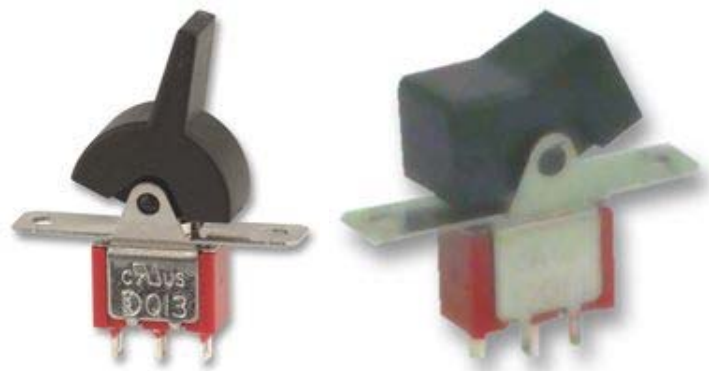


# Rocker and Paddle Switches



R2

R1



**Specifications:**

- Contact rating

: 5 A with resistant load at 120 V ac or 28 V dc  
2 A with resistant load at 250 V ac
- Mechanical life

: 50,000 make-and-break cycles
- Maximum contact resistance

: 10 mΩ initial at 2 to 4V dc 100mA for silver plated contacts
- Minimum insulation resistance

: 1,000 MΩ
- Dielectric strength

: 1,000 Vrms at sea level
- Operating temperature

: -30°C to 85°C

**Materials**

- Case

: Diallyl phthalate (DAP)
- Actuator

: Nylon, black standard
- Bushing

: Brass, nickel plated
- Housing

: Stainless steel
- Switch support

: Brass, tin-plated
- Terminal/contact

: Brass with silver plated

**Switch Function**

| Number of Poles | Model Number | Switch Function |            |            | Connected Terminals/Schematic |            |              |
|-----------------|--------------|-----------------|------------|------------|-------------------------------|------------|--------------|
|                 |              | Position 1      | Position 2 | Position 3 | Position 1                    | Position 2 | Position 3   |
|                 |              |                 |            |            |                               |            |              |
| SP              | 3MS1         | On              | None       | On         | 2 - 3                         | N/A        | 2 - 1        |
|                 | 3MS2         |                 |            | MOM        |                               |            |              |
|                 | 3MS3         | MOM             | Off        | On         |                               | Open       |              |
|                 | 3MS4         |                 |            | MOM        |                               |            |              |
|                 | 3MS5         |                 |            | On         |                               |            |              |
| DP              | 3MD1         | On              | None       | On         | 2 - 3, 5 - 6                  | N/A        | 2 - 1, 5 - 4 |
|                 | 3MD2         |                 |            | MOM        |                               |            |              |
|                 | 3MD3         | MOM             | Off        | On         |                               | Open       |              |
|                 | 3MD4         |                 |            | MOM        |                               |            |              |
|                 | 3MD5         |                 |            | On         |                               |            |              |

