MOBICON
Electronic Components

# MEC PRODUCT SPECIFICATION

# MAGNETISM COMPONENT

## MTS560PG REED SWITCH

| MOBICON HOLDINGS LTD. | | |
|---|---|---|
| **Drawn** | **Sign.** | **Approved** |
| **Kandy Xu** | | **Leo Wong** |

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# MEC

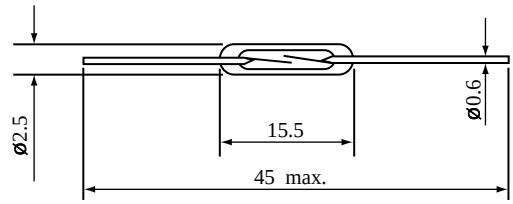
**GERMANY**

## MTS560PG REED SWITCH

Commercial grade miniature Reed Switch for cost sensitive Applications such as **Toys** and **Games.**

### PHYSICAL CHARACTERISTICS (mm) DIMENSIONS

| | |
|---|---|
| Glass Diameter | 2.5 (max.) |
| Glass Length | 15.5 (max.) |
| Lead Diameter | 0.6 (typ.) |
| Overall Length | 45.0 (max.) |




**Glass Appearence : Green Transparent**

### ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Contact Arrangement | SPST Form A Centre gap. |
| Contact Material | Noble Metal |
| (1) Power Rating | 5 VA |
| Switching Current | 0.5 ADC 0.5 AAC max. |
| Carrying Current | 0.5 ADC 0.5 AAC max. |
| Switching Voltage | 50 VDC 75 VAC - RMS max. |
| (2) Breakdown Voltage | 200 VDC |
| (3) Contact Resistance | 500 mΩ max. |
| Insulation Resistance | $10^9$Ω min. |
| Contact Capacitance | 0.7 pF max. |

### OPERATING CHARACTERISTICS

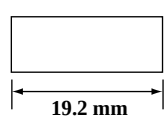
| | |
|---|---|
| Operate Time including Bounce | 1.0 ms (typ.) |
| Release Time | 0.4 ms (typ.) |
| Resonant Frequency | 5.3 kHz (typ.) |
| Vibration 10 - 2,000 Hz | 30 G max. |
| Shock - 11ms, 1/2 Sine Wave | 100 G max. |
| Operating Temperature | -40 °C ~ +125 °C |
| Storage Temperature | -50 °C ~ +155 °C |
| Pull-In Range | 10 AT ~ 35 AT |
| Drop-Out | 5 AT |
| Switching Frequency | 100 Hz max. |

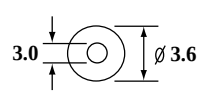
**NOTES:**

(1) The specification for VA Rating may be exceeded for less sensitive (high AT) switches, and should be decreased for very sensitive (low AT) switches. Specific life testing for a particular load will be run upon request.

(2) Breakdown voltage is measured in the presence of a radioactive ionizing source with switch leakage current limited to 100 mA.

TEST COIL : NUMBER OF TURNS : 5,000
RESISTANCE OF COILS : 870Ω

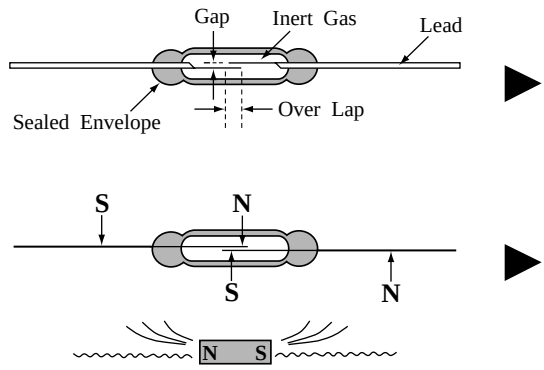



**BIN COOE : 214A**

# MEC

## CONSTRUCTION




The reed switch consists of a pair of flexible reeds made of a magnetic material, and sealed in a glass tube filled with inert gas.

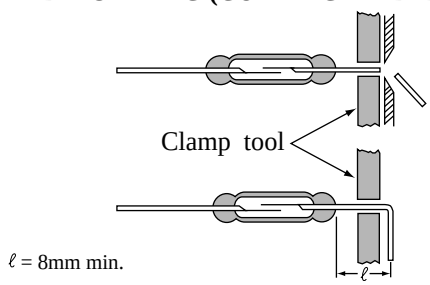
The reeds are overlapped but separated by a small gap. The contact area of each reed is plated with a noble metal, such as Rhodium or Ruthenium, to provide the switch with stable characteristics and long life.

Application of magnetic field, generated by a permanent magnet or a coil, to the reed switch causes both reeds to be magnetized. This produces an N-pole at the contact area of one reed, and an S-pole at that of the other reed, in a manner shown on the drawing (left). If the magnetic attracting force overcomes the resistive force caused by elasticity of the reed, the reeds come in contact (Pull-In) i.e., the circuit is closed. Once the magnetic field is removed, the reeds are separated again by the effect of elasticity of the reed (Drop-Out) i.e., the circuit is opened.

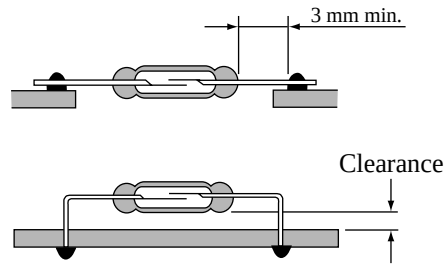
## FEATURES

**Compact and Light** ..... The reed switch can be mounted in a very limited space ; it is ideal for use in miniaturized equipment.
**Hermetically Sealed** ..... The switching elements of the reed switch are hermetically sealed in an inert gas atmosphere, so that they are never exposed to the external environment.
**Long Life** ..... The reed switch employs no sliding parts, so that there is no fatigue related degradation in the quality of the materials used, ensuring a virtually unlimited mechanical life.
**High Speed Operation** .... Every movable element has a very low mass resulting in a high speed of operation. This enables the reed switch to be used as an interface to a transistor or integrated circuit.

## LEAD FORMING (CUTTING AND BENDING)




## M O U N T I N G




## CONTACT MATERIAL

**Rhodium**
Rhodium plated contacts are most popular. They have very stable characteristics and long life when switching low level to heavy loads. This is due to Rhodium's high melting point and high hardness.

**Ruthenium**
Ruthenium's hardness is even greater than that of Rhodium. Ruthenium contacts have better mechanical wear and heat dissipation characteristics, yet only when switching low Loads.

## CONTACT FORM

**Form "A" (Normally Open)**
Switch contacts will close in the presence of magnetic field.

**General application switches**
Switching power rating of 10 watt. Applications are wide including switching signal loads, driving electromechanical relays, etc.

**High inrush current switches**
May be used for switching in candescent lamp or capacitive loads without external current limiting resistors.