

# 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 F-47 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 4/6, flame retardant, heat stabilized (UL 94V-0).  
 ACTUATOR: Glass filled nylon 4/6, 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:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

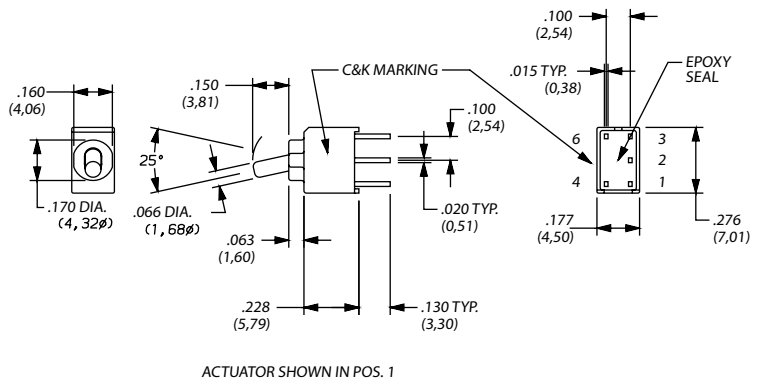
## How To Order

Complete part numbers for GT Series Sealed Ultraminiature Toggle Switches are shown on pages F-43 thru F-47.

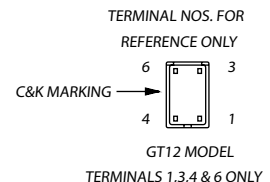
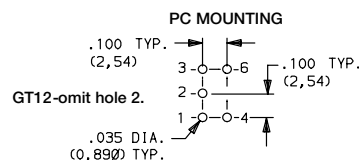


GT11MCBE  
SPDT

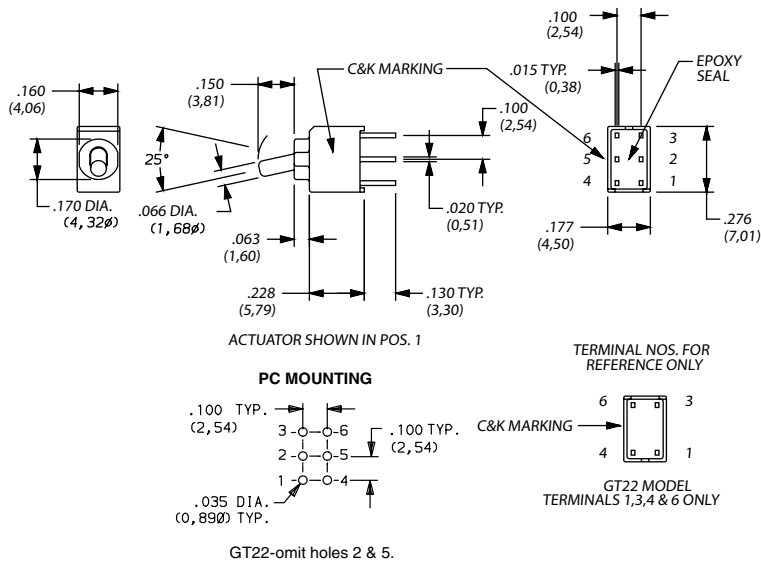
| PART NUMBER     | SWITCH FUNCTION                  |        |        |
|-----------------|----------------------------------|--------|--------|
|                 | POS.1                            | POS. 2 | POS. 3 |
| <b>GT11MCBE</b> | ON                               | NONE   | ON     |
| <b>GT13MCBE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



