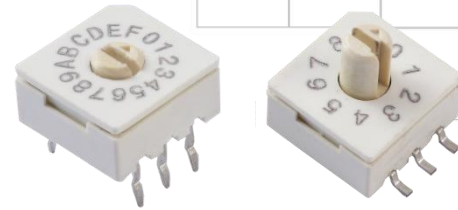




Series 221

10x10mm Compact Rotary DIP Switch

- Standard through hole and surface mount gull-wing terminal configurations
- Binary coded decimal, Hexadecimal code output
- Clockwise or counterclockwise rotation
- Suitable for board spray washing



Ordering Information

| Series | Terminal Type | Actuator Height | Number of Positions | Packaging Type |
|--------|---------------|-----------------|---------------------|----------------|
| 221 | AM | A | 10 | R |

| Code | Spec. |
|------|-------------------------|
| AM | Surface mount gull wing |
| AD | Standard through hole |

| Code | Spec. |
|------|--------------------------------------|
| A | Flush arrow rotor & slotted rotor |
| B | Arrow & slotted, 4.32mm height shaft |
| C | Arrow & slotted, 6.86mm height shaft |

| Code | Spec. |
|------|--------------|
| 10 | 10 Positions |
| 16 | 16 Positions |

| Code | Spec. |
|-------|--|
| BLANK | Tube packaging, through hole switch |
| R | Tape & reel packaging (surface mount only) |

Notes: Contact CTS for other common features not listed.

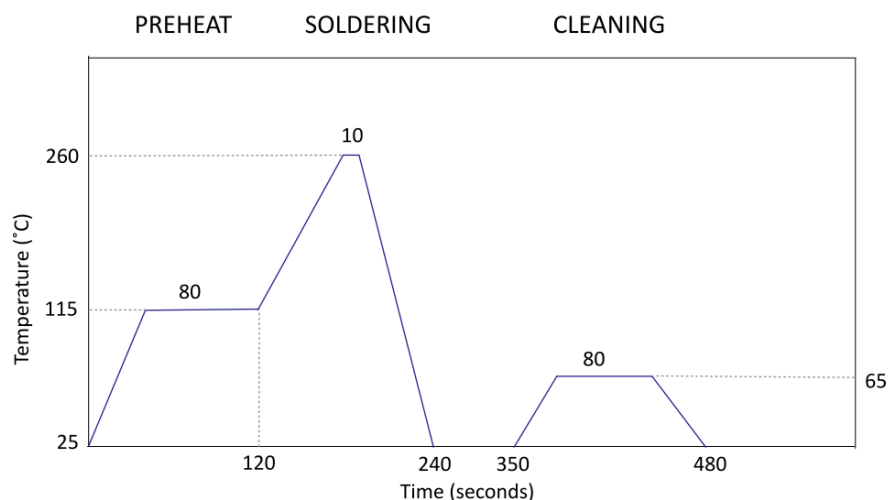
Electrical Specifications

| Parameter | Conditions & Remarks | Min | Max | Unit |
|-----------------------|-------------------------------------|------------------|----------|-----------|
| Output | Binary coded decimal Hexadecimal | | 10 16 | position |
| Contact Resistance | | | 80 | milliohms |
| Insulation Resistance | Between insulated terminals | 1000 | | megohms |
| Dielectric Strength | 350 Vac between adjacent switches | | 1 | minute |
| Actuation Life | | | 20,000 | steps |
| Nonswitching Rating | | | 100 | mA |
| | | | or 50 | Vdc |
| Load | | 1 μ A 20m | | VDC |

Mechanical and Environmental

| | |
|------------------------------|---|
| Soldering | Maximum reflow temperature, 260°C for 10 seconds Maximum wave temperature, 260°C for 10 seconds Maximum manual temperature, 350°C for 5 seconds |
| RoHS | Lead-Free. Fully compliant to RoHS |
| Rotational Torque: | 144~432 gf-cm |
| Marking: | Special top marking available-consult CTS |
| Packaging : | Standard anti-static tube packaging for through hole terminal Standard tape and reel packaging for gull wing terminal |
| Operating Temperature Range: | -40°C to +85°C |
| Storage Temperature Range: | -40°C to +85°C |

