

## ERD7 SERIES

MINIATURE SIZE  $\square$ 7x3 ROTARY SWITCH



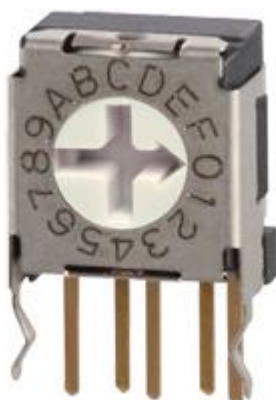
SMT



Through hole reflow (THR)  
Through hole (TH)



Right Angle (RA)



Right Angle (RA)  
Through hole (TH)



Right Angle (RA)  
SMT



J-Hook  
SMT

## FEATURES

- Low profile of 3.0mm
- THR (Through Hole Reflow) version available
- Available with spindle or slotted spindle
- Supply various switch codes, include Gray code, Reel and Complement code
- Gold plated contact area ensures reliable electric continuity for micro current
- Surface mounting type can be supplied in embossed taping for automatic packing
- Pin-out compatible with most of current equivalents
- All plastics are UL 94V-0 grade fire retardant

## APPLICATIONS

- Address switching applications
- Data storage devices
- Computer and peripherals
- Instrumentation



## ■ SPECIFICATIONS

### 1.ELECTRICAL

|                                |                     |                              |
|--------------------------------|---------------------|------------------------------|
| ● Contact rating               | Max. switching load | 100mA, 5VDC                  |
|                                | Min. switching load | 10 $\mu$ A, 5VDC             |
| ● Contact resistance (initial) |                     | 200m $\Omega$ Max.           |
| ● Insulation resistance        |                     | 100M $\Omega$ Min. at 100VDC |
| ● Dielectric strength          |                     | 250VAC rms. for 60 seconds   |

### 2.MECHANICAL and ENVIRONMENTAL

|                                |               |  |
|--------------------------------|---------------|--|
| ● Temperature rating           | operation     | -25 $^{\circ}$ C ~+70 $^{\circ}$ C                                     |
|                                | storage       | -25 $^{\circ}$ C ~+85 $^{\circ}$ C                                     |
| ● Operation force              |               | 510gf-cm Max.  |
| ● Operation life               |               | 10,000 detents Min.  |
| ● Vibration                    |               | 10Hz-50Hz-10Hz for 6Hrs.   |
| ● Solderability                |               | After flux 245 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C for 5 $\pm$ 1 seconds |
| ● Resistance to soldering heat | solder bath   | 260 $\pm$ 5 $^{\circ}$ C for 5 $\pm$ 1 seconds                         |
|                                | solder reflow | Peak temperature 260 $^{\circ}$ C Max.                                 |

### 3.SOLDERING PROCESS

|   |   |
|---|---|
| ● Solder iron   | Max. 2 sec/350 $^{\circ}$ C                                   |
| ● Reflow soldering heat for SMT & THR type (reference only) | <p>Temperature (<math>^{\circ}</math>C)</p> <p>Time (sec)</p> |

## CODE

### Real / Complement Code

| PIN NO. | POSITIONS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|         | 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
| 1       | ○         | ● | ○ | ● | ○ | ● | ○ | ● | ○ | ● | ○ | ● | ○ | ● | ○ | ● |
| 2       | ○         | ○ | ● | ● | ○ | ○ | ● | ● | ○ | ○ | ● | ● | ○ | ○ | ● | ● |
| 4       | ○         | ○ | ○ | ○ | ● | ● | ● | ● | ○ | ○ | ○ | ○ | ● | ● | ● | ● |
| 8       | ○         | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ● | ● | ● | ● | ● | ● | ● |

●.....Real Code

○.....Complement Code

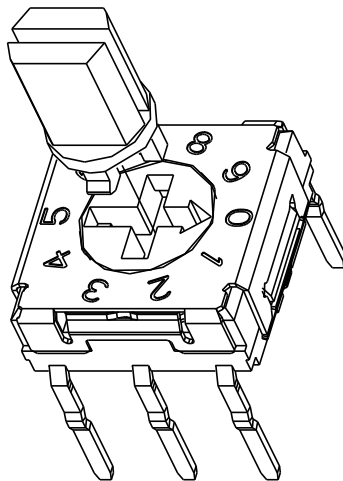
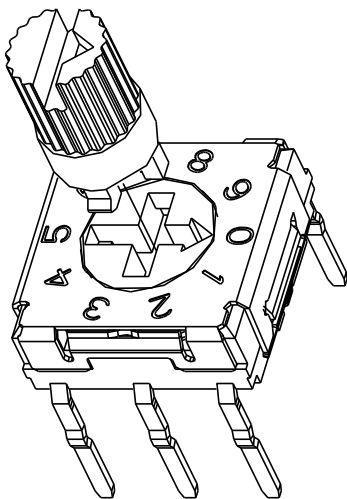
### Gray Code

| PIN NO. | POSITIONS |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|         | 0         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
| 1       |           | ● | ● |   |   | ● | ● |   |   | ● | ● |   |   | ● | ● |   |
| 2       |           |   | ● | ● | ● | ● |   |   |   |   | ● | ● | ● | ● |   |   |
| 4       |           |   |   |   | ● | ● | ● | ● | ● | ● | ● | ● |   |   |   |   |
| 8       |           |   |   |   |   |   |   |   | ● | ● | ● | ● | ● | ● | ● | ● |