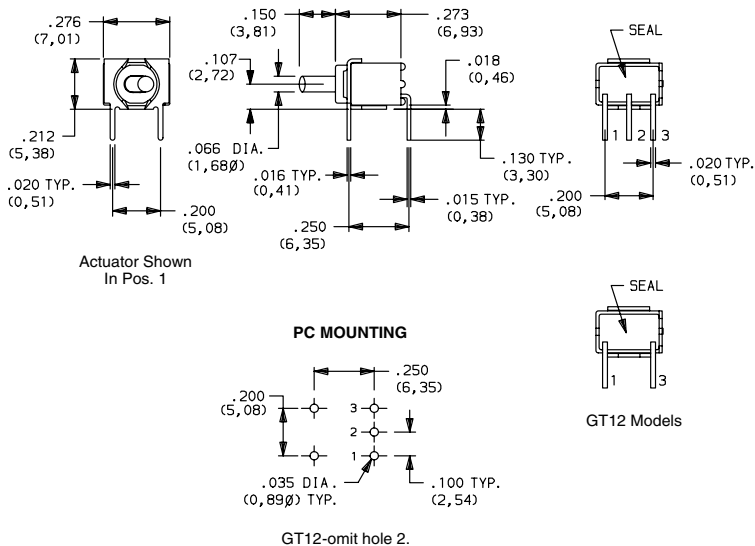
ACTUATOR SHOWN IN POS. 1



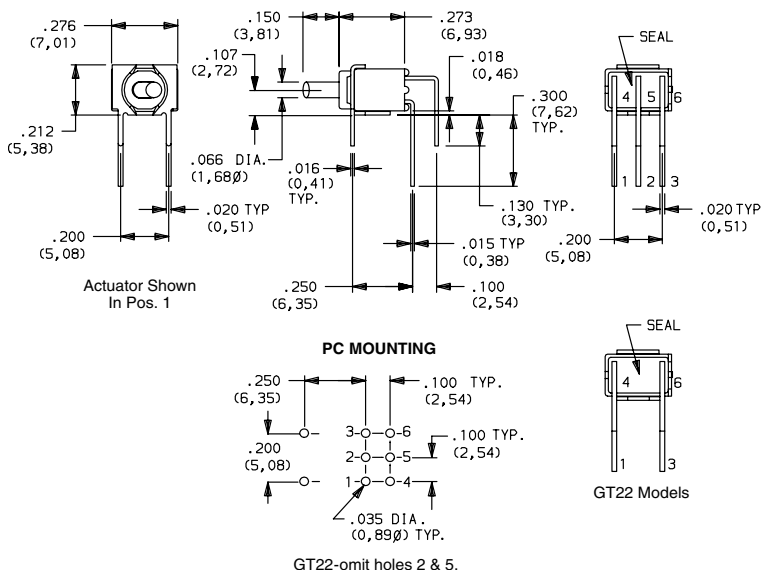
# GT Series Sealed Ultraminiature Toggle Switches



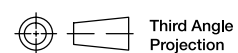
| PART NUMBER     | SWITCH FUNCTION |        |          |
|-----------------|-----------------|--------|----------|
|                 | POS. 1          | POS. 2 | POS. 3   |
| <b>GT21MCBE</b> | ON              | NONE   | ON       |
| <b>GT23MCBE</b> | ON              | OFF    | ON       |
| Conn. Terms.    | 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: Inches (mm)  
Specifications and dimensions subject to change

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C&K

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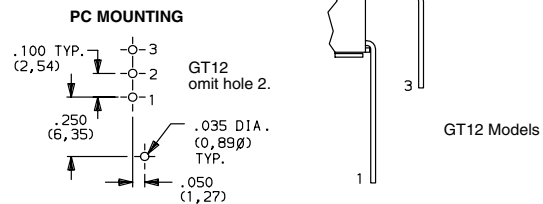
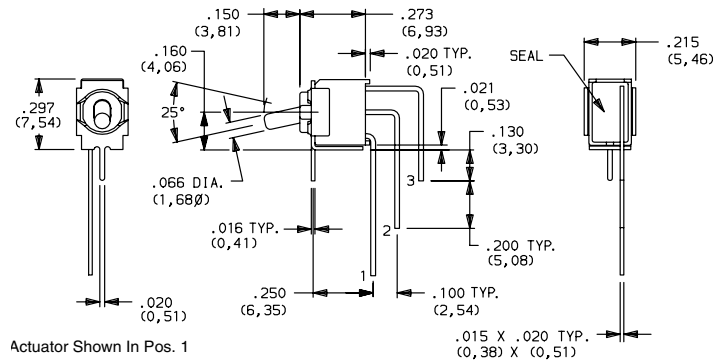
Toggle