Soldering Profile



Mechanical Specifications

Figure 1 – Surface Mount Gull Wing

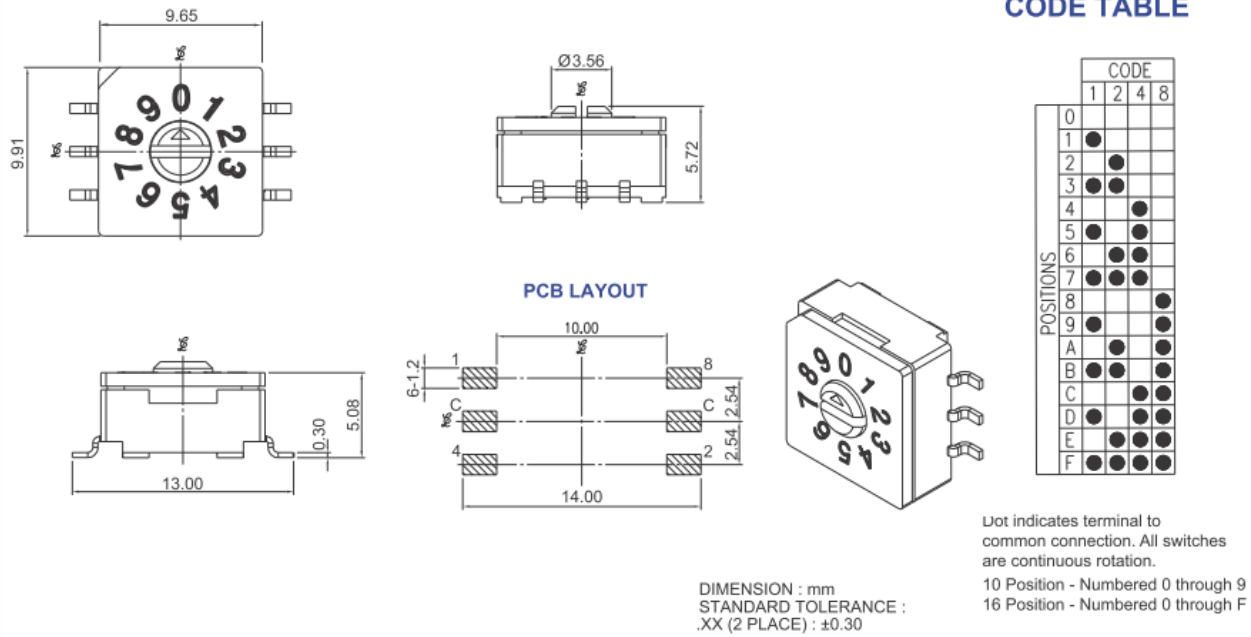
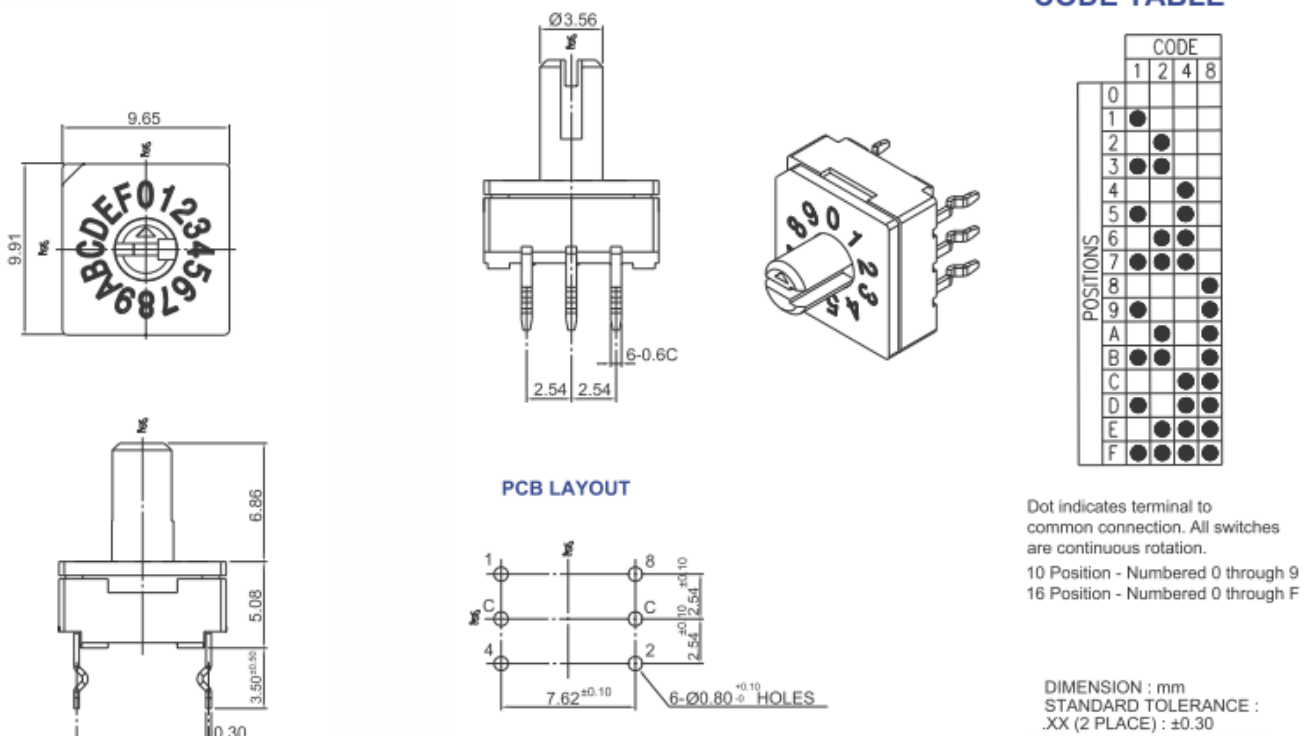
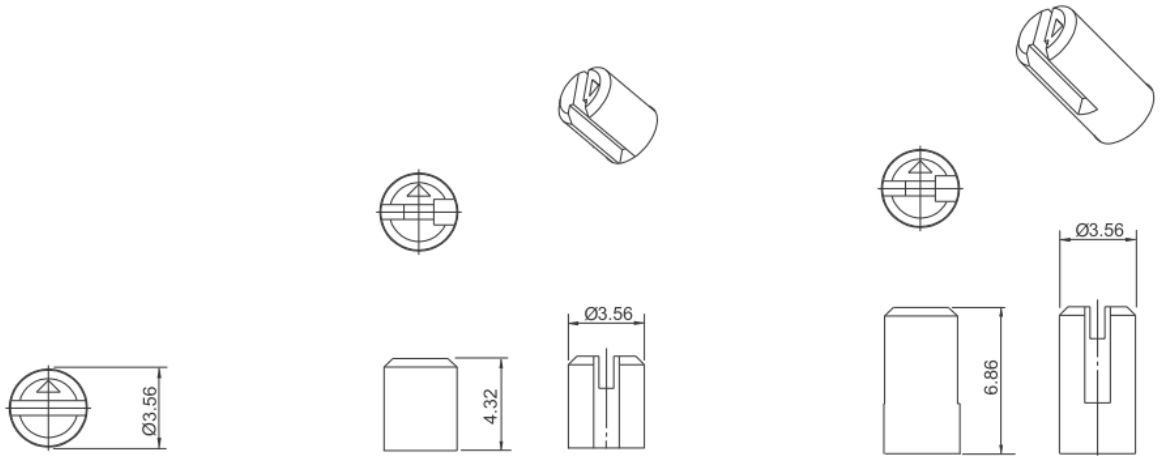


