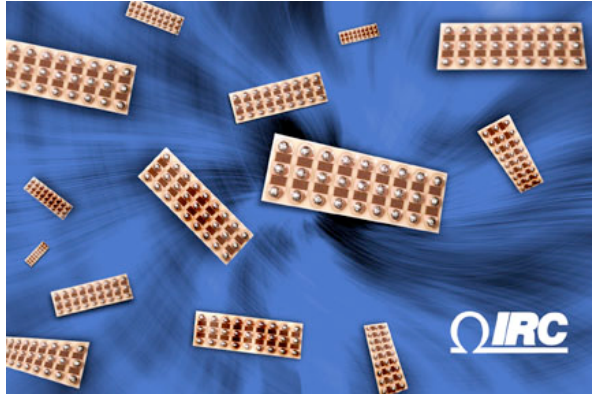


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BGA termination network improves noise immunity, reduces parasitics...

IRC'S CHIPSCALE THEVENIN TERMINATION NETWORKS IMPROVE SIGNAL INTEGRITY IN HIGH SPEED DIGITAL CIRCUITS

CORPUS CHRISTI, TX (June 28, 2005) — Providing design engineers with a high-density resistor network for terminating signal lines in high speed digital circuits, TT electronics IRC Advanced Film Division recently developed a chipscale Thevenin termination network. Designated part of the CHC Series, the 18-resistor ball grid array network is designed to maximize signal integrity in high-speed digital circuit designs by combining nine Thevenin pairs in a network schematic.

According to Jerry Seams, IRC's Applications Engineering Manager, the Thevenin networks provide superior high speed performance in the termination of digital transmission lines. "In addition to reduced drive requirements and reduced power dissipation, the Thevenin resistive terminators provide both pull-up and pull-down functions for the circuit. Our BGA package eliminates all wire bonds, effectively reducing the internal parasitic inductance of the resistor network to near zero, as well as minimizing external traces on the PC board," he explained.

IRC'S THEVENIN TERMINATION NETWORKS IMPROVE SIGNAL INTEGRITY, PG 2.

The Thevenin termination network is ideal for applications in DDR memory termination, ECL/PECL high-speed logic termination, and single ended and differential signaling termination, Seams continued.

IRC's TaNFilm® process produces precision tantalum nitride thin film resistive elements that are immune from corrosion problems common to nichrome resistors in humid environments. The self-passivating properties of tantalum nitride result in a more stable, reliable resistive device.

The chipscale networks are available in a wide range of standard and custom resistance values. The devices also feature absolute TCRs to $\pm 100\text{ppm}/^\circ\text{C}$ and standard tolerances to $\pm 1\%$ with operating temperatures from 0°C to $+70^\circ\text{C}$. IRC will also produce devices outside these specifications to meet customer requirements.

Various package sizes are available for the 1mm pitch series. The 1mm pitch series features a 27 element package, measuring 9mm x 3mm. The BGA packages are JEDEC standard 8-9A compatible.

Typical pricing for the CHC Series devices is \$0.99 each in quantities of 10,000 with lead times from production at 10 weeks.

For more information on IRC's Thevenin termination network or to discuss design options, contact the TT electronics IRC Advanced Film Division Sales & Marketing Department at 361-992-7900; via mail at 4222 S. Staples St., Corpus Christi, TX 78411; e-mail at afdsales@irctt.com or visit the IRC Web site at www.irctt.com.

IRC'S THEVENIN TERMINATION NETWORKS IMPROVE SIGNAL INTEGRITY, PG 3.

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.

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

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