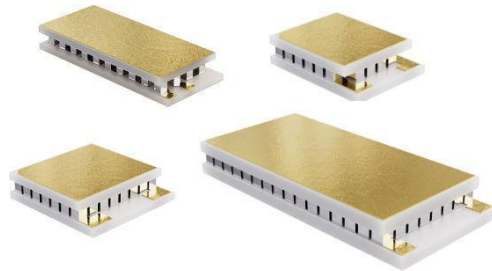# Laird Thermal Systems Announces New Line of Micro Thermoelectric Coolers for Next Generation Optoelectronic Packages

November 12, 2024 – Laird Thermal Systems launches the OptoTEC™ MBX Series, a new line of micro thermoelectric coolers for high-performance space-constrained optoelectronic applications. Leveraging next-generation thermoelectric materials and advanced process automation, the MBX Series offers innovative configurations designed for integration into TO-Can, TOSA, and Butterfly packages. The latest design innovation includes a compact footprint, with the smallest model measuring just 1.5 x 1.1 mm and profiles as thin as 0.65 mm, ensuring exceptional cooling performance in given space constraint at the lowest possible power consumption.

The MBX Series boasts high heat pumping densities up to 43 W/cm^2 with temperature differentials up to 82°C at ambient of 50ºC. Ensuring efficient thermal management and precise temperature stabilization, the MBX Series protects optoelectronics that operate in high-temperature environments including laser diodes, optical transceivers, LiDAR, Infrared Range (IR) Sensors, and high-powered Indium Phosphide (InP) VCSELs.

"Advancements in the optical communications industry, driven by applications such as artificial intelligence and machine learning, require superior temperature stabilization for laser diodes in high-speed optical transceivers." said Andrew Dereka, Thermoelectrics Product Director at Laird Thermal Systems. " The MBX Series is the ideal solution to ensure optical devices maintain consistent wavelength, reduced crosstalk, and extend operational lifespan. Our large investment in a high precision automation production line reflects our commitment to process control, high-volume capacity and reliability."

The MBX Series has undergone rigorous Telcordia GR-468 CORE qualification testing, ensuring exceptional reliability and long operational life even in harsh environments to meet the highest qualification and reliability standards in the optoelectronic market. Engineered to order, the MBX Series allows for unique form factors, heat pumping densities and power efficiencies. With solder construction's supporting reflow temperatures up to 280ºC and wire-bondable attachments, this series is suitable for a wide range of optoelectronic applications. Laird Thermal Systems also offers special finishing options, including Au-plated patterns, thermistor attachments