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DEMINT
Electronics Co., Ltd.

(RH1) High Voltage Hermetic Hi-Meg Resistor

Web: www.direct-token.com
Email: rfq@direct-token.com

DeMint Electronics Co., Ltd.

China: 17P, Nanyuan Maple Leaf Bldg., Nanshan Ave.,
Nanshan Dist., Shenzhen, Guangdong, China. 518054
Tel: +86 755 26055363

Taiwan: No.137, Sec. 1, Zhongxing Rd., Wugu District,
New Taipei City, Taiwan. 248012
Tel: +886 2981 0109 Fax: +886 2988 7487

Product Introduction

Hermetic Resistors Lead to a High Ohmic Resistance Values

Features :

- High Resistance Range 1×10^{7}~1×10^{12}(Ω).
- Resistance Tolerance (J±5%) (K±10%).
- Glass vacuum sealed hermetic resistors.
- Stability temperature and voltage.
- Metal Glaze resistive elements.

Applications :

- Ultra-High Vacuum Applications.
- Surge Protection and Voltage Divider.
- Mains Protection and Discharge Path Resistor.
- Current Pulse Limiters and Pulse Load Equipments.
- Micro Current Circuit Measurement, Medical Instrumentation.

DeMint Hi-Meg Hermetically Sealed Resistors are designed for use in electrometer circuits where a high order of performance is required an extended period of time under adverse environmental conditions.

The RH1 metal glaze resistor is disclosed as being encapsulated in a glass tube, the enclosure being hermetically sealed to conductive caps mounted on the resistor ends. The metal glaze film of the resistance path of the resistor is protected from thermal damage during heat sealing by spacing the resistance path from the conductive caps and providing an electrical path there between in the form of an extended termination.

By being vacuum sealed in a glass envelope with its resistance glaze glass characteristic, these high resistance resistors are suitable for ultra-high vacuum applications, micro current circuit measurement, and pulse load equipment.

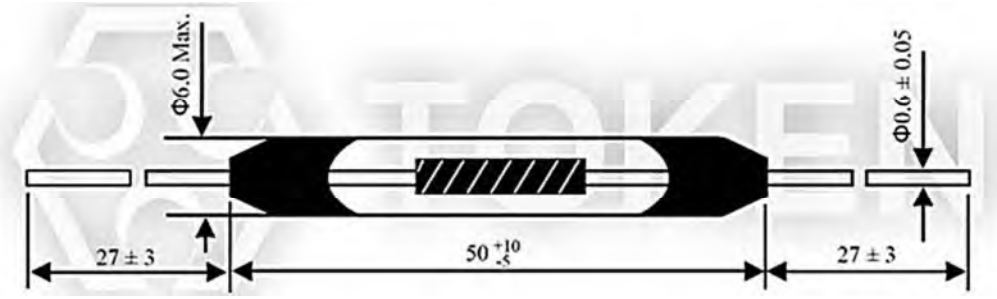
These RH1 Series features a high degree of stability and accuracy, and operate at this high performance level for long-term stability.

For customized designs, tighter tolerances, non-standard technical requirements, or custom special applications, please contact us, or link to DeMint official website "High Voltage Resistors" to get more information.

Dimensions & Specification

Dimensions & Specification (RH1) (Unit: mm)

Resistance Range	1×10^{7}~1×10^{12}(Ω)
Resistance Tolerance	(J±5%) (K±10%)
Operating Temperature	-55 ~ +125
Temperature Coefficient	±500PPM/ (-55~+125℃)
Damp Heat	ΔR ≤ ± (5%R+0.1Ω)
Working Voltage	1000V
Rated Power	1/2 W



Hermetic High Resistance High-Megohm Resistors (RH1) Dimensions (Unit: mm)

Cleaning & Handling

Cleaning & Handling (RH1)

Hermetic High-Megohm Resistor Cleaning & Handling:

- It should be handled by the leads, unless gloves are worn.
- If cleaning should become necessary, use isopropyl alcohol and lightly wipe dry with lint free tissues.
- These glass encapsulated (hermetic) resistors with high resistance value is required extraordinary cleanliness.
- Fingerprints on the surface of the resistor will attract contaminants and moisture, which will cause a parallel resistance path, reducing the resistance value of the device.

Order Codes

Order Codes (RH1)

RH1	1T		J	
Part Number	Resistance Value (Ω)		Resistance Tolerance (%)	
RH1	1T	1TΩ	J	±5%
	10T	10TΩ	K	±10%
	100T	100TΩ		

General Information

Cost Effective Complete Selection of High Voltage Components

DeMint high voltage series can be specified for use in industrial and general purpose high voltage systems, as well as a complete selection of high resistance, Hi-Meg, high-voltage, high frequency, and bulk ceramic resistors for higher average power dissipation. These High Resistance, High Frequency, High Resistance resistors combine the proven performance of DeMint resistance system with new cost efficient design elements and high voltage applications.

Detailed specifications, both mechanical and electrical, please contact our sales representative for more information.

High Voltage Applications

Resistors produced from Serpentine Pattern Screen Printing Design or bulk ceramic materials have displayed several key advantages in demanding high-voltage situations, including both continuous-wave and pulse applications. These include radar and broadcast transmitters, x-ray systems, defibrillators, lasers, and high-voltage semiconductor process equipment applications, where resistors must handle peak voltage anywhere from 8KV to 75KV.

Typical applications include current limit in capacitor charge/discharge, crowbar, and tube-arc circuits. In these uses, bulk ceramic resistors provide low inductance, high average power per unit size, stability at high voltage, and durability at extreme peak-power levels. Film resistors typically cannot withstand high-voltage pulse applications.

RF/Digital Loads and High-Frequency Applications

DeMint Non-Inductive Voltage Resistors are used extensively for high-frequency RF loads in broadcast and communication equipment because of their non-inductive characteristics. They provide excellent non-inductive power-handling capacity at frequencies up to the gigahertz range, with no sacrifice in power dissipation.

Film resistors may provide the needed non-inductive characteristics required by such RF applications, but they have size limitations and present reliability problems due to potential film burnout. This is especially true in advanced digital applications such as digital radio and TV transmitters involving pulses at high frequencies.

Application Notes

- Due to the high voltage which can appear between the end cap and any adjacent metal part, resistors should be mounted at an adequate distance from other conductors.
- An appropriate number of resistors may be screwed together as a stick to provide an assembly which will be capable to withstanding any desired voltage, providing no individual resistor is subject to a greater stress or power dissipation than is recommended in its data sheet, and that appropriate anticorona devices are fitted.
- The axial termination should not be bent closer than twice the diameter of the terminal wire from the body of the resistor.
  When resistors are required to be potted, the preferred encapsulant is a silicone compound.

Oil Immersion

For some high voltage applications it is required to immerse the components in oil or gas to reduce the effects of corona and surface tracking. A special lacquer protected version of the resistor is available, suitable for immersion in transformer oil or SF6.