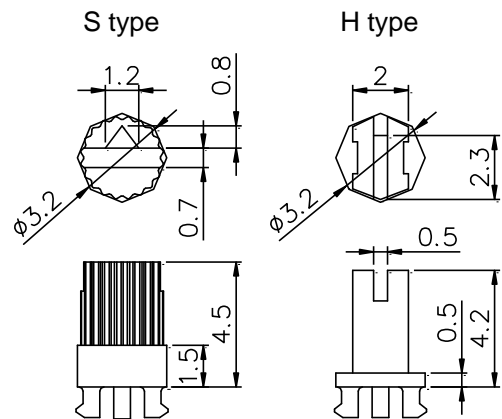
●.....Gray Code

## OPTIONS

- 1.Special marking available
- 2.Shaft available (for cross shaped slot type only)



### ERD7 Shaft

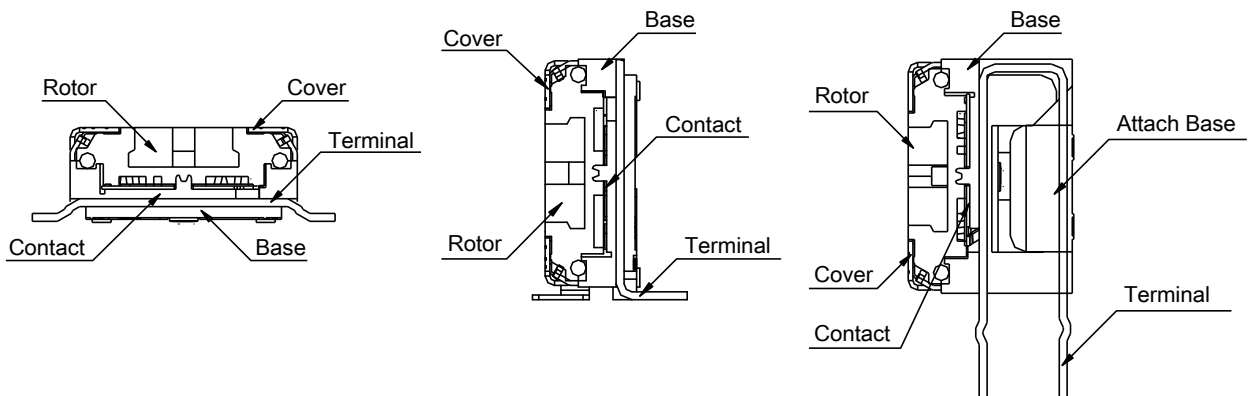


## ■ PART NUMBERING SYSTEM

ERD7 08 A S XX Z

- Z: RoHS Compliant
- Special number:
  - None: Center Common terminal pins location (3:3 pin out)
  - Center Output "8" terminal pin location (3:2, 5:0 pin out)
  - 06: Side Common terminal pins location (3:3 pin out)
  - Center Output "1" terminal pin location (3:2, 5:0 pin out)
- S: Spindle
- H: Slotted spindle
- Setting:
  - S: Standard type with row spacing 7.62mm
  - F: Right Angle type with row spacing 5.08mm
  - R: Right Angle type with row spacing 2.54mm
  - H: Right Angle type with row spacing 1.27mm
  - M: Surface Mounting type
  - D: "M" type in Tape & Reel Package
  - J: Right Angle with Surface Mounting type and side support terminal
  - T: "J" type in Tape & Reel Package
  - L: Right Angle with Surface Mounting type and forward support terminal
  - U: "L" type in Tape & Reel Package
  - C: J-hook with Surface Mounting type
  - E: "C" type in Tape & Reel Package
- Code:
  - R: Real code / Arrow shaped slot type
  - A: Real code / Cross shaped slot type
  - C: Complement code / Arrow shaped slot type
  - B: Complement code / Cross shaped slot type
  - G: Gray code / Cross shaped slot type
- Positions:
  - 08: 8 Positions, 10: 10 Positions, 16: 16 Positions
- Series name: ERD7: Miniature size (7.2x7.2mm<sup>2</sup>) Rotary DIP Switch