MOM = Momentary

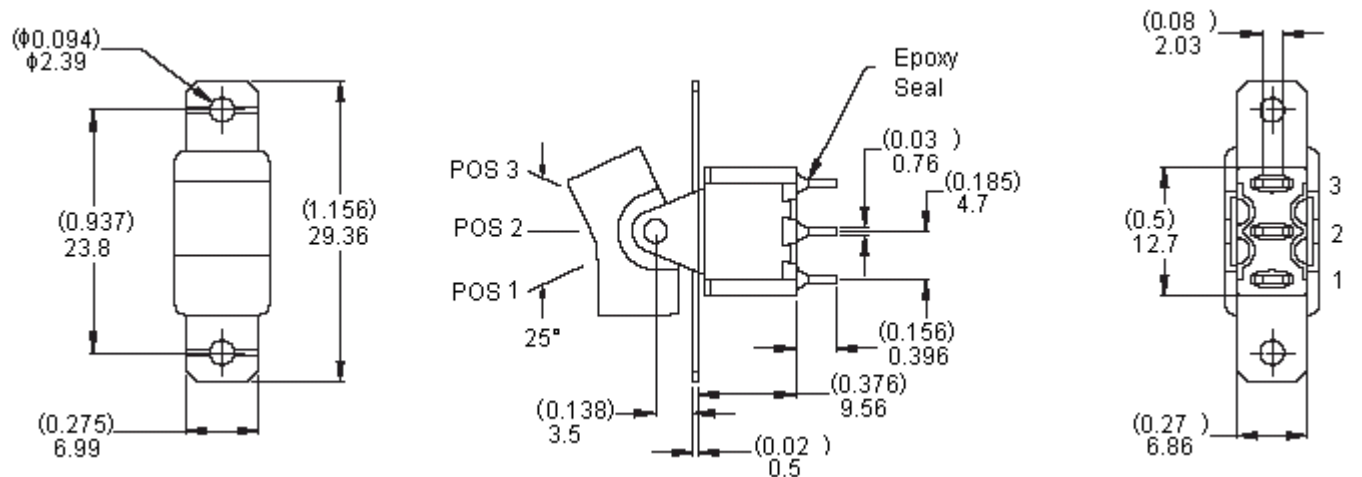


# Rocker and Paddle Switches



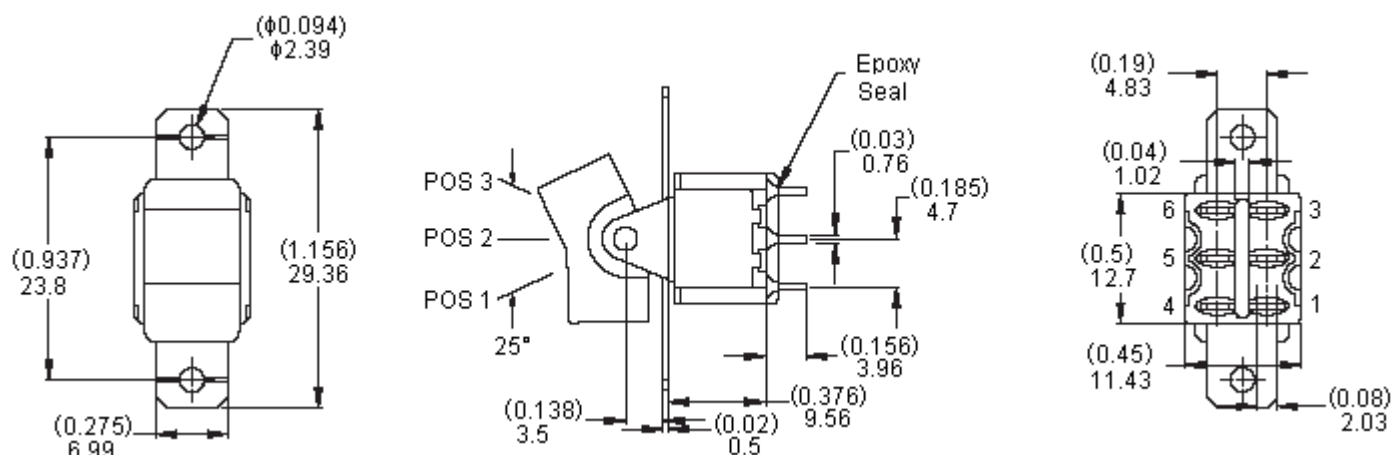
## Pole Options

### 3MS1



Dimensions: Millimetres (Inches)

