

# RTE Series

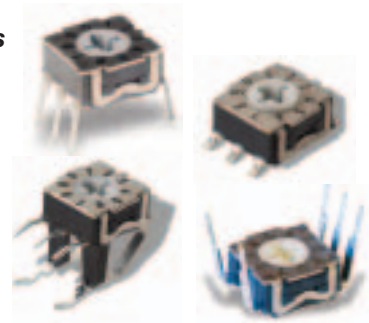
## Low Profile Rotary DIP Switches

### Features/Benefits

- Thru-hole and surface mount models
- Miniature size with robust stainless steel cover
- Rotary SPDT, SP3T, SP4T functions
- Rotary binary-decimal and hexadecimal coding
- RoHS compliant

### Typical Applications

- Timers, automation components
- Computer and peripherals
- Alarms, access control
- Instrumentation



H

DIP

### Specifications

#### CONTACT RATING:

Gold: 100 mA max. 10μ A min. 30 V DC max. 20 mVDC min.

Silver: 100 mA max. 1 mA min. 50 V DC max. 2 VDC min.

MECHANICAL LIFE: RTE02/03: 1,500 actuations; RTE04/10/16: 20,000 actuations

CONTACT RESISTANCE: 100 mΩ max. initial; 150 mΩ after life

INSULATION RESISTANCE: RTE02/03: 10<sup>13</sup> Ω min.

RTE04/10/16: 10<sup>10</sup> Ω min. initial

DIELECTRIC STRENGTH: RTE 02/03: 500 Vrms; RTE 10/16: 300 Vrms

OPERATING TEMPERATURE: -25°C to 85°C.

STORAGE TEMPERATURE: -40°C to 85°C.

PACKAGING: N or R terminations in tube.

V termination in box. G termination in reel, 750 pieces per reel.

G termination with flush actuator, 1250 pieces per reel.

### Materials

COVER & BASE: Thermoplastic PPS

ACTUATOR: LCP

KNOB: Thermoplastic

MOVABLE CONTACTS: Brass, gold or silver plated.

STATIONARY CONTACTS: Brass, gold or silver plated.

TERMINALS: See page I-25 to I-26

O-RING: Silicone

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

Solderability: Wave soldering 260°/2s.

SMT are reflow compatible according to CECC 00802-NORM.

### How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.

|                                                                                                                                                            |  |                                                                                                                                                                       |  |                                                                                                                                                |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                     |  |                                                                                                        |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------|--|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>R T E</b> </div>                                                            |  |                                                                                                                                                                       |  |                                                                                                                                                |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                     |  |                                                                                                        |  |
| <b>Number of Positions</b>                                                                                                                                 |  |                                                                                                                                                                       |  |                                                                                                                                                |  |                                                                                                                                                                         |  |                                                                                                                                                                                                                                                     |  |                                                                                                        |  |
| <b>RTE02</b> <sup>1</sup><br><b>RTE03</b> <sup>1</sup><br><b>RTE04</b> <sup>2</sup><br><b>RTE10</b> <sup>3</sup><br><sup>2</sup> <b>RTE16</b> <sup>3</sup> |  | <b>ESD Protection and top plate</b><br><b>0</b> Without ESD - standard plate<br><b>1</b> With ESD - standard plate <sup>4</sup><br><b>B</b> Without ESD - black plate |  | <b>Actuator</b><br><b>0</b> Flush, screwdriver slot<br><b>1</b> Extended shaft <sup>2, 5</sup><br><b>2</b> Shaft for button <sup>2, 5, 6</sup> |  | <b>Terminations</b><br><b>N</b> Thru-hole<br><b>V</b> Right angle <sup>7</sup><br><b>G</b> Surface mount<br><b>M</b> Manual <sup>8</sup><br><b>R</b> Reverse, thru-hole |  | <b>Switch Function</b><br><b>0</b> Single pole <sup>3, 1</sup><br><b>1</b> BCD code<br><b>2</b> BCD complement code <sup>9</sup><br><b>3</b> Grey Code <sup>10</sup><br><b>4</b> Hexadecimal code <sup>11</sup><br><b>7</b> Grey Code <sup>12</sup> |  | <b>Contact/Terminal Material</b><br><b>4</b> Gold/Matte-tin<br><b>5</b> Silver/Matte-tin <sup>13</sup> |  |

