

Press Release

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AT&S presents PCBs for lighting applications as part of *LED Light for you* cooperation with Osram

Light-emitting diodes (LEDs) are proving increasingly important and becoming an integral part of lighting applications. As part of its network partnership with Osram, AT&S – Europe's largest and most technologically advanced producer of printed circuit boards (PCBs) – is offering top-class LED know-how for thermal solutions and electronics via the independent www.ledlightforyou.com platform. AT&S will be showcasing PCBs for lighting applications as a partner on Osram's stand (Hall 4.1. D50) at "Light + Building", the world's leading trade fair for architecture and technology, from 11–16 April 2010.

"AT&S has been developing innovative technologies for the LED industry for several years now, especially for automotive applications", said AT&S Sales & Marketing Director Ernst Strasser. With its plants in Klagenfurt and Fehring, Europe's largest PCB producer by far is a pioneer in thermal management, and is also enjoying major success in electronic engineering and electronic manufacturing services. As a result of its effective heat dissipation qualities, AT&S's IMS (insulated metallic substrate) technology is increasingly being used in products such as high-power LEDs.

"As part of the network partnership with Osram, we are making our expertise and services available to a wider customer base, including lighting designers and consultants, as well as architects and lighting manufacturers. This is allowing us to tap into new target groups within the high-potential LED market", stated Mr Strasser. The AT&S services in thermal and electromechanical technologies, as well as engineering and design. The platform's certification process, which AT&S had to pass before being accepted into the network for the Europe, APAC and NAFTA regions, reflects the company's high degree of product and service quality.

AT&S products:

- Single-sided PCBs
- Double-sided PCBs
- Multi-layer PCBs
- Flex and rigid-flex PCBs
- Single-sided single-layer IMS PCBs
- Single-sided double-layer IMS PCBs
- PCBs with copper inlays
- Flexible PCBs with metal reinforcements (ALU)

About AT&S

AT&S Austria Technologie & Systemtechnik Aktiengesellschaft (AT&S) is European market leader and one of the world's strongest-performing printed circuit board manufacturers. AT&S is especially well positioned globally in the high-tech segment of HDI Microvia printed circuit boards, which are chiefly used in mobile devices. The Group is also highly successful in the automotive and industrial and medical technology sectors. As a high-growth international enterprise, AT&S has a global presence with three production facilities in Austria (Leoben, Fehring, Klagenfurt) as well as plants in India (Nanjangud), China (Shanghai) and Korea (Ansan, near Seoul).

For more information visit www.ats.net

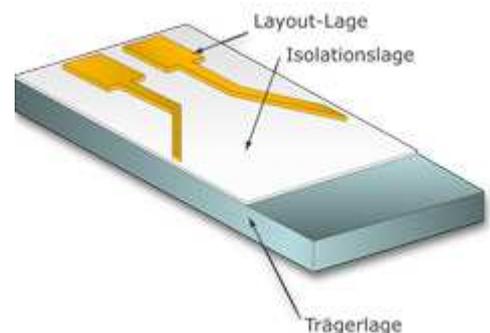
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IMS printed circuit boards ideal for LED applications

LEDs mounted to printed circuit boards (PCBs) using insulated metallic substrate (IMS) technology are increasingly being used in automotive, architectural and general lighting applications. PCBs with insulated metallic substrates are nothing new, but thanks to their high heat conductivity, they seem set to come to the fore as the use of LEDs in lighting technology and power applications takes off.

As packing densities and the level of miniaturisation on PCBs increase, and high heat-generating components such as high-power LEDs and relays are more frequently used, conventional PCBs are beginning to reach their limits. The low thermal conductivity values of the materials used (less than 0.3 W/mK) lead to poor heat distribution within the PCB and sub-optimal dissipation through it. This results in hot spots, which can hinder the full effectiveness of heat sinks. In order to prevent component operating temperatures exceeding permissible levels, the power loss of the components (emitted as heat) must be dissipated as effectively as possible, otherwise malfunctions may occur. In the case of LEDs, this might mean a shift in the colour spectrum, reduced service life or – in extreme cases – damage to or even the total failure of components, entire modules or the end device.



Reliable heat dissipation concepts are often required as base materials with improved thermal conductivity values is simply not enough in many cases. Consequently, research and development is also focusing on other areas of thermal management, such as design, structural concepts and new heat-dissipating material layers.

IMS substrates enable LED operation at lower temperatures

IMS technology on PCBs has been a tried-and-tested, cost-effective and efficient way of dissipating heat for years. AT&S is a specialist in this area and markets its IMS PCBs under the abbreviation TC-PCB (thermal conductive PCB). Technological development and production of IMS PCBs are based at the Company's Klagenfurt plant. PCBs with IMS technology are being used in LED lights, power transformer applications and vehicles (e.g. engine control units). The advantages of PCBs based on IMS technology are clear, with improved heat distribution and dissipation facilitating increased power densities, while also optimising and extending the range of uses for PCBs. This is opening up new areas of application in the growing field of lighting technology.

With IMS as the substrate, LEDs can be operated at lower temperatures, which in turn increases efficiency. It reduces energy consumption and also the amount of heat being emitted. In addition, LED-based lights have a considerably longer service life than those with electric or energy-saving bulbs. This results in lower operating and maintenance expenses, and significantly lower costs in comparison with conventional lighting.

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