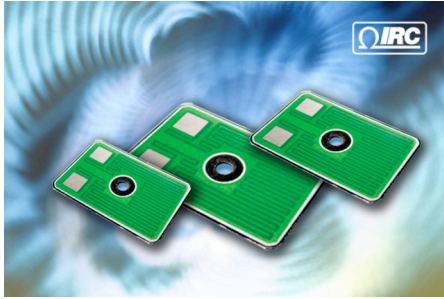


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*For more information, contact:  
Wilson Hayworth, IRC application engineer  
828-264-8861  
[wilson.hayworth@ircct.com](mailto:wilson.hayworth@ircct.com)*

*Beth Gaddy, BtB Marketing  
919-872-8172  
[beth.gaddy@btbmarketing.com](mailto:beth.gaddy@btbmarketing.com)*

*Planar element delivers instant precision heating for sterilizers, humidifiers, transfusers...*

## **MEDICAL EQUIPMENT APPLICATIONS WARM UP TO IRC'S RESISTIVE HEATING TECHNOLOGY**

CORPUS CHRISTI, TX (February 23, 2009) — Providing medical equipment design engineers with a precision heating technology that delivers “instant on/instant off” temperature control for sensitive medical applications, IRC has developed a series of thick film planar resistive heating elements on insulated stainless steel substrates. Based on its proven Thick Film on Steel technology (WDBR), the heating elements enable medical equipment designers to replace bulky conventional heaters with an intrinsically safe, flameproof planar device that can be formed in virtually any flat shape to deliver precision heating control for blood transfusion warmers, humidifiers for sleep apnea systems, and medical sterilization equipment.

“Unlike conventional thermal elements, these resistive heaters can achieve a near-instantaneous temperature rise to a precise temperature, maintain that constant temperature as long as required, and be touch-safe within a second or two of being powered off due to the extremely low thermal mass of the heating device and the rapid response of an onboard thermal feedback component,” said Wilson Hayworth, product manager for IRC.

- more -

## **MEDICAL APPLICATIONS WARM UP TO IRC RESISTIVE HEATERS, PG. 2**

“By replacing conventional heat sources, this heating element technology virtually eliminates warm-up time and latent thermal issues, delivers better temperature control, and improves safety for patients and medical professionals.”

IRC’s technology integrates the proprietary thick film resistive elements onto a rugged ceramic dielectric glaze, which is directly applied to a stainless steel substrate, providing an extremely robust heating element with superior thermal transfer characteristics. The stainless steel heating element can then be designed directly into the medical equipment, giving the design engineer maximum flexibility to make their systems smaller, with more precise temperature control, as well as a higher margin of safety. Fuses and thermistors can be integrated directly into the heating elements to provide additional over-temperature protection as well as closed-loop feedback control. The technology is also available on 300 series stainless steel tubular substrates from 0.5” to 2.25” OD for direct heat transfer to fluid flow.

The thick film-on-steel technology can also be used as an ultra-high power surge resistor to suppress loads such as dynamic motor braking, inrush current limiting, and capacitor discharge applications. Medical applications for this version of the resistors include use as a low-pass filter in MRI and CT scanners to improve image definition by suppressing EMI; and as a line load control to reduce power to surgical lasers during idle periods before powering down.

In addition to the custom designs available for specific medical applications, the resistor technology is offered in several standard configurations rated for 0.5kW, 1.0kW, 2kW, 3kW, 5kW and 7kW (maximum pulse power rating). Standard resistance values range from 12 $\Omega$  to 150 $\Omega$ , with tolerances to  $\pm 10\%$  (custom resistance values and tolerances are available). Minimum dielectric withstanding voltage is specified at 2500VDC. Inductance values range from less than 3 $\mu$ H to less than 6 $\mu$ H, with a continuous operating temperature rated to 400°C.

### **MEDICAL APPLICATIONS WARM UP TO IRC RESISTIVE HEATERS, PG. 3**

For more information on IRC's resistive heating elements for medical applications, please access the Web site at <http://www.irctt.com/products.aspx?frmCategory=23>. For additional information, please contact the TT electronics IRC 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](mailto: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.

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***To request the electronic image, call 919-872-8172, or e-mail: [beth.gaddy@btbmarketing.com](mailto:beth.gaddy@btbmarketing.com)***  
Keywords: TT electronics, IRC, resistive heating elements, medical, power resistor, WDBR  
URLs: <http://www.irctt.com/products.aspx?frmCategory=23>