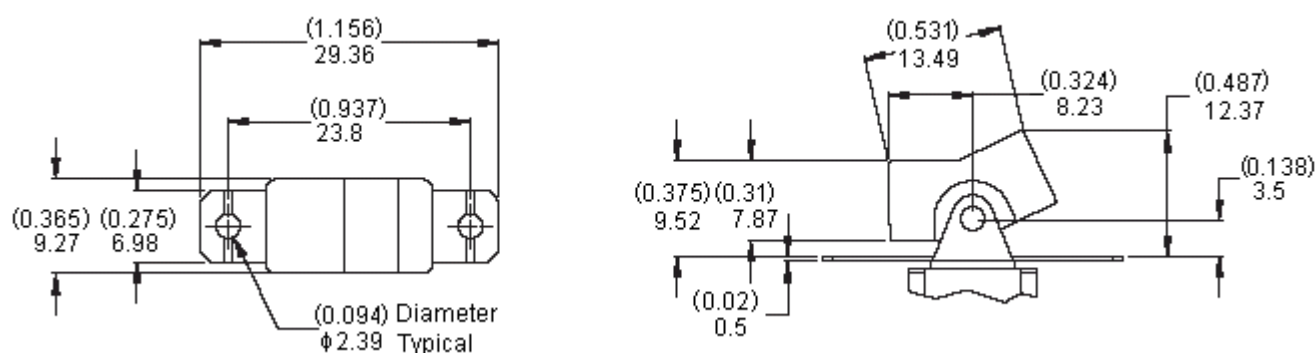
### 3MD1



Dimensions: Millimetres (Inches)

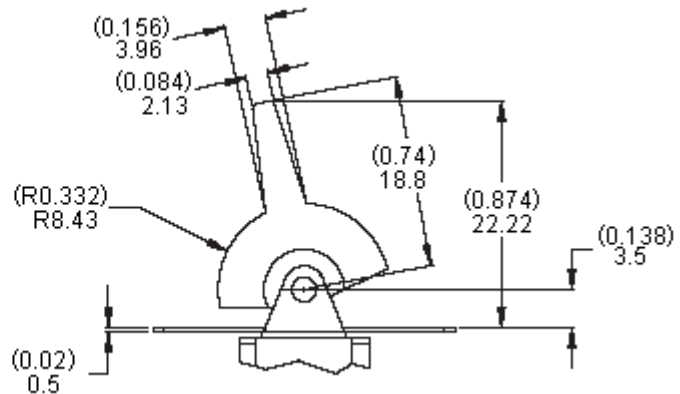
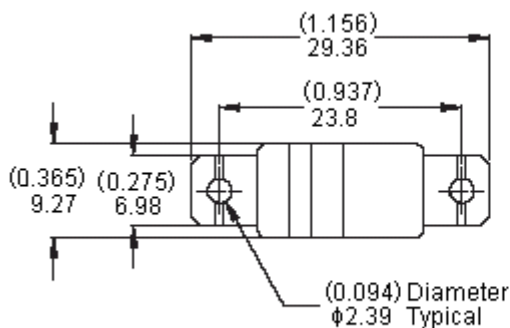
## Actuator Options for Panel Mount Only

### R1



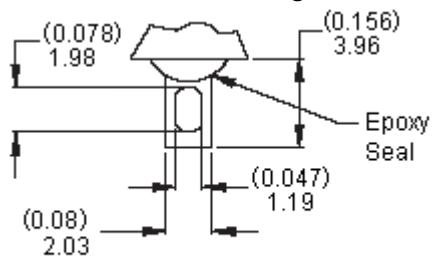
Dimensions: Millimetres (Inches)

## Actuator Options for Panel Mount Only R2



## Termination Options

### M1 Solder Lug



Thickness (0.030) 0.76

Dimensions: Millimetres (Inches)

