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Higher power rating, screw mount, high reliability...

NIKKOHM INTRODUCES 800W POWER RESISTOR FOR INVERTER APPLICATIONS

Misawa, Japan (1 August 2017) — To provide design engineers with highly reliable, power resistors that operate with lowest temperature rise in the market Nikkohm has introduced RPU800 series for inverter applications. These unique high power resistors use Nikkohm's proprietary thick film technology and thin film process on alumina substrate and offer 10kV insulation, low series inductance.

“These are highly reliable resistors suitable for power electronics such as snubber resistor of thyristor inverter in the induction heating power equipments” said Shigeru Hidaka, CTO of Nikkohm. “The thermal resistance indicating the heat dissipation is only 0.8 °C/W which is exceptionally suitable for the liquid cooling system.”

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NIKKOHM INTRODUCES 800W POWER RESISTOR, PG. 2

This resistor is a high performance power film resistor using a pre-stressed technology combining a thick film and thin film on the a resistor element, and the inside of the resistor has a structure that releases thermal stress with a soft elastic material, a resistor external is housed in a rigid phenol resin case, it is an industrial resistor which supports long-term operation under severe conditions.

Since the category temperature of the flange is -55°C , $+90^{\circ}\text{C}$, $+175^{\circ}\text{C}$ and the rated power is 800 W, it is best to combine with the cooling system of water cooling, liquid cooling, and forced air cooling to show the best performance. The equivalent parallel capacitance is 73 pF and the equivalent series inductance is 108 nH and the reactance component is small and the terminals can be connected to the bus-bar with the M5 screw terminal, so it is a resistor that can convert a sharp pulse large current into heat. It exhibits excellent performance as a resistor of snubber circuit of R-C-D type used for device of GTO thyristor.

The insulation withstand voltage is guaranteed by 100% inspecting between terminals and metal flange at 10 kV - 50 Hz - 2 mA. The creeping distance of 42 mm between terminal and flange.

With this insulating structure of the resistor, typical high-frequency corona discharge capacity reaches 5 kV - 20 kHz - zero count. Since the resistance value range is from $0.5\ \Omega$ to $1\ \text{M}\Omega$, it is suitable for a wide range of applications such as current detection, snubber, load resistance, harmonic filter, bleeder resistance and discharge resistance of the large power electronics, in industrial equipment such as steel carburizing for automotive parts, paint drying, high frequency induction heating, welding machines, high-voltage power supply for high energy generation, high speed railway, medical equipment, motor control, high speed charger and energy storage system.

To request the electronic image, call +81 176 53 2105, or e-mail: info@nikkohm.co.jp

Keywords: Nikkohm, resistor, power, industrial, snubber resistor, automotive.

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