VPG Foil Resistors Announces Ultra-High Precision Military and Space Grade Resistors for High-Performance Current Sensing within Mission-Critical Applications

The VPG Foil Resistors product group of Vishay Precision Group, manufacturers of the industry’s most precise and stable precision resistors, today introduced the Model 303337 ultra-high precision military and space-grade resistor, offering high-performance current sensing within mission-critical applications.

The Model 303337 produces a highly precise voltage that is directly proportional to measured current levels, with significantly reduced component sensitivity to applied power changes, including PCR and thermal resistance values. The industry-exclusive design of the Model 303337 incorporates VPG’s own proprietary Bulk Metal® Z Foil resistive technology, along with a four-terminal Kelvin connection, for ultra-high precision current sensing and temperature stability to 3W. Additional attributes include a low temperature coefficient of resistance (TCR) of ±5 ppm/°C (–55°C to +125°C; at +25°C ref.), for reduced risk of measurement errors due to temperature changes; improved load-life stability of ±0.02% (typ.), at +70°C for 2000 hours (rated power); a low power coefficient of resistance (PCR) of 5 ppm/W at rated power; a resistance tolerance to ±0.1%; a 100 to 200 mΩ resistance range; a short-time overload of 0.005% typical; an electrostatic discharge (ESD) limit of < 25 kV; solderable terminations; and a choice of either lead (Pb)-free or tin/lead alloy solder finish.

To ensure total resistor reliability and conformance to published specifications, each unit undergoes stringent testing across its full batch lot. A Quality Conformance Inspection report accompanies each shipment, detailing all test data collected during Environmental Test Laboratory studies. The report offers design engineers a reliable set of data for the anticipation of actual resistor performance within an intended installation environment. Data includes screen/test flow per EEE-INST-002 (Tables 2A and 3A, Film/Foil, Level 1), MIL-PRF-55342 and MIL-PRF-49465, among other parameters. For customer convenience, prototype quantities of the Model 303337 resistor are also available with expedited deliveries. Please contact sales@charcroft.com for details.

The Model 303337 ultra-high precision surface mount resistor may be specified within demanding and mission-critical military, aerospace, defense and space applications, including those where a precision resistor is required to quickly reach thermal equilibrium, within circuits that either require fast response times, or which are characterized by rapid current changes. Within the military, aerospace, defense and space industries, typical applications include commercial and military avionics, switching linear power supplies, power amplifiers, power management systems, feedback circuits, measurement instrumentation and associated automatic test equipment. Other applications include switching and linear power supplies, precision high current-sensing, power management systems, feedback circuits, power amplifiers, and precision electronic scales.