## Soldering Processes

Manual soldering : Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder

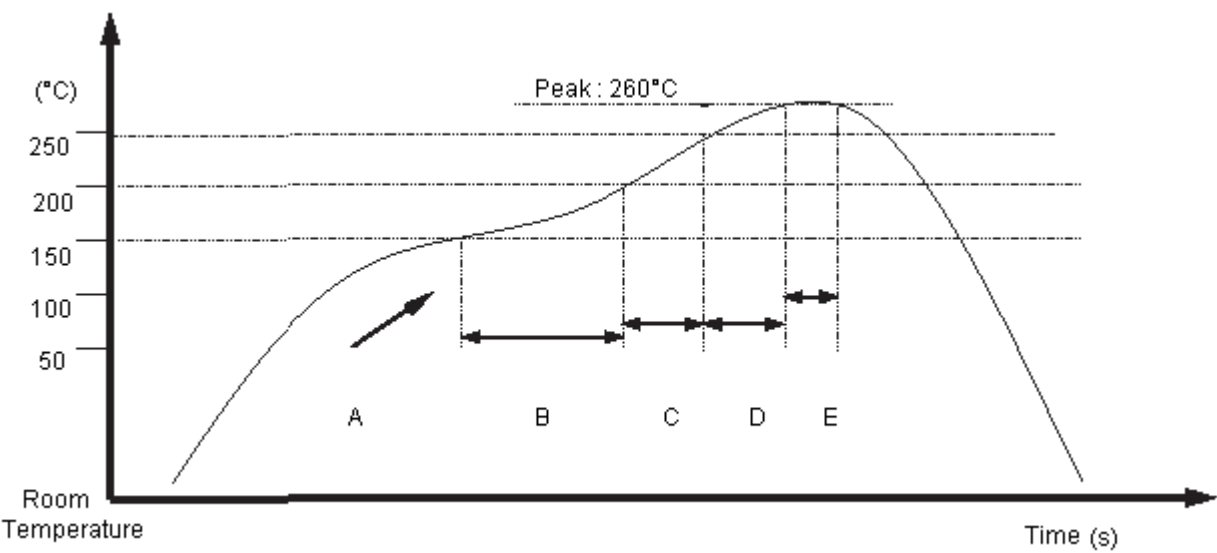
Wave soldering : Recommended soldering temperature : 260 ±5°C  
Duration of solder immersion : 5 ±1 seconds (PCB is 1.6 mm in thickness)

Soldering : Vapour phase

## Temperature Profile

| Zone         | Room Temperature (°C) | Time (Seconds) |
|--------------|-----------------------|----------------|
| Pre-heat (A) | 150                   | Minimum 120    |
| Soak (B)     | 180 to 200            | Minimum 150    |
| Peak (C)     | 200 to 235            | Minimum 30     |
| Peak (D)     | 235 to 260            | Minimum 40     |
| Peak (E)     | 260                   | Maximum 10     |

# Rocker and Paddle Switches



Part Number Table

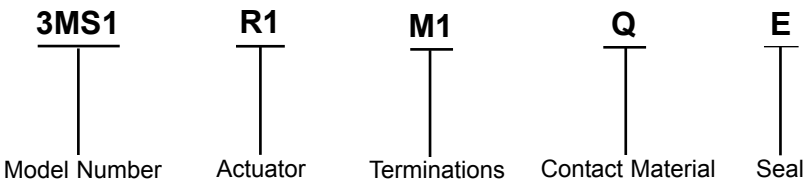
| Description       | Part Number |
|-------------------|-------------|
| Switch, SPDT      | 3MS1R1M1QE  |
| Switch, DPDT      | 3MD1R1M1QE  |
| Switch, SPDT      | 3MS1R2M1QE  |
| Switch, DPDT      | 3MD1R2M1QE  |
| Switch Body, SPDT | 3MS1M1QE    |
|                   | 3MS3M1QE    |
|                   | 3MS4M1QE    |
|                   | 3MS5M1QE    |
|                   | 3MS2M1QE    |
| Switch Body, DPDT | 3MD1M1QE    |
|                   | 3MD3M1QE    |
|                   | 3MD4M1QE    |
|                   | 3MD5M1QE    |
|                   | 3MD2M1QE    |



# Rocker and Paddle Switches



## Part Number Explanation:



- Model Number** : 3MS1 = SP On-None-On, 3MD1 = DP On-None-On, 3MS3 = SP On-Off-On, 3MS4 = SP MOM-Off-MOM, 3MS5 = SP On-Off-MOM, 3MS2 = SP On-None-MOM, 3MD3 = DP On-Off-On, 3MD4 = DP MOM-Off-MOM, 3MD5 = DP On-Off-MOM and 3MD2 = DP On-None-MOM
- Actuator** : R1 = 13.49 Long Rocker - Support and R2 = Lever - Support
- Terminations** : M1 = Solder Lug
- Contact Material** : Q = Silver
- Seal** : E = Epoxy (std)

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