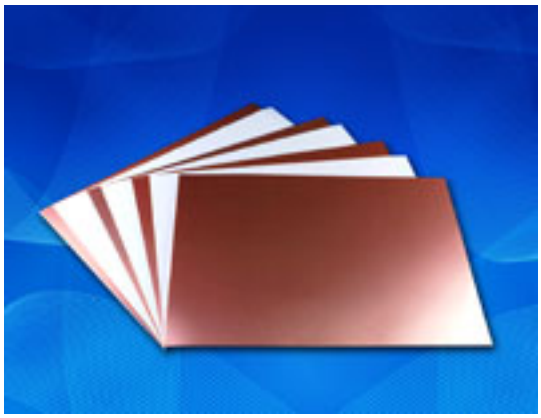
Rogers Teams New RO4460™ Prepreg With RO4360™ Laminates for Matched 6.15-Dk Multilayer System Solution



Rogers Corporation has developed the perfect prepreg match to its popular RO4360™ laminates: RO4460™ prepregs. Both materials feature consistent dielectric constant (Dk) of 6.15 ± 0.15 and low dielectric loss of 0.003 at 2.5 GHz. Together, they form an ideal system for fabricating compact, cost-sensitive multilayer amplifiers, antennas, and other high-frequency circuits where space is at a premium.

As with RO4360 laminates, RO4460 prepregs are ceramic-filled, thermoset materials reinforced by glass fibers for excellent mechanical stability. Compared to PTFE substrates, the high DK of Rogers RO4360 laminates and RO4460 prepregs allows designers to reduce the size of high-frequency circuits by typically 20% to 30%. The laminates and prepregs support smaller size circuits with excellent thermal conductivity of 0.8 W/m-K for effective thermal management.

RoHS-compliant RO4360 laminates and RO4460 bondply materials offer low coefficient of thermal expansion (CTE) of 30 ppm/°C in the z-axis for reliable plated through holes (PTHs) in multilayer circuits. In fact, the RO4360 laminates and RO4460 prepregs can be used with epoxy-based materials to form low-cost, hybrid multilayer circuits that take advantage of the smaller circuit features possible with 6.15 Dk materials.

With its high +280°C glass transition temperature (Tg), the RO4360/RO4460 laminate system processes like low-cost FR-4 circuit-board materials. RO4360 laminates and RO4460 prepregs bondply materials support automated manufacturing techniques and standard processing approaches for miniature, high-performance multilayer circuits without the high costs and processing complexity associated with PTFE circuit-board materials.

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