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Hall A5, Booth #106



For more information, contact:
David Winkler, Product Manager
+1-828-264-8861
[*david.winkler@ircct.com*](mailto:david.winkler@ircct.com)

Beth Gaddy, BtB Marketing Communications
+1-919-872-8172
[*bgaddy@btbmarketing.com*](mailto:bgaddy@btbmarketing.com)

Open air resistors feature longer thermal path, smaller footprint...

IRC'S POWER CURRENT SENSE RESISTORS GAIN WIDE ACCEPTANCE IN WORLDWIDE MARKET WITH INCREASED THERMAL MANAGEMENT CAPABILITIES

MUNICH, Germany (November 14, 2006) — Providing design engineers with a small footprint device with increased heat dissipating capability for power supply designs, TT electronics IRC Wire and Film Technologies Division's OAR-TP Series open air sense resistor is designed for applications requiring the transfer of heat away from circuits and solder joints. Available in 1W or 3W rating, the resistor is being specified for current sensing, feedback, low inductance, as well as surge and pulse applications.

According to David Winkler, product manager for IRC's Wire and Film Technologies Division, the current sense resistor has gained worldwide acceptance because of its narrow footprint and thermal management capabilities. "The hot spot on the OAR-TP resistor is approximately 0.2" higher than on a typical metal strip chip resistor. This results in an increased thermal path for the OAR-TP, reducing heat transfer into the solder joints and circuits," said Winkler. "Because of this, the device is ideal for thermally harsh environments, including automotive and aerospace applications, as well as enclosed, poorly ventilated circuits in applications such as laptop computers."

The 1W OAR-TP resistor measures just .300" in height, while the 3W device has a height of 1.25". Because many power supply designs are already tightly packed at the PC board level, the additional height does not create any profile issues, but rather improves cooling efficiency, Winkler continued.

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The OAR-TP Series resistors feature a reduced pitch, or spacing between the leads on the circuit board (with a corresponding increase in the board mounted profile), when compared to the standard OAR Series devices. The OAR-TP Series resistors are rated for 1W or 3W at 85°C, with resistance values from 0.1Ω to 0.005Ω, and tolerances down to ±1%. The device features TCRs as low as ±20ppm/°C and inductance values in the single-digit nanoHenry range. Operating temperature range is –40°C to +125°C.

IRC will also produce devices outside these specifications to meet customer requirements. A lead-free RoHS-compliant version is available, as is a low inductance version for high frequency applications.

The flameproof OAR-TP Series resistors are constructed of a wire resistive element with welded copper leads to prevent solder wicking, which can change the device's resistance value in the circuit by as much as 30%.

Typical pricing for the OAR-TP Series resistors ranges from \$0.18 to \$0.20 in quantities of 25,000. Lead-time is from stock to 10 weeks.

For additional information on IRC's OAR-TP Series resistors or to discuss design options, contact the TT electronics IRC Wire and Film Technologies Division at 828-264-8861, via mail at 736 Greenway Road, Boone, N.C. 28607, e-mail at waftsales@irctt.com, or visit IRC on the web at <http://www.irctt.com/powertools/index.cfm>.

In the U.K. contact Welwyn Components at +44-1670-822181; email info@welwyn-tt.com or visit the Welwyn Web site at www.welwyn-tt.com. In Germany, contact TT electronics at +49-8161-49-08-0; visit www.tt-electronics.de or email information@tt-electronics.de. In France, contact TT France at +33-1-45-12-38-80; visit the Web site www.ttelectronics.fr or e-mail sales@ttelectronics.fr. In Italy, contact TT S.r.l. at +39-026-888-951; visit www.ttelectronics.it or e-mail info@ttelectronics.it.

IRC Inc. is a leading international manufacturer of advanced film, metal glaze and wirewound resistive products with facilities in Corpus Christi, Texas, Boone, N.C., Smithfield, N.C., and Barbados. IRC is part of TT electronics plc, a global electronics company manufacturing a broad range of advanced electronic components, assemblies and sensor modules for the automotive, telecommunications, computer and aerospace markets. TT electronics' Web site can be found at: www.ttelectronics.com.

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To request the electronic image, call +1-919-872-8172, or e-mail: bgaddy@btbmarketing.com

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Datasheet: http://www.irctt.com/pdf_files/OAR-TP.pdf