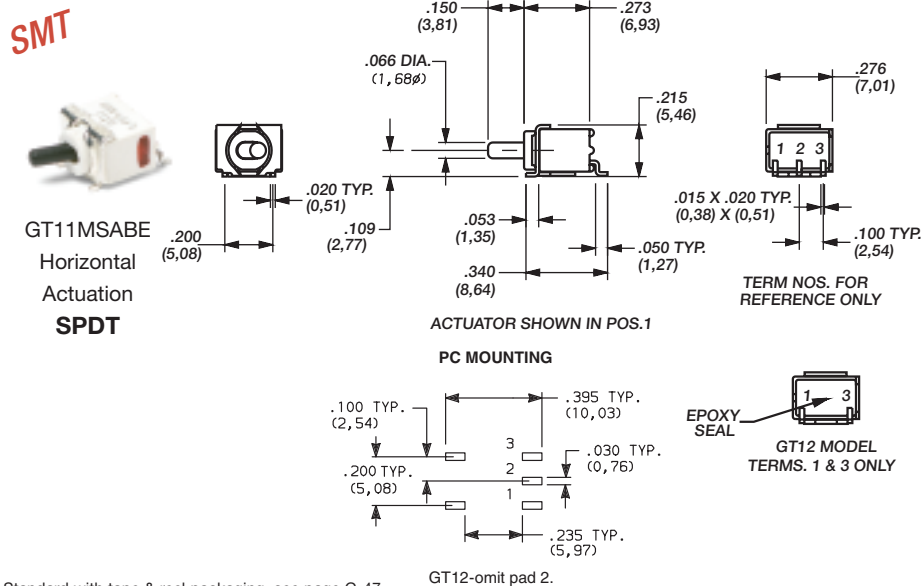


Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change

# C&K GT Series Sealed Ultraminiature Toggle Switches

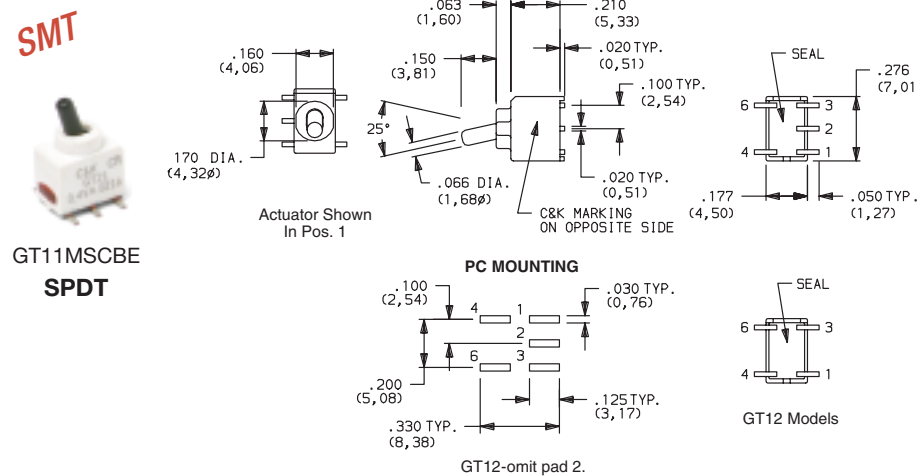


| PART NUMBER                          | SWITCH FUNCTION |        |          |
|--------------------------------------|-----------------|--------|----------|
|                                      | POS. 1          | POS. 2 | POS. 3   |
| <b>GT21MV3BE</b><br><b>GT23MV3BE</b> | ON              | NONE   | ON       |
| Conn. Terms.                         | 2-3, 5-6        | OPEN   | 2-1, 5-4 |
| Schematic                            |                 |        |          |
| DPDT                                 |                 |        |          |
| <b>GT22MV3BE</b>                     | OFF             | NONE   | ON       |
| Conn. Terms.                         | OPEN            | N/A    | 3-1, 6-4 |
| Schematic                            |                 |        |          |
| DPST                                 |                 |        |          |



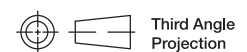
| PART NUMBER                              | SWITCH FUNCTION |        |        |
|------------------------------------------|-----------------|--------|--------|
|                                          | POS. 1          | POS. 2 | POS. 3 |
| <b>GT11MSABETR</b><br><b>GT13MSABETR</b> | ON              | NONE   | ON     |
| Conn. Terms.                             | 2-3             | OPEN   | 2-1    |
| Schematic                                |                 |        |        |
| SPDT                                     |                 |        |        |
| <b>GT12MSABETR</b>                       | OFF             | NONE   | ON     |
| Conn. Terms.                             | OPEN            | N/A    | 3-1    |
| Schematic                                |                 |        |        |
| SPST                                     |                 |        |        |

Standard with tape & reel packaging, see page G-47.



| PART NUMBER                              | SWITCH FUNCTION                  |        |        |
|------------------------------------------|----------------------------------|--------|--------|
|                                          | POS. 1                           | POS. 2 | POS. 3 |
| <b>GT11MSCBETR</b><br><b>GT13MSCBETR</b> | ON                               | NONE   | ON     |
| Conn. Terms.                             | 2-3                              | OPEN   | 2-1    |
| Schematic                                |                                  |        |        |
| SPDT                                     | Note: Pins 4 and 6 not connected |        |        |
| <b>GT12MSCBETR</b>                       | OFF                              | NONE   | ON     |
| Conn. Terms.                             | OPEN                             | N/A    | 3-1    |
| Schematic                                |                                  |        |        |
| SPST                                     | Note: Pins 4 and 6 not connected |        |        |

Standard with tape & reel packaging, see page G-47.