- 1 - RTE02/RTE03 available with single pole function "0" only  
 2 - RTE04 version only available with screwdriver slot actuator "0"  
 3 - Single pole function not available for RTE10/RTE16  
 4 - ESD protection available with "N" thru-hole termination only  
 5 - Not available in surface mount  
 6 - Buttons ordered separately  
 7 - Not available for RTE02/RTE03  
 8 - Manual - available for RTE03 and RTE10/RTE16 with actuator option "2" only  
 9 - BCD complement code for RTE10, not available with terminations "G" & "M"  
 10 - Grey Code - for RTE10 only  
 11 - Hexidecimal code for RTE16 only  
 12 - Grey code for RTE04/RTE16 only  
 13 - Silver contact option only available for RTE02/RTE03



Dimensions are shown: Inch (mm)

Specifications and dimensions subject to change



# RTE Series

## Low Profile Rotary DIP Switches



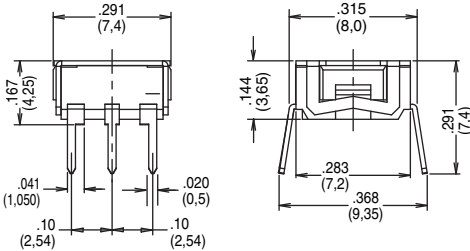
H

DIP

### SWITCHES WITH STANDARD OPTIONS

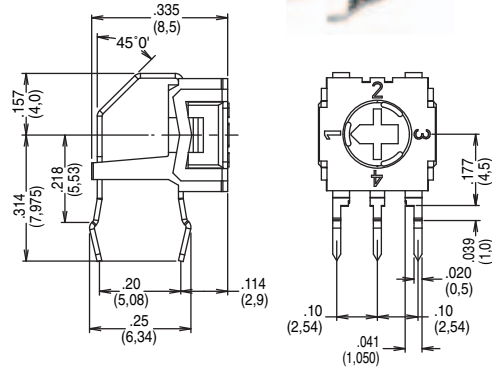
#### PC Mount-Terminal Option N

| PART NUMBER<br>WITHOUT ESD PIN | WITH ESD PIN | NO.<br>POS. | FUNCTION    | QTY<br>PER TUBE |
|--------------------------------|--------------|-------------|-------------|-----------------|
| RTE0200N04                     | RTE0210N04   | 2           | SPDT        | 65              |
| RTE0300N04                     | RTE0310N04   | 3           | SP3T        | 65              |
| RTE0400N04                     | RTE0410N04   | 4           | SP4T        | 65              |
| RTE1000N14                     | RTE1010N14   | 10          | BCD         | 65              |
| RTE1600N44                     | RTE1610N44   | 10          | HEXADECIMAL | 65              |



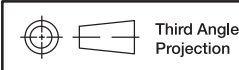
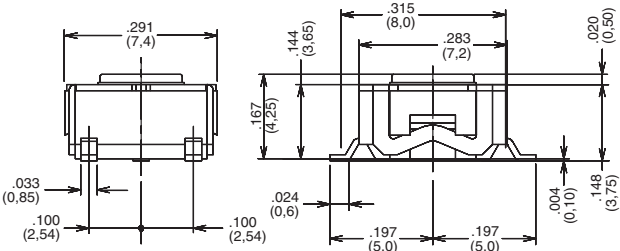
#### Right Angle Mount-Terminal Option V

| PART NUMBER | NO.<br>POS. | FUNCTION    | QUANTITY    |
|-------------|-------------|-------------|-------------|
| RTE0400V04  | 4           | SP4T        | 150 per box |
| RTE1000V14  | 10          | BCD         | 150 per box |
| RTE1600V44  | 16          | HEXADECIMAL | 150 per box |