## ■ CONSTRUCTION

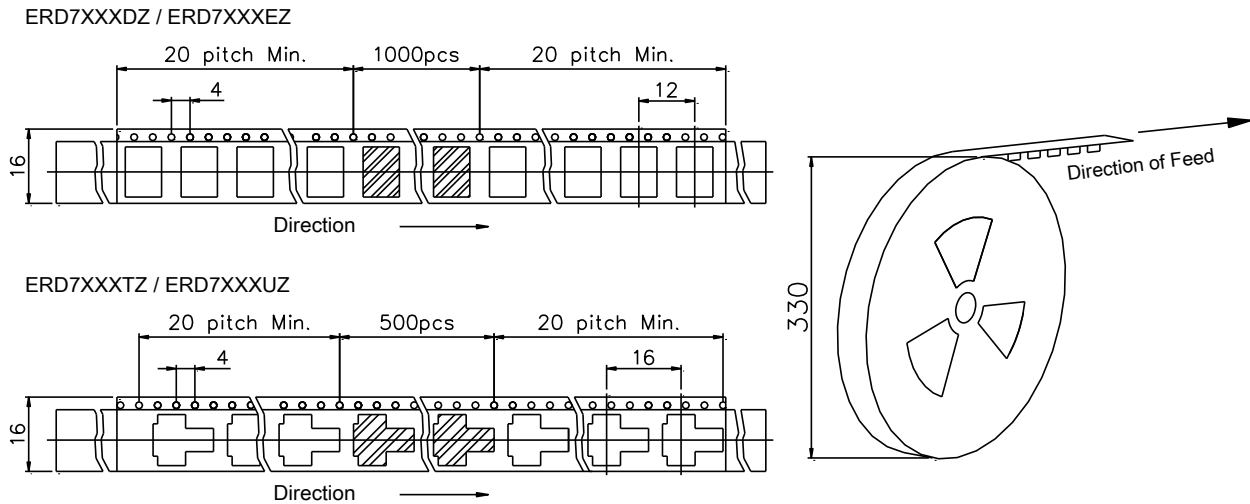




## PACKING

### 1. PACKING METHOD

| Type             | Package | Number of pcs. Per IC Tube | Number of pcs. Per Reel |
|------------------|---------|----------------------------|-------------------------|
| Top Adjust Type  |         | 70                         | 1000                    |
| Side Adjust Type |         | 70                         | 500                     |