# GT Series Sealed Ultraminiature Toggle Switches



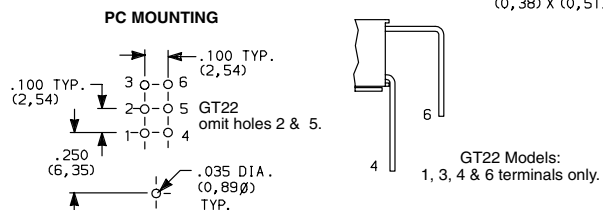
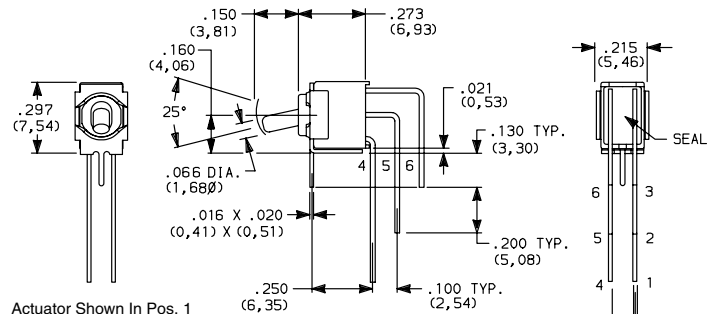
GT11MAVBE  
Vertical  
Actuation  
SPDT

| 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             |                 |        |        |



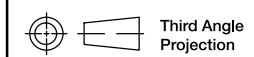
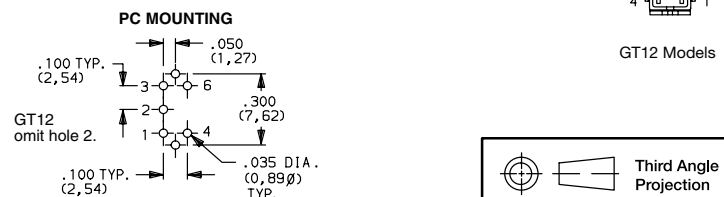
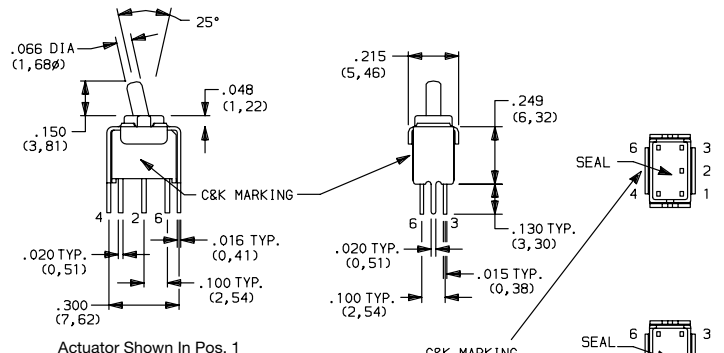
GT21MAVBE  
Vertical  
Actuation  
DPDT

| 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 |        |        |



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



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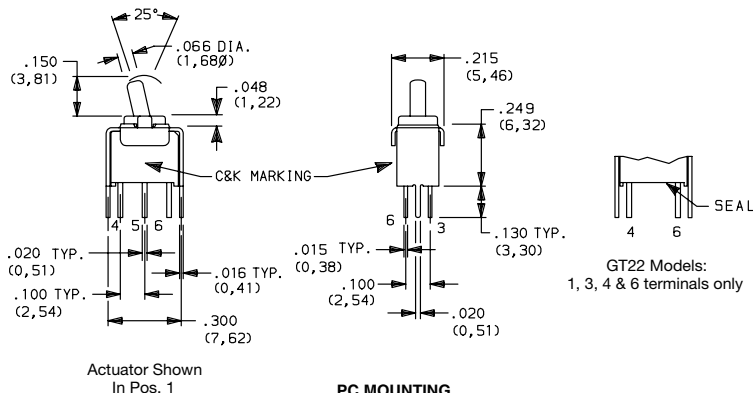
F