#### Surface Mount-Terminal Option G

| PART NUMBER | NO.<br>POS. | FUNCTION    | QUANTITY |
|-------------|-------------|-------------|----------|
| RTE0200G04  | 02          | SPDT        | 1250     |
| RTE0300G04  | 03          | SPDT        | 1250     |
| RTE0400G04  | 04          | SP4T        | 1250     |
| RTE1000G14  | 10          | BCD         | 1250     |
| RTE1600G44  | 16          | HEXADECIMAL | 1250     |

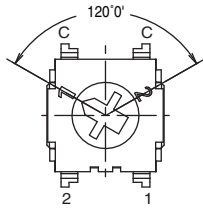


Dimensions are shown: Inch (mm)  
 Specifications and dimensions subject to change

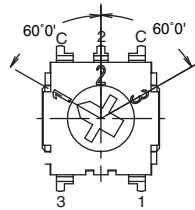
# RTE Series Low Profile Rotary DIP Switches

## NUMBER OF POSITIONS

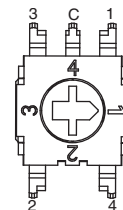
**RTE02\*** 2 POSITION



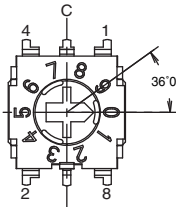
**RTE03** 3 POSITION



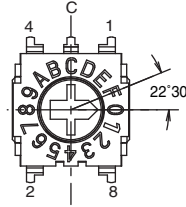
**RTE04** 4 POSITION



**RTE10** 10 POSITION

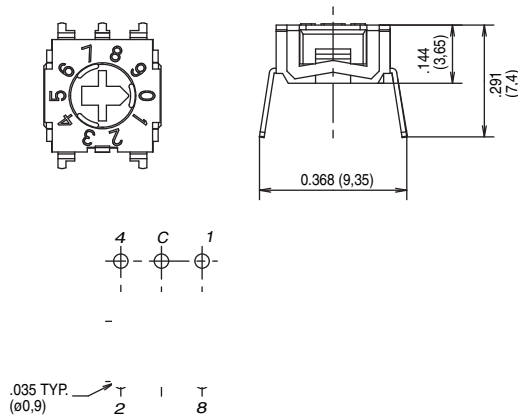


**RTE16** 16 POSITION

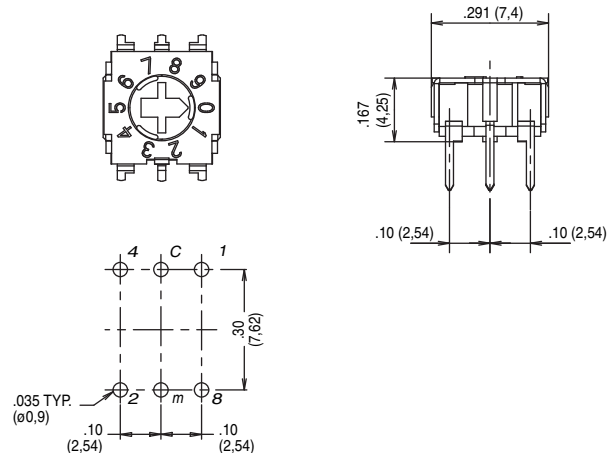


## ESD PROTECTION

**0** WITHOUT

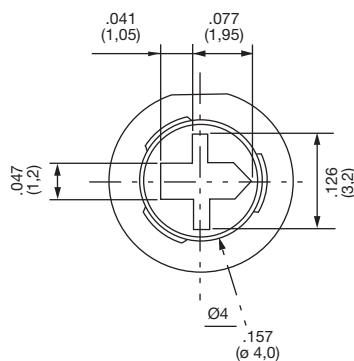


**1** WITH

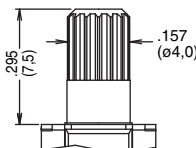


