

Press release: Aismalibar

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Aismalibar and American Standard Circuits Confirm IST thermal testing of HTC 3.2w High Tg Multilayer Thermal Conductive Material

Aismalibar and American Standard Circuits confirm successful IST thermal testing of HTC 3.2w High Tg Multilayer Thermal Conductive Material.

In order to confirm that the Aismalibar High Tg (180 °C), thermal conductive (3.2 w/mc), multilayer material system would pass rigorous automotive thermal cycling testing, the proven IST thermal testing methodology was chosen. American Standard Circuits manufactured the thermal conductive multilayer test panels. PWB Interconnect Solutions Inc. performed the thermal cycling testing.

“We believe there is no better material on the market today than Aismalibar’s HTC 3.2w High Tg Multilayer Thermal conductive material. To demonstrate that, we passed it through very rigorous thermal cycling testing. The best part? Our trusted customer partners American Standard Circuits and PWB Interconnect Solutions Inc. were involved in the process,” said Aismalibar North America President Jeff Brandman when making the announcement.

The IST system automatically sequences a constant DC current through the designed PWB interconnect test coupon, providing the thermal cycling of the samples. The rise in temperature of the circuits is from 25°C to 150°C for reliability testing or an upper temperature of 230°C to 260°C for simulating assembly stress. Once the specified temperature has been achieved, the system turns off the current and cooling begins. After a 3-minute heating cycle, the coupons are forced air cooled for 2 minutes, which represents one cycle. The specified upper temperature for reliability testing is just below the glass transition temperature of the base material.

During each thermal excursion, the system continuously monitors the minute resistance changes in the PTH, blind, buried and micro-via or inner layer to barrel (post) interconnects. Due to the temperature of the interconnect cycles, the resistance values of the interconnect, traces, pads, and hole barrels will also change. The IST system is designed to measure resistance changes to signify when the PCB reaches the point of interconnect degradation or failure. Typical multilayers will survive between 200 to 500 thermal cycles. The Aismalibar High Tg, thermal conductive, multilayer material system survived the required 1000 cycles with no noticeable degradation. The first test coupons were stressed with 3 pre-condition cycles at 245°C and 300°C thermal cycles at 150°C. The 350-cycle testing passed with

no degradation. To stress the coupons to the maximum, trying to force failures, a second more severe test called for 9 times preconditioning at 300°C. Capacitance readings were taken after 3, 6 and 9 pre-conditioning cycles to check for delamination. The coupons easily passed 1000 cycles, showing the superiority of the Aismalibar high HT 3.2 w/mc multilayer lamination system.

About Aismalibar (Copper Clad Laminates and Metal Clad Laminates for PCB)

Aismalibar has over sixty years of experience manufacturing high end copper and metal clad laminates for the printed circuit board industry. During the last two decades, Aismalibar has been focused on offering the best solutions to reduce the operational temperature of printed circuit boards.

For more information, visit www.aismalibar.com Or contact us at 416-321-0770

About American Standard Circuits

American Standard Circuits (ASC) prides itself on being a total solutions provider. They manufacture quality rigid, metal-backed, RF/microwave, flex, and rigid-flex PCBs for the medical, automotive, industrial, defense, and aerospace markets in volumes, from test and prototypes, to large production orders. ASC has expertise to provide a wide variety of technologies in a time-critical environment.

Their qualifications include AS9100 Rev D, ISO 9001:2015, MIL-PRF 31032, MIL-PRF-55110, MIL-PRF-50884 certification and ITAR registration. In addition to manufacturing in the USA, ASC can transition and manage your PCB requirements to lower cost regions via its qualified supply chain of offshore partners. ASC also holds many key patents for metal bonding processes. For more information about American Standard Circuits' services or to ask one of their technology experts a question, visit www.asc-i.com.

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For more information contact Dan Beaulieu at 207-649-0879