



Thinking outside the box: The new SCHOTT TEC TO package

Ideal for 10Gbit/s cooled devices

Los Angeles (USA) & Landshut (Germany), March 16, 2015 –The international technology Group SCHOTT has expanded its design portfolio of high-performance TO packages for the 10Gbit/sec range to suit high-frequency, actively cooled applications. The new SCHOTT® TEC TO package enables the development of high-speed data transfer in the tele- and data communications market and is ideal for 10Gbit/s laser diodes that require a thermoelectric cooler (TEC), enabling its application in middle to long distances. Since the package is based on a TO footprint, it is also reduced in size compared to the conventional box packages. SCHOTT is showcasing its new TEC TO package at the Optical Fiber Communication Conference and Exposition (OFC) on March 24 to 26, 2015 in Los Angeles (booth #1317).

When designing a TO package for high-frequency applications, impedance matching and space constraints pose the largest challenge to the developer. SCHOTT has overcome these limitations with the new TEC TO design. The thermoelectric cooler allows for controlled heat dissipation, which leads to regulated and stable laser wave lengths. The new design is also based on an extended radio-frequency feedthrough, which boasts shortened wire-bonds to minimize signal losses to the laser diode, thereby improving the overall performance.

In addition, the new TEC TO is a package design based on a well-conducting steel platform that no longer relies on the box design. “Box packages have a natural mechanical limitation in size reduction,” explains Kenneth Tan, Research & Development Manager at SCHOTT Electronic Packaging in Singapore. “With TOs, a familiar face in the industry, the glass ceiling of miniaturization is broken. Having overcome the challenges of meeting all of our customers’ requirements in one TO package, we now offer an economical alternative to the conventional box solutions.”

The SCHOTT® TEC TO is designed for use in telecommunication and data communication applications that rely on cooled devices for 10Gbit/sec data transfer speeds. Recently introduced to the market, the product is currently available to customers for qualification. It is suitable for various TEC sizes. Options for further improved heat dissipation are also available.

“With 50 years of research and applied knowledge in the TO field, SCHOTT continues to be an innovative force in the industry,” Tan says. “The newest TEC TO offers unmatched performance in a smaller package, unleashing new capabilities for the telecommunications and data fields.”



In addition to its standard portfolio, SCHOTT offers customized TEC TO solutions. “For us, the TEC TO header is not just a product, it underscores our research and development capability in this domain of high frequency applications,” states Tan. The new TEC TO package highlights SCHOTT’s leadership in designing and manufacturing fully hermetic packages for innovative high-speed tele- and data communication.

Background information

Why is hermetic packaging so important for high-speed tele- and data communication? Electronic chips are highly sensitive to the effects of humidity as well as heat fluctuation. If humidity level is high, condensation of water can occur, especially at lower temperatures. This can cause corrosion of the semiconductor metallization. With increasing bandwidth demands, these chips can be even more sensitive and susceptible to degradation, due to the exposure of harmful gases and the environment. Even leaks of traceable amounts of hydrogen and water vapor can compromise the functions of the opto-electronic components. Humidity can cause semiconductor elements to degrade leading to the failure of the entire unit. This is why high performance chips require high performance housing.

For more information, visit www.schott.com/epackaging.



The SCHOTT® TEC TO is designed for use in telecommunication and data communication applications that rely on cooled devices for 10Gbit/sec data transfer speeds. Source: SCHOTT.

SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. The company has more than 130 years of outstanding development, materials and technology expertise and offers a broad portfolio of high-quality products and intelligent solutions. SCHOTT is an innovative enabler for many industries, including the home appliance, pharmaceutical, electronics, optics, automotive and aviation industries. SCHOTT strives to play an important part of everyone’s life and is committed to innovation and sustainable success. The group maintains a global presence with production sites and sales offices in 35 countries. With its workforce of approximately 15,400 employees, sales of 1.87 billion euros were generated in fiscal year 2013/2014. The parent company, SCHOTT AG, has its headquarters in Mainz (Germany) and is solely owned by the Carl Zeiss Foundation. As a foundation company, SCHOTT assumes special responsibility for its employees, society and the environment. www.schott.com



Press contact:

SCHOTT AG
Dr. Haike Frank
Public Relations Manager
Hattenberstr. 10, 55122 Mainz, Germany
Telefon: +49 (0)6131/66-4088
E-Mail haike.frank@schott.com
Internet: www.schott.com