## ACTUATOR

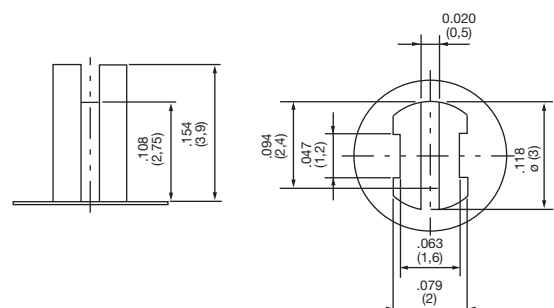
**0** FLUSH, SCREWDRIVER SLOT



**1** EXTENDED SHAFT  
(not available in surface mount)



**2** SHAFT FOR BUTTON



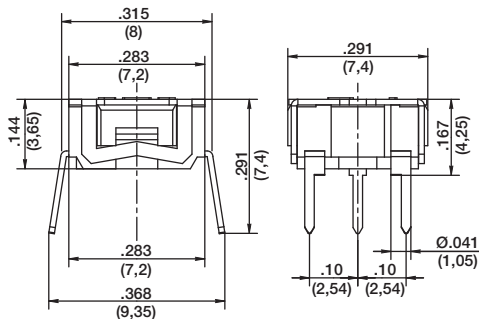
Third Angle  
Projection

# RTE Series

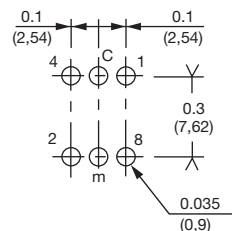
## Low Profile Rotary DIP Switches

### TERMINATIONS

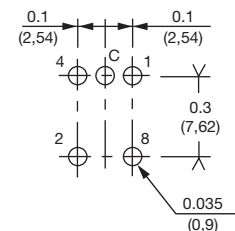
#### N THRU-HOLE



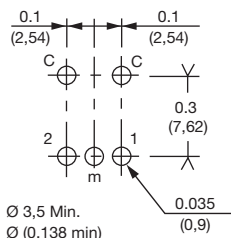
RTE10, RTE 04 or RTE16  
with ground terminal



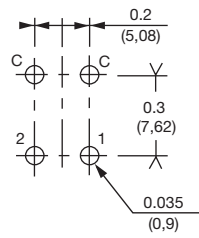
RTE10, RTE 04 or RTE16  
without ground terminal



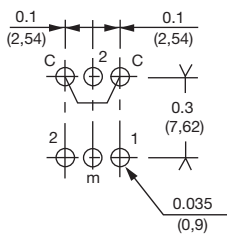
RTE02 with  
ground terminal



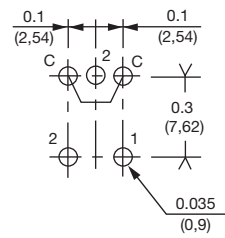
RTE02 without  
ground terminal



RTE03 with  
ground terminal

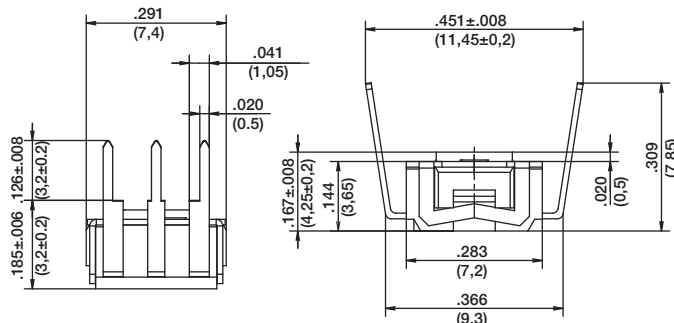


RTE03 without  
ground terminal

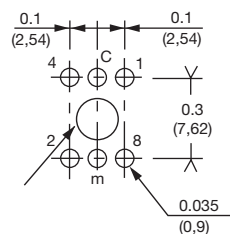


Ø in PC Board for screw driver operation must be 3.5 mm

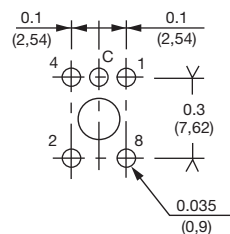
#### R REVERSE, THRU-HOLE



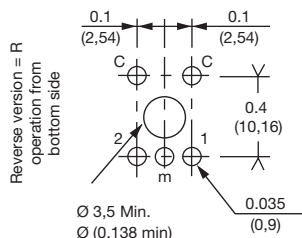
RTE10, RTE 04 or RTE16  
with ground terminal