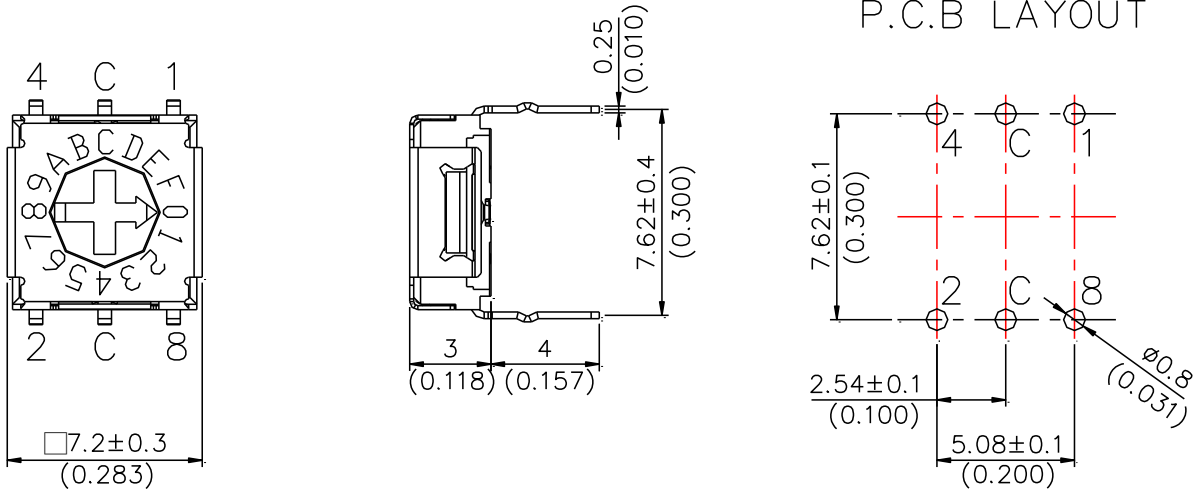


## QUICK SELECTION GUIDE

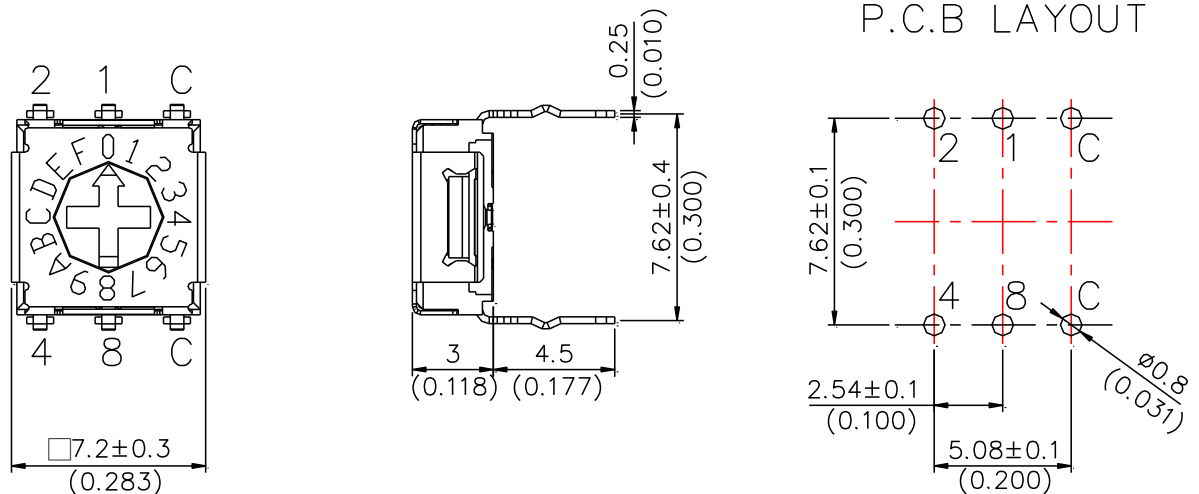
| SIZE | POSITIONS | CODE                       | SETTING POSITION | PIN OUT | SHAPE OF TERMINAL           | PART NUMBER            |
|------|-----------|----------------------------|------------------|---------|-----------------------------|------------------------|
| 7x7  | 8,10,16   | REAL<br>COMPLEMENT<br>GRAY | TOP<br>SETTING   | 3:3     | STANDARD                    | ERD7XXXSZ              |
|      |           |                            |                  |         | SMT                         | ERD7XXXMZ              |
|      |           |                            |                  |         | SMT IN T&R                  | ERD7XXXDZ              |
|      |           |                            |                  |         | J-HOOK WITH SMT             | ERD7XXXCZ              |
|      |           |                            |                  |         | J-HOOK WITH SMT IN T&R      | ERD7XXXEZ              |
|      |           |                            | SIDE<br>SETTING  | 3:3     | RIGHT ANGLE                 | ERD7XXXRZ<br>ERD7XXXFZ |
|      |           |                            |                  |         | RIGHT ANGLE                 | ERD7XXXHZ              |
|      |           |                            |                  | 5:0     | RIGHT ANGLE WITH SMT        | ERD7XXXJZ<br>ERD7XXXLZ |
|      |           |                            |                  |         | RIGHT ANGLE WITH SMT IN T&R | ERD7XXXTZ<br>ERD7XXXUZ |