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



**SMT**



| PART NUMBER        | SWITCH FUNCTION                          |          |             |
|--------------------|------------------------------------------|----------|-------------|
|                    | POS.1                                    | POS. 2   | POS. 3      |
|                    | <b>GT21MSCBETR</b><br><b>GT23MSCBETR</b> | ON<br>ON | NONE<br>OFF |
| Conn. Terms.       | 2-3, 5-6                                 | OPEN     | 2-1, 5-4    |
| Schematic          |                                          |          |             |
|                    |                                          |          |             |
| DPDT               |                                          |          |             |
| <b>GT22MSCBETR</b> | OFF                                      | NONE     | ON          |
| Conn. Terms.       | OPEN                                     | N/A      | 3-1, 6-4    |
| Schematic          |                                          |          |             |
|                    |                                          |          |             |
| DPST               |                                          |          |             |

Technical drawing of the actuator assembly showing three views: front, side, and detail of the seal. Dimensions are in inches and parentheses show millimeter equivalents.

**Front View:**

- Top width:  $.160$  (4,06)
- Bottom width:  $.170$  DIA. (4,32Ø)
- Left height:  $.170$  DIA. (4,32Ø)

**Side View:**

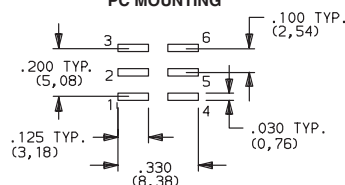
- Top width:  $.150$  (3,81)
- Top angle:  $25^\circ$
- Top hole diameter:  $.066$  DIA. (1,68Ø)
- Top hole offset:  $.063$  (1,60)
- Bottom hole offset:  $.210$  (5,33)
- Bottom hole diameter:  $.020$  TYP. (0,51)
- CRK MARKING ON OPPOSITE SIDE
- Top hole diameter:  $.100$  TYP. (2,54)
- Top hole offset:  $.020$  TYP. (0,51)

**Seal Detail:**

- Seal
- 6
- 3
- 276 (7,01)
- 5
- 2
- 4
- 1
- .050 TYP. (1,27)
- .177 (4,50)

Actuator Shown In Pos. 1

## PC MOUNTING

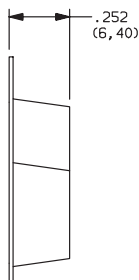
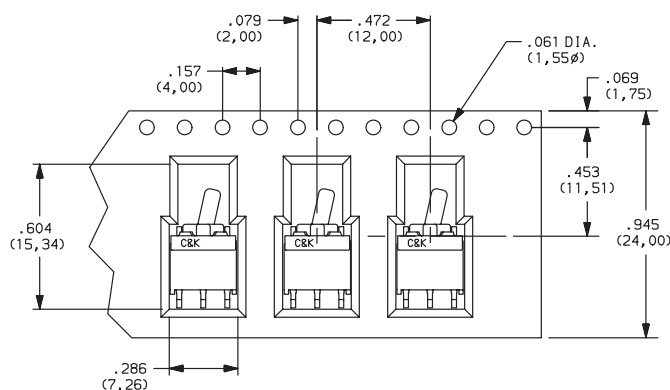


GT22 Models

## TAPE & REEL

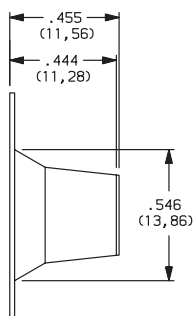
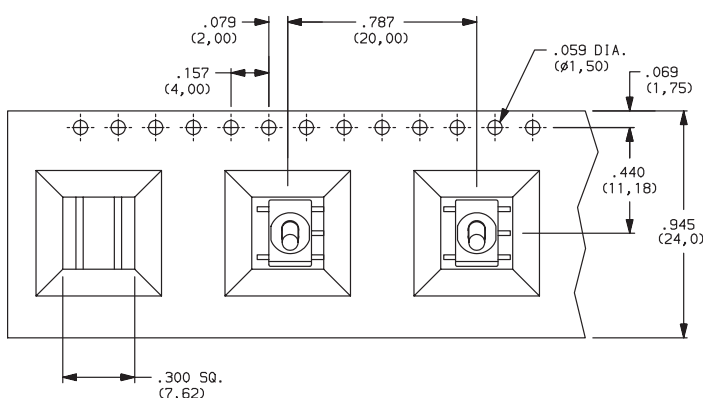


FEED DIRECTION

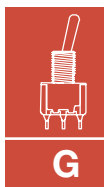


| REEL INFORMATION  |               |
|-------------------|---------------|
| OUTSIDE DIAMETER  | 13.00 (330,0) |
| PILOT HOLE        | .512 (13,0)   |
| QUANTITY PER REEL | 600           |

FEED DIRECTION



| REEL INFORMATION  |               |
|-------------------|---------------|
| OUTSIDE DIAMETER  | 13.00 (330,0) |
| PILOT HOLE        | .512 (13,0)   |
| QUANTITY PER REEL | 200           |



## Toggle



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