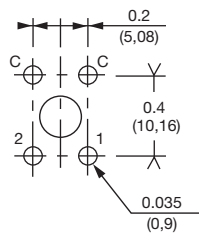
RTE10, RTE 04 or RTE16  
without ground terminal



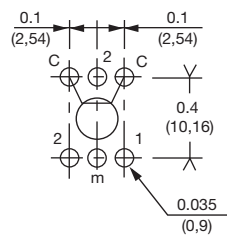
RTE02 with  
ground terminal



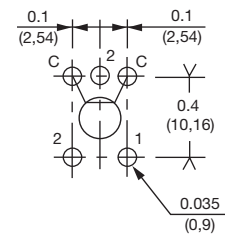
RTE02 without  
ground terminal



RTE03 with  
ground terminal



RTE03 without  
ground terminal



Ø in PC Board for screw driver operation must be 3.5 mm



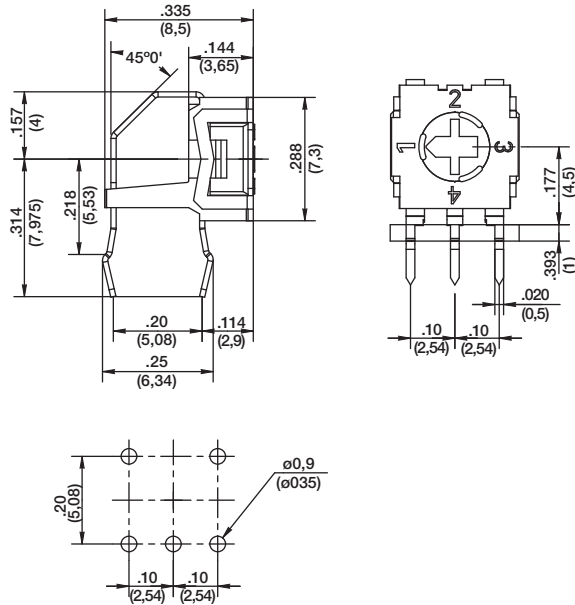
Third Angle  
Projection

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

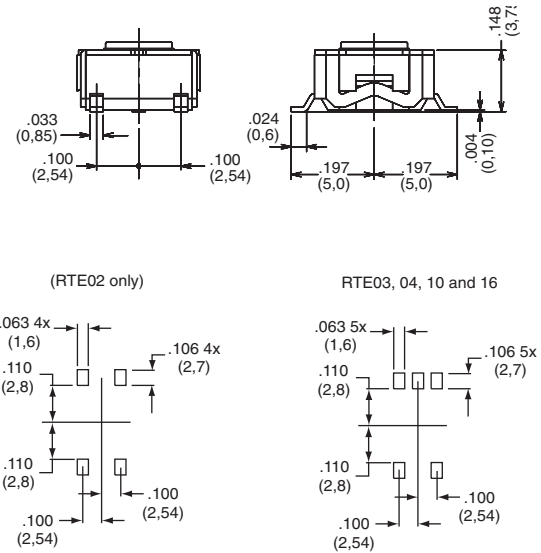
# RTE Series Low Profile Rotary DIP Switches

## TERMINATIONS

**V** RIGHT ANGLE, THRU-HOLE

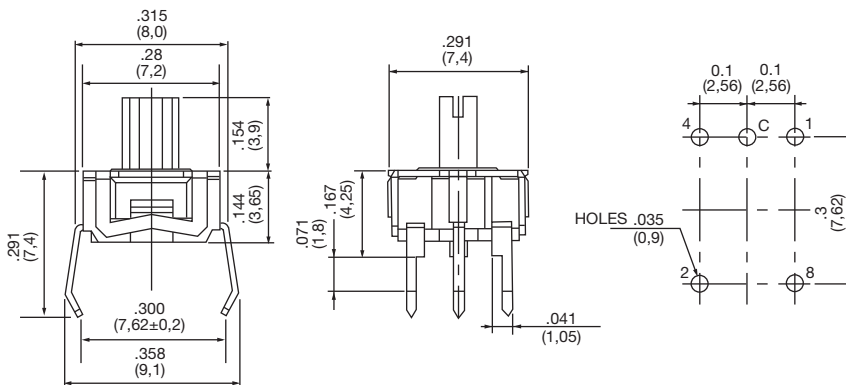


**G** SURFACE MOUNT



PCB layout seen component side

**M** OPTION



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

**C&K**

# RTE Series

## Low Profile Rotary DIP Switches



DIP

### SWITCH FUNCTION

#### 0 SINGLE POLE

| POS. | 1 | 2 | 3 | 4 |
|------|---|---|---|---|
| C    | ● | ● | ● | ● |
| 1    | ● |   |   |   |
| 2    |   | ● |   |   |
| 3    |   |   | ● |   |
| 4    |   |   |   | ● |

