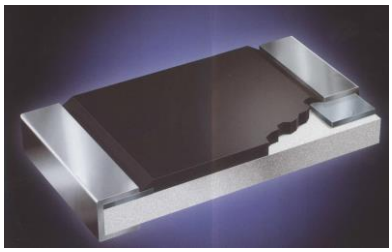
Company news

Reference: **RIE003**

CHR and HVS chip resistors from Riedon deliver high resistance values and high temperature performance

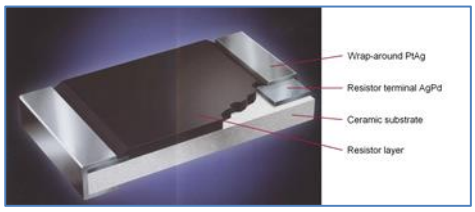
Alhambra, California, USA, 5 June 2013 – Riedon, a specialist manufacturer and supplier of cutting-edge, resistive solutions, enables electronic equipment designs capable of meeting the demanding requirements of medical and aerospace applications and operating in the extreme environments encountered in the oil and gas industries. Whether it is for magnetic resonance scanners, aircraft flight controls or down-hole instrumentation for oil wells, Riedon's advanced CHR and HVS chip resistor technology delivers high-performance, high-temperature operation with resistance values up to 10TΩ.



The maximum continuous working temperature of standard components with nickel/tin terminals is usually specified as +155^{o}C (tin has a peak temperature of 230^{o}C while nickel is limited to 160^{o}C). By using superior materials, and combining an inner terminal of silver/palladium with a wrap-around of platinum/silver, Riedon is able to offer chip resistors that can work in applications up to 300^{o}C.

This special termination technology confers several other advantages for demanding applications. In particular it is suitable for silver epoxy attachment,

which provides the reliability and high temperature performance essential for the temperature probes and pressure monitoring devices used in oil and gas exploration. Further, by avoiding nickel, these chip resistors are completely non-magnetic and can be used in the presence of strong magnetic fields, such as medical CT and MRI scanners. Similarly, no tin avoids the 'tin-whisker' problem that can be a concern in aerospace applications. Termination material also influences VCR (voltage coefficient of resistance), an important characteristic of high voltage resistors. Riedon's chip resistors are specifically designed to achieve low VCR.



The CHR series of non-magnetic chip resistor provides resistance values from 1 Ohm to 10MΩ with power ratings from 0.05W to 1.5W, depending on package size (from 0402 to 4020). Various resistance tolerances are available, from as low as ±0.5%, along with TCRs (temperature coefficient of resistance) specified from ±50ppm/^{o}C. The standard temperature range is -55^{o}C to +155^{o}C with the HT version extending to +300 ^{o}C.

Riedon's HVS series of high-voltage, high-temperature, thick film chip resistors addresses requirements for higher value resistors, from 100kΩ to 10TΩ, with operation up to 6000V. Again, power-rating options are available up to 1.5W with an HT version provides high temperature operation up to +300 ^{o}C. VCR is also specified across the range, starting from as low as 10ppm/V.

"High value resistors, up to 10 Tera-Ohms, are a core competency for Riedon", said Phil Ebbert, their VP of Engineering, "Some other manufacturers only

deliver up to 10MΩ. This, combined with our ability to achieve high precision and stability over a wide temperature range, is what distinguishes these Riedon products.”

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For further information and reader enquiries:

Frieda Hovsepian, Riedon Inc, 300 Cypress Avenue, Alhambra, CA 91801, USA

Tel: +1 (626) 284-9901 frieda@riedon.com
Fax: +1 (626) 284-1704 www.riedon.com

About Riedon Inc.

For more than 45 years, since its formation in 1960, Riedon has been at the cutting edge of resistive solutions, supplying Wirewound, Thick & Thin Film, and also Foil resistive products to industries as diverse as Aerospace, Military and Instrumentation.
Riedon employs more than 130 team members worldwide and has manufacturing, technical support and sales facilities in the U.S., Europe, Asia, and Mexico.