## DIMENSIONS AND CIRCUITRY

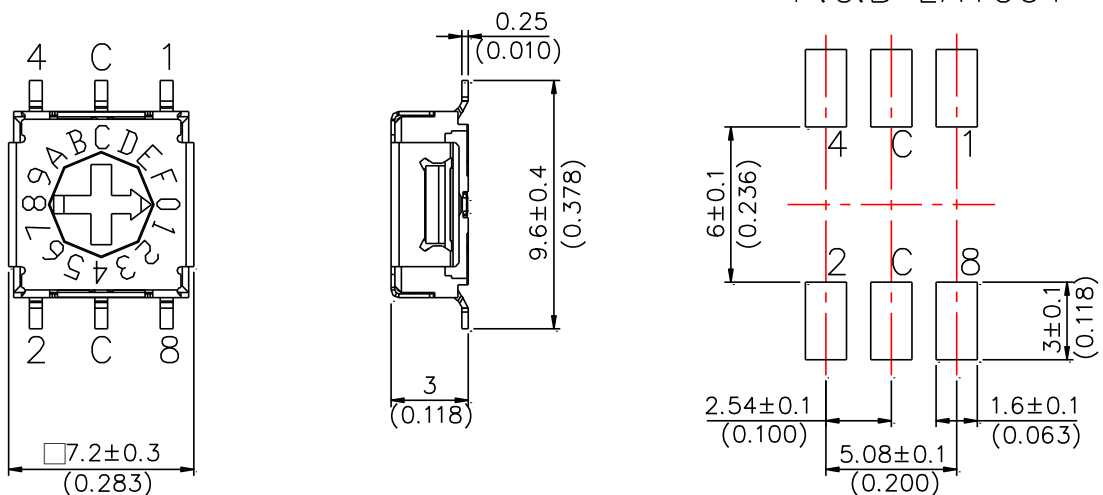
### ERD7XXXSZ SERIES



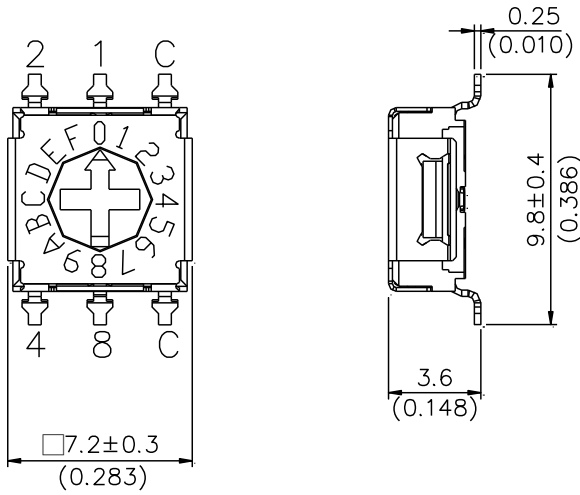
### ERD7XXXS06Z SERIES



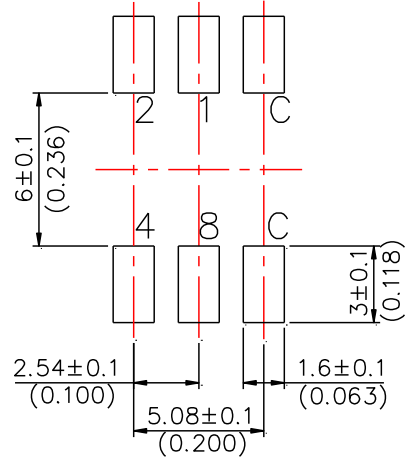
### ERD7XXXMZ SERIES



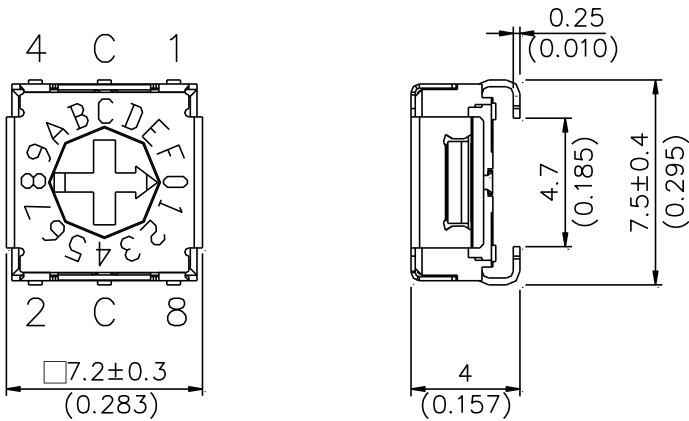
## ERD7XXXM06Z SERIES



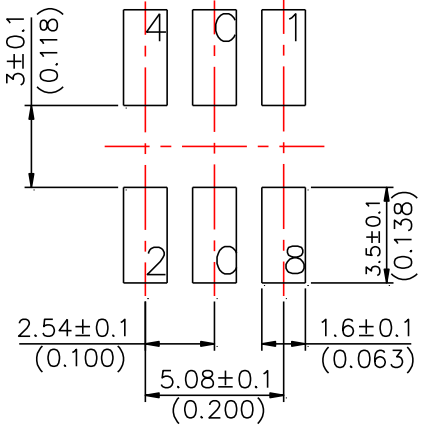
## P.C.B LAYOUT



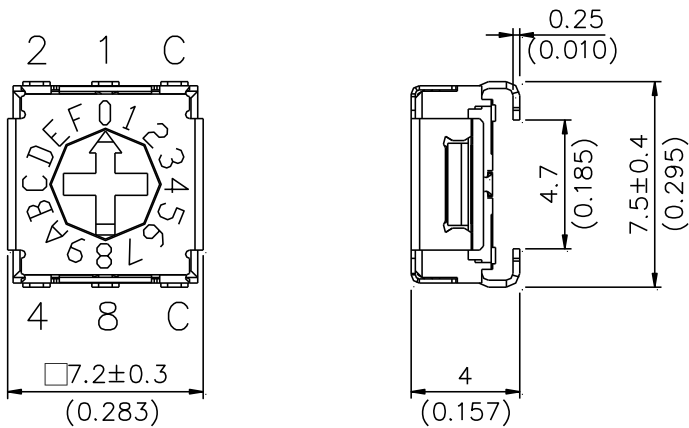
## ERD7XXXCZ SERIES



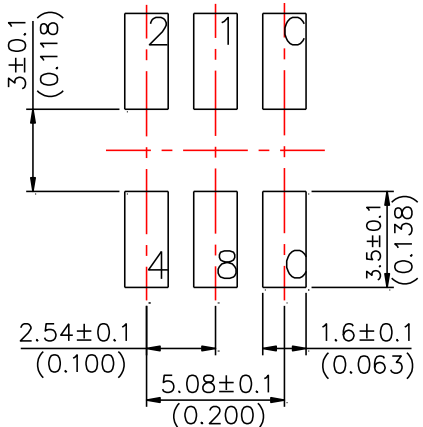