#### 1 BCD CODE

| POS. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 1    |   | ● |   | ● |   | ● |   | ● |   | ● |
| 2    |   |   | ● | ● |   |   | ● | ● |   |   |
| 4    |   |   |   |   | ● | ● | ● | ● |   |   |
| 8    |   |   |   |   |   |   |   |   | ● | ● |

#### 2 BCD COMPLEMENT CODE

| POS. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 1    | ● |   | ● |   | ● |   | ● |   | ● |   |
| 2    | ● | ● |   | ● | ● |   |   | ● | ● |   |
| 4    | ● | ● | ● | ● |   |   |   |   |   | ● |
| 8    | ● | ● | ● | ● | ● | ● | ● |   |   |   |

Other codes available by request.

#### 3 GREY CODE ( for RTE10 only )

| POS. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 1    |   | ● | ● |   |   | ● | ● |   |   | ● |
| 2    |   |   |   | ● | ● | ● | ● |   |   |   |
| 4    |   |   |   |   | ● | ● | ● | ● | ● | ● |
| 8    |   |   |   |   |   |   |   |   | ● | ● |

#### 4 HEXADECIMAL CODE

| POS. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| C    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ●  | ●  | ●  | ●  | ●  | ●  |
| 1    |   | ● |   | ● |   | ● |   | ● |   | ● |    | ●  |    | ●  |    | ●  |
| 2    |   |   | ● | ● |   |   | ● | ● |   |   | ●  | ●  |    |    | ●  | ●  |
| 4    |   |   |   |   | ● | ● | ● | ● |   |   |    | ●  | ●  | ●  | ●  |    |
| 8    |   |   |   |   |   |   |   |   | ● | ● | ●  | ●  | ●  | ●  | ●  | ●  |

#### 7 GREY CODE ( for RTE04 and RTE16 only )

| POS. | 1 | 2 | 3 | 4 |
|------|---|---|---|---|
| C    | ● | ● | ● | ● |
| 1    | ● |   |   |   |
| 2    |   | ● |   |   |
| 4    |   |   | ● |   |
| 8    |   |   |   | ● |

| POS. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C    | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 1    |   | ● | ● |   | ● |   | ● |   | ● |   | ● |   | ● |   | ● |   |
| 2    |   |   | ● | ● |   |   | ● |   |   | ● | ● | ● | ● |   |   |   |
| 4    |   |   |   |   | ● | ● | ● | ● |   | ● | ● | ● | ● |   |   |   |
| 8    |   |   |   |   |   |   |   |   | ● | ● | ● | ● | ● | ● | ● | ● |

### CONTACT MATERIAL

| OPTION CODE | RoHS COMPLIANT * | RoHS COMPATIBLE * | CONTACT MATERIAL | TERMINAL PLATING | RATINGS     |            |              |
|-------------|------------------|-------------------|------------------|------------------|-------------|------------|--------------|
| *4          | YES              | YES **            | GOLD             | MATTE TIN        | 100 mA max. | 10μ A min. | 30 V DC max. |
| *5          | YES              | YES **            | SILVER           | MATTE TIN        | 100 mA max. | 1 mA min.  | 50 V DC max. |

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

\*\* When selecting contact material option 4 and 5 with RTE02, RTE03 and or “V” terminations, these combinations are RoHS compliant but not currently compatible (i.e. they do not sustain the high temperatures of the leadfree soldering process). All other options and terminations are RoHS compatible. Please contact customer service for RoHS compatible versions of the RTE02 and RTE03.



Third Angle Projection

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



## DIP