

FOR IMMEDIATE RELEASE, CO1065
August 28, 2007

For more information, contact:
Tom Morris, Applications Engineering
Manager
IRC, Inc.
361-985-3151
tom.morris@ircct.com

Beth Gaddy, BtB Marketing
919-872-8172
bgaddy@btbmarketing.com

Solderable copper substrates ideal for high-current, high-power applications...

IRC OFFERS THICK FILM COPPER SUBSTRATES WITH LOW RESISTIVITY, EXCEPTIONAL THERMAL CHARACTERISTICS

CORPUS CHRISTI, TX (August 28, 2007) — TT electronics IRC Advanced Film Division's cost-effective, solderable thick film copper substrate is now being specified for high-current and power module applications. Designated the TFC Series, the patented copper formulation utilizes a screen-printing process where the copper traces are printed on an alumina ceramic substrate and fired at temperatures up to 1000°C.

According to Tom Morris, applications engineering manager for IRC Advanced Film Division, the thick film copper substrates provide a number of advantages over direct bonded copper (DBC) substrates. "Because the thick film copper substrates utilize an additive process as opposed to the etching process required by DBC substrates, the copper substrates are cost effective, and high-current, current sense resistors can be integrated into the conductors on the substrate," said Morris. "Additionally, the thick film copper formulation provides the substrates with high current carrying capability and excellent thermal management characteristics."

IRC OFFERS THICK FILM COPPER SUBSTRATES, PG. 2

The TFC Series copper substrates are ideal for a variety of power applications where a significant amount of current is required, such as thermo-electric coolers and power modules.

The TFC Series substrates feature an adhesive copper strength of $>20\text{N/mm}^2$, thermal expansion of $7.3\text{ppm}/^\circ\text{C}$, very low thermal impedance, and sheet resistivity of $0.2\text{m}\Omega/\square$ (180μ thick). Conductor thickness ranges from 20μ to 250μ , with a minimum conductor width and space between conductors of 0.5mm .

When integrated onto the substrate, the resistors feature an ohmic range down to 0.001Ω , with tolerances to $\pm 1\%$, ideal for current sensing or high power dissipation.

The substrates are available in thicknesses ranging from 0.25mm to 1.0mm , and sizes up to $4.5\text{ in.} \times 6.25\text{ in.}$ They can be laser-scribed or green-scored.

Please contact the factory for pricing and lead time information for the custom TFC Series thick film copper substrates.

For datasheets or more information on IRC's TFC Series thick film copper substrates, please access the Web site at <http://www.irctt.com/products.aspx?frmCategory=34>. For additional information, please 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; or e-mail at afdsales@irctt.com.

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.

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

Keywords: TT electronics, IRC, TFC Series, Thick Film, Copper, Ceramic

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