## P.C.B LAYOUT



## ERD7XXXC06Z SERIES



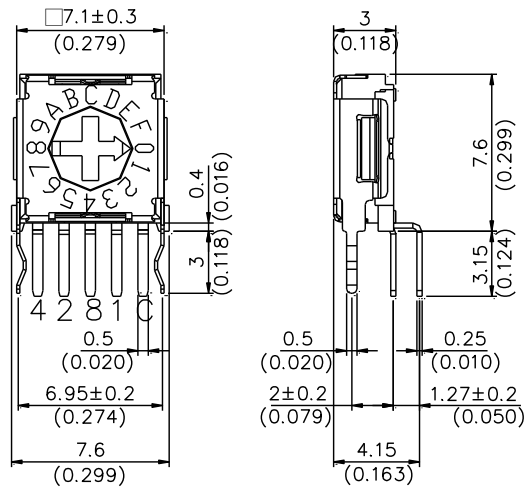
## P.C.B LAYOUT



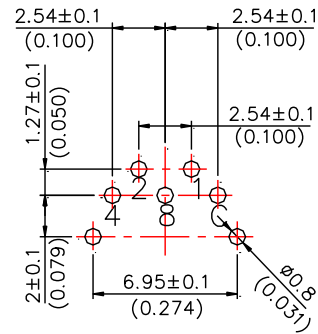


# Switch

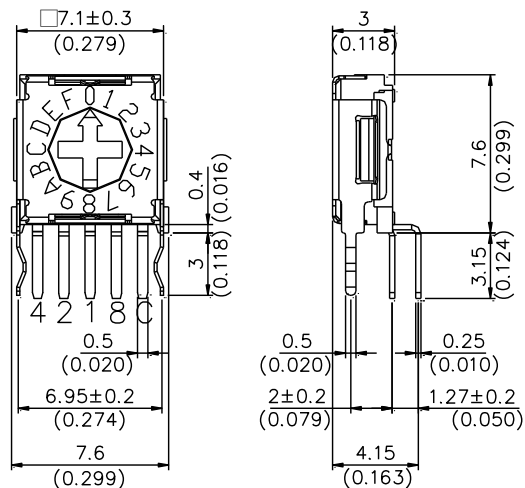
## ERD7XXXHZ SERIES



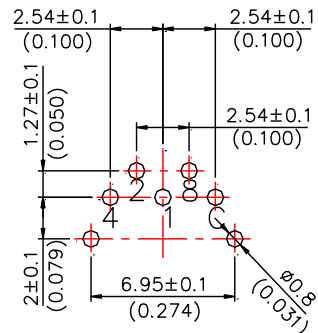
## P.C.B LAYOUT



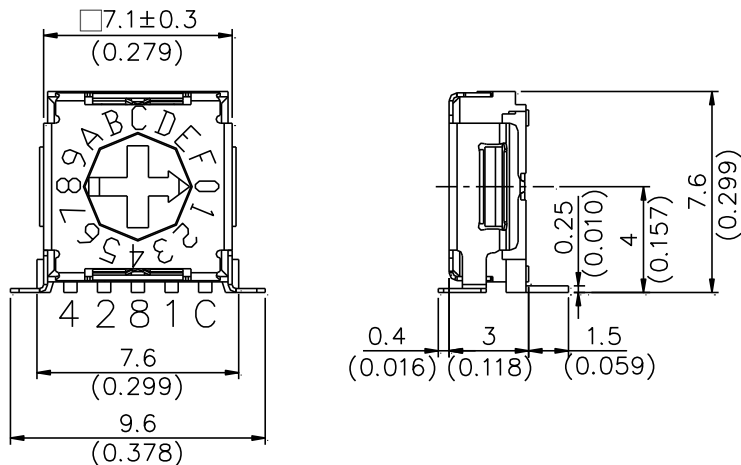
## ERD7XXXH06Z SERIES



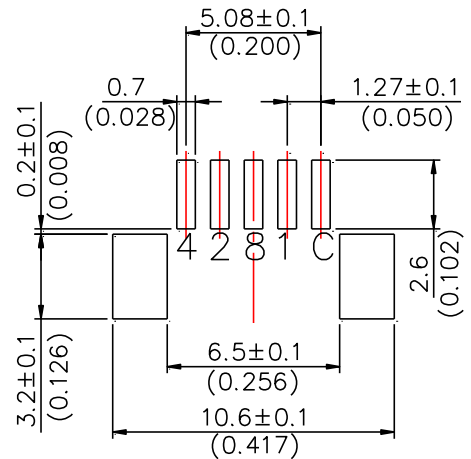