Toggle

# GT Series

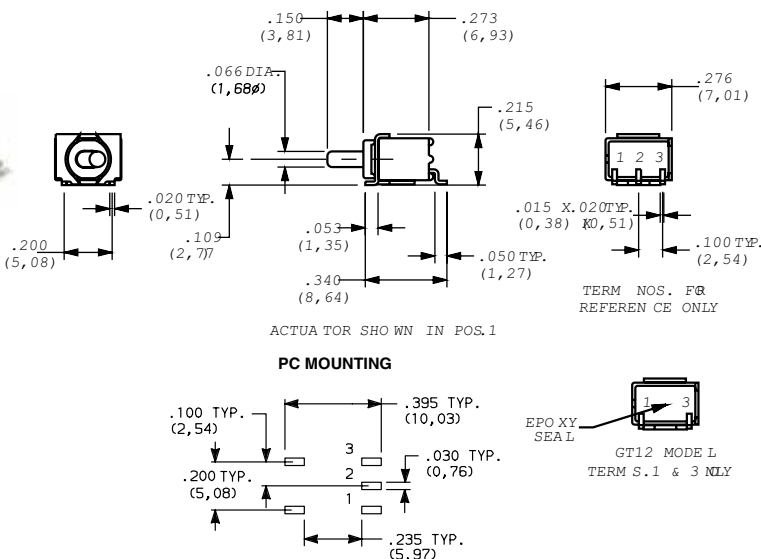
## Sealed Ultraminiature Toggle Switches

GT21MV3BE  
DPDT



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

GT11MSABE  
Horizontal  
Actuation  
SPDT

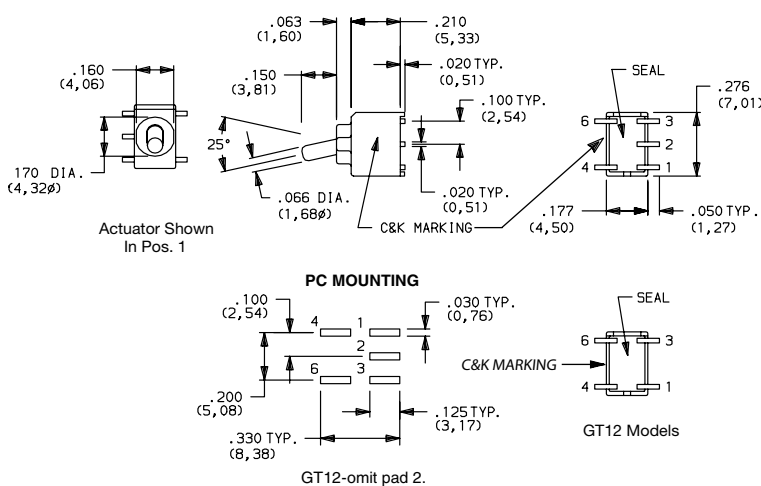


| PART NUMBER  | SWITCH FUNCTION |        |        |
|--------------|-----------------|--------|--------|
|              | POS.1           | POS. 2 | POS. 3 |
| GT11MSABETR  | ON              | NONE   | ON     |
| GT13MSABETR  | ON              | OFF    | ON     |
| Conn. Terms. | 2-3             | OPEN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

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

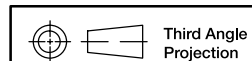
GT12-omit pad 2.

GT11MSCBE  
SPDT



| PART NUMBER  | SWITCH FUNCTION                  |        |        |
|--------------|----------------------------------|--------|--------|
|              | POS.1                            | POS. 2 | POS. 3 |
| GT11MSCBETR  | ON                               | NONE   | ON     |
| GT13MSCBETR  | ON                               | OFF    | ON     |
| Conn. Terms. | 2-3                              | OPEN   | 2-1    |
| Schematic    |                                  |        |        |
| SPDT         | Note: Pins 4 and 6 not connected |        |        |
| GT12MSCBETR  | 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 F-47.