Figure 2 – Standard Through Hole





A: FLUSH ARROW & SLOTTED ROTOR

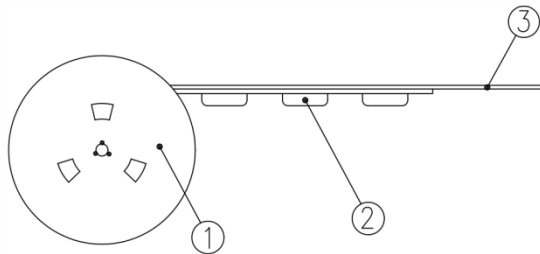
B: ARROW & SLOTTED SHAFT

C: ARROW & SLOTTED SHAFT

Packing: Tape and Reel

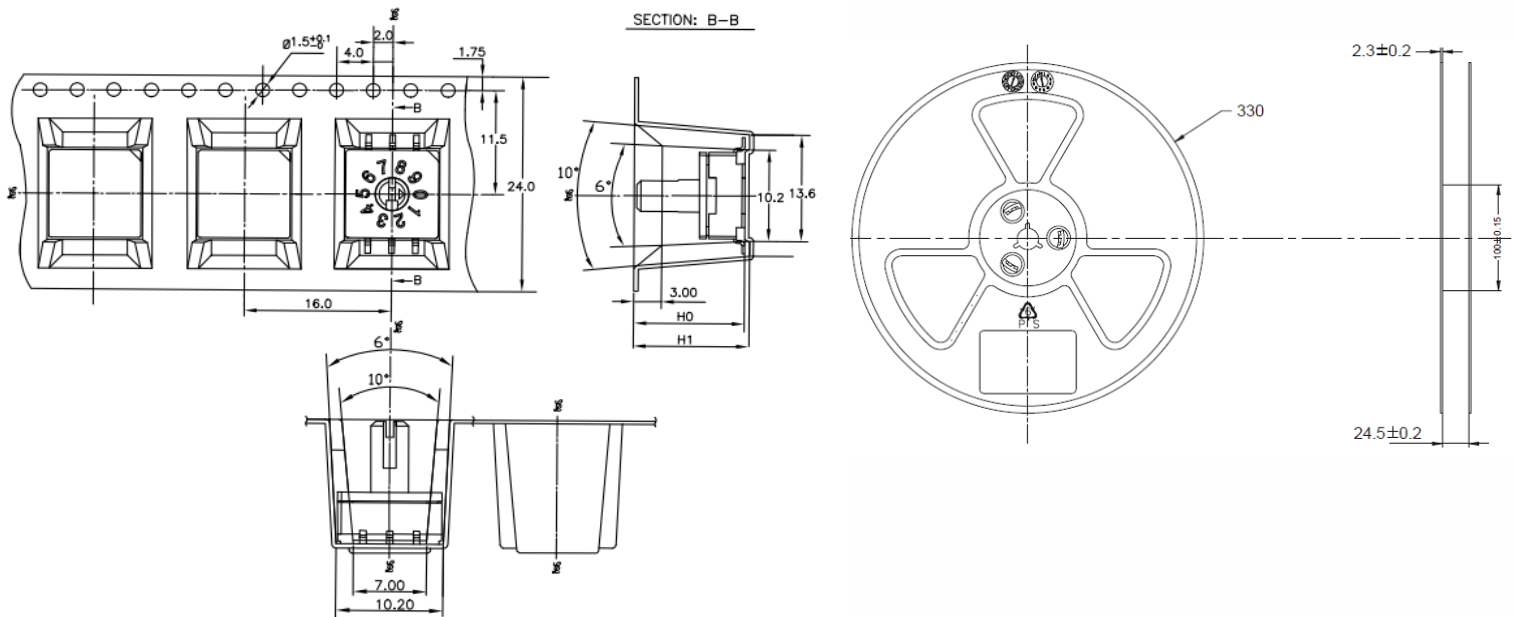
The packing specifications:

1. Structure and materials:



| No | PART NAME | MATERIAL |
|----|--------------|-------------|
| ① | REEL | POLYSTYRENE |
| ② | CARRIER TAPE | POLYSTYRENE |
| ③ | COVER TAPE | POLYESTER |

2. More than 10 empty pockets should remain at each end of the carrier tape for each reel.
3. Shortage of less than 10 pcs a reel is acceptable but no more than 3 consecutive empty pockets are allowed.
4. Stripping strength of cover tape is between 10 gf to 130 gf and stripping angle should be within 165°~180°.
5. The product in the pocket of carrier tape should be placed in a specified correct position.
6. Tape and reel per EIA-481.
7. Dimensions:



Unit: mm

| CTS P/N | H0 | H1 | Product | Package |
|----------|-------|-------|--------------|---------------------|
| | | | total height | quantity (Pcs/reel) |
| 221AMAxR | 5.92 | 6.42 | 5.72 | 700 |
| 221AMBxR | 9.60 | 10.10 | 9.40 | 450 |
| 221AMCxR | 12.14 | 12.64 | 11.94 | 350 |