## P.C.B LAYOUT



## ERD7XXXJZ SERIES

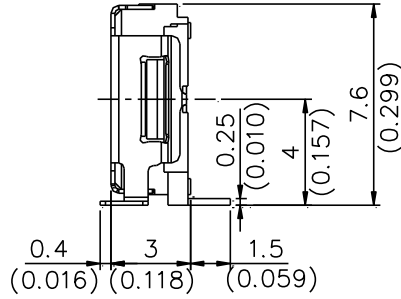
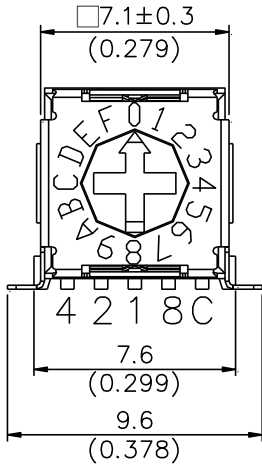


## P.C.B LAYOUT

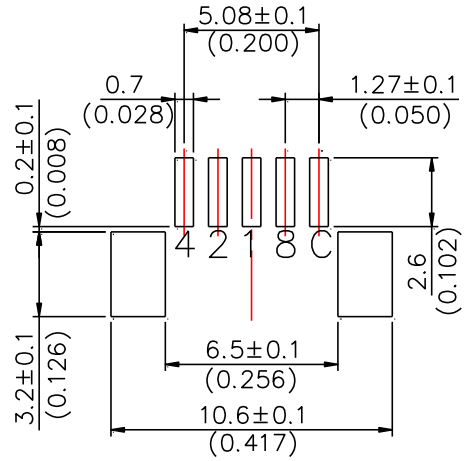




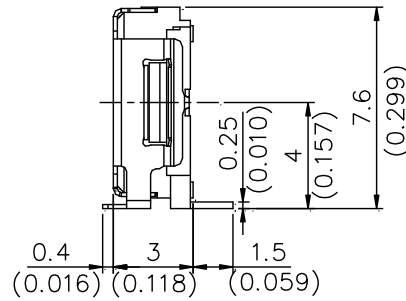
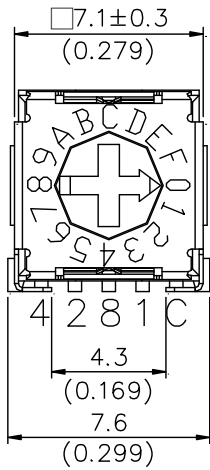
## ERD7XXXJ06Z SERIES



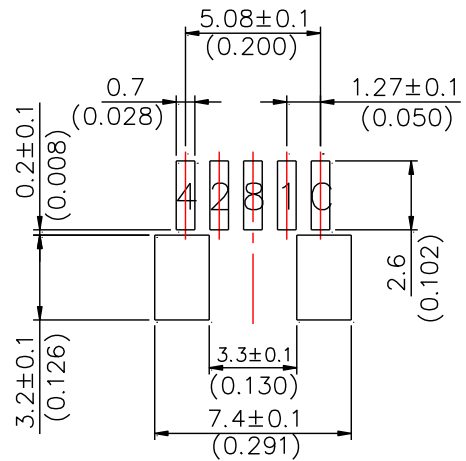
## P.C.B LAYOUT



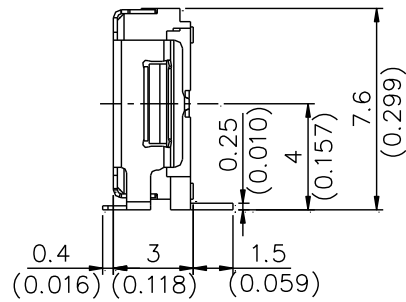
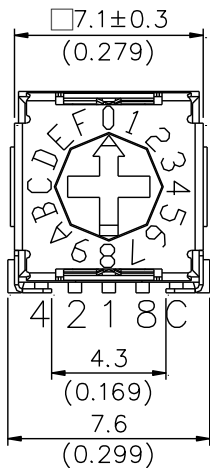
## ERD7XXXLZ SERIES