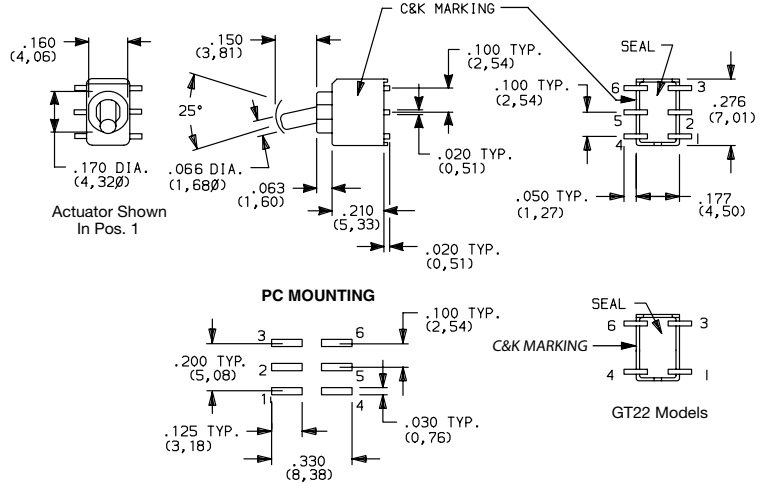
Dimensions are shown: Inches (mm)  
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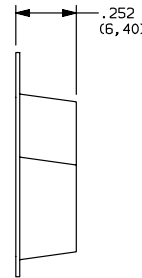
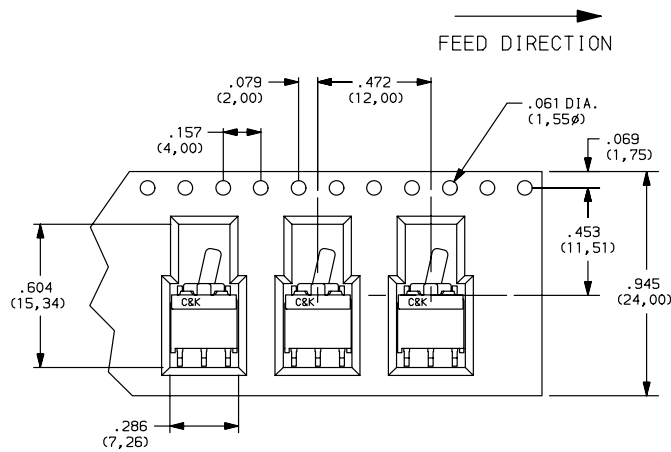
| PART NUMBER        | SWITCH FUNCTION |        |          |
|--------------------|-----------------|--------|----------|
|                    | POS. 1          | POS. 2 | POS. 3   |
| <b>GT21MSCBETR</b> | ON              | NONE   | ON       |
| <b>GT23MSCBETR</b> | ON              | OFF    | ON       |
| 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               |                 |        |          |



GT22-omit pads 2 & 5.  
Standard with tape & reel packaging

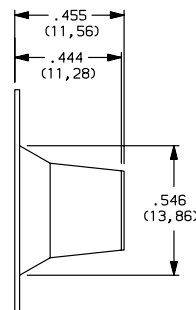
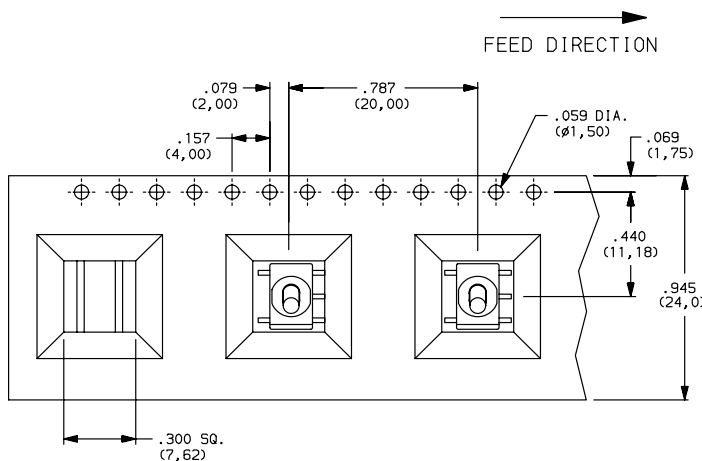
## TAPE & REEL

For part numbers GT11MSABE, GT12MSABE, GT13MSABE



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

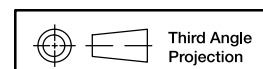
For part numbers GT11MSCBE, GT12MSCBE, GT13MSCBE, GT21MSCBE, GT22MSCBE, GT23MSCBE,



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



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

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.