MOBICON
Electronic Components

MEC PRODUCT SPECIFICATION

MAGNETISM COMPONENT

MGR560PG REED SWITCH

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

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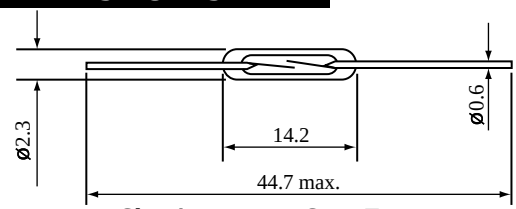
MGR560PG REED SWITCH

General purpose Rhodium plated miniature Reed Switch. Applications including sensing elements used in safety and security systems, level sensing , counting and miniature relays.

PHYSICAL CHARACTERISTICS (mm) DIMENSIONS

Glass Diameter	2.3 (max.)
Glass Length	14.2 (max.)
Lead Diameter	0.6 (typ.)
Overall Length	44.7 (max.)



Glass Appearence : Green Transparent
LEAD : GOLD PLATING

ELECTRICAL CHARACTERISTICS

Contact Arrangement	SPST Form A Centre gap.
Contact Material	Rhodium
(1) Power Rating	10 W
Switching Current	0.5 A_{DC} 0.5 A_{AC} max.
Carrying Current	1.0 A_{DC} 1.0 A_{AC} max.
Switching Voltage	100 V_{DC} 125 V_{AC} - RMS max.
(2) Breakdown Voltage	250 V_{DC}
(3) Contact Resistance	100 mΩ max.
Insulation Resistance	10^{10}Ω min.
Contact Capacitance	0.7 pF max.

OPERATING CHARACTERISTICS

Operate Time including Bounce	0.6 ms (typ.)
Release Time	0.1 ms (typ.)
Resonant Frequency	5.3 kHz (typ.)
Vibration 10 - 2,000 Hz	50 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 ~ 15 AT
Drop-Out	5 AT ~10 AT

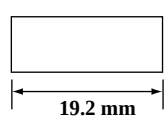
NOTES:

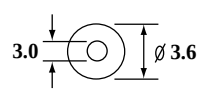
(1) The specification for VA Rating may be exceeded for less sensitive (high AT) switches, and should be decreased for very sensitive (low AT) switches. Specific life testing for a particular load will be run upon request.

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

(3) Contact resistance measurements are made at 10mA from a 1 volt source with 15AT overdrive using a 4 wire (Kelvin) measuring system and contact probes located on 1.7" centers.

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





BIN COOE : 14103

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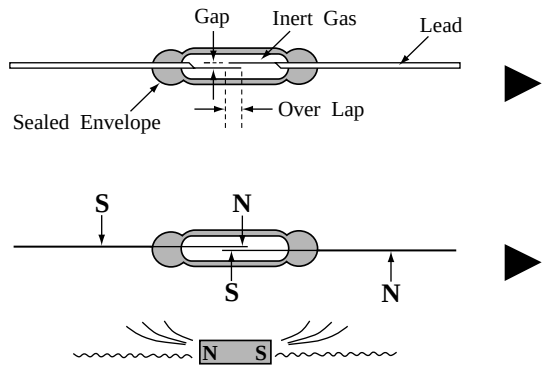
CONSTRUCTION



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.

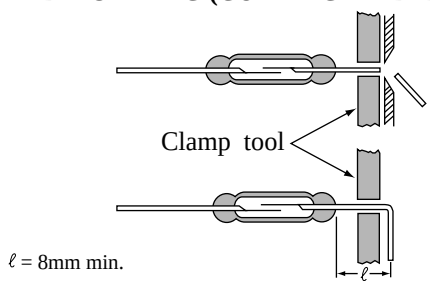
The reeds are overlapped but separated by a small gap. The contact area of each reed is plated with a noble metal, such as Rhodium or Ruthenium, to provide the switch with stable characteristics and long life.

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)



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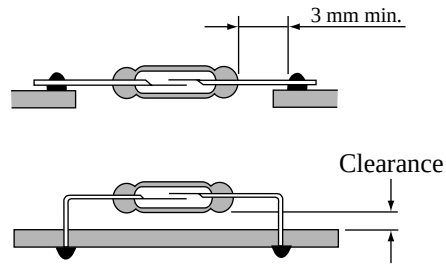

CONTACT MATERIAL

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.

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REVIEW OF SPECIFICATIONS

1) When something get doubtful with this specifications, we shall jointly work to get an agreement.

2) This specification limits the quality of the components as a single unit. Please insure the component is thoroughly evaluated in your application circuit.

3) Please do not use this component in any application that deviates from its intended use as noted within the specification. It may cause any mishaps.

4) Please return one of this specification after your signature of acceptance. In case of no return within 3 months from submission date. This specification should be treated as accepted.

When using our products, the following precautions should be taken.

(1) Safety designing of apparatus or a system allowing for failures of electronic components used in the system

In general, failures will occur in electronic components at a certain probability. MOBICON HOLDINGS LTD makes every effort to improve the quality and reliability of electronic component products. However, it is impossible to completely eliminate the probability of failures. Therefore, when using MOBICON HOLDINGS LTD electronic component products, systems should be carefully designed to ensure redundancy in the event of an accident which would result in injury or death, fire, or social damage, to ensure the prevention of the spread of fire, and the prevention of faulty operation.

(2) Quality Level of various kinds of parts, and equipment in which the parts can be utilized

Electronic components have a standard quality level unless otherwise specified.

(3) This specifications is subject to change without notice.

The contents of this specifications are based on data which is correct as of 2002, and they may be changed without notice. If our products are used for mass-production design, please enquire consult with a member of our company's sales staff by way of precaution.

(4) Reprinting and copying of this specifications without prior written permission from MOBICON HOLDINGS LTD are not permitted.

(5) Industrial Property Problems

In the event any problems associated with industrial property of a third party arising as a result of the use of our products. MOBICON HOLDINGS LTD assumes no responsibility for problems other than problems directly associated with the constitution and manufacturing method of the products.

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Prepared By: Leo Wong
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