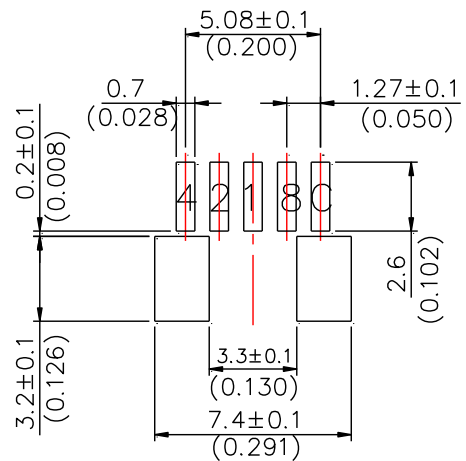
## P.C.B LAYOUT



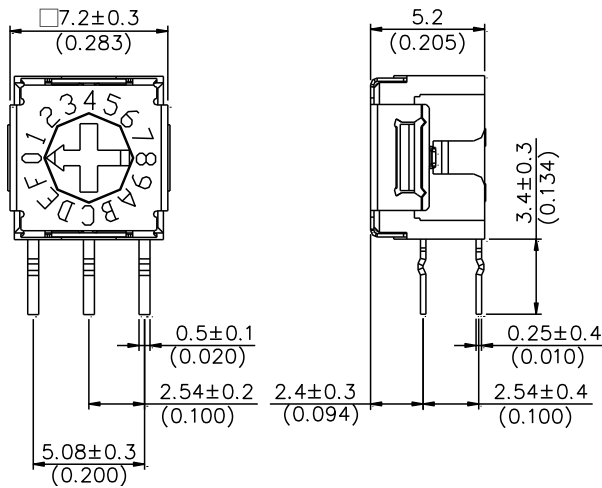
## ERD7XXXL06Z SERIES



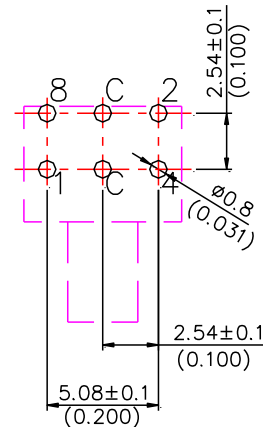
## P.C.B LAYOUT



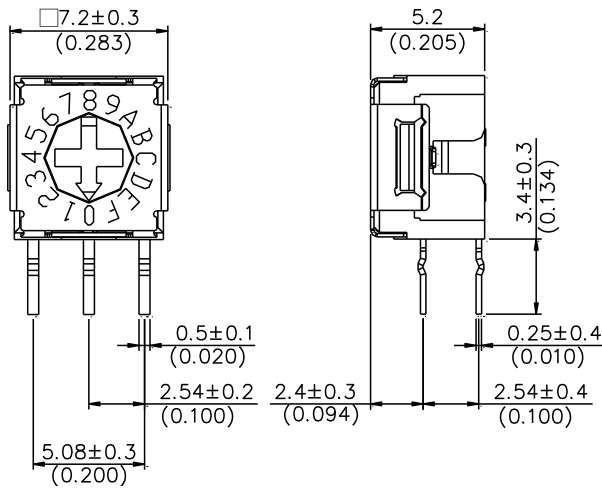
## ERD7XXXRZ SERIES



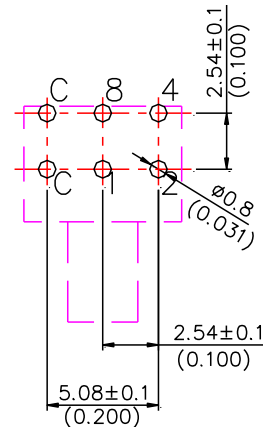
## P.C.B LAYOUT



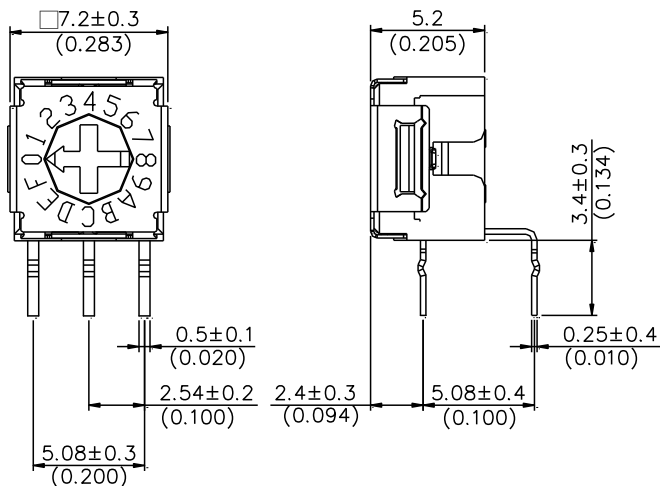
## ERD7XXR06Z SERIES



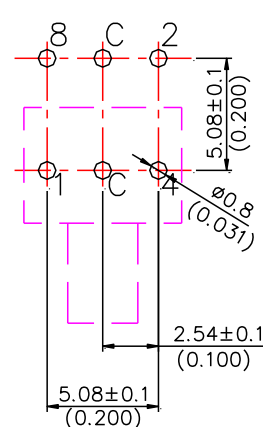
## P.C.B LAYOUT



## ERD7XXXFZ SERIES



## P.C.B LAYOUT



## ERD7XXXF06Z SERIES

## P.C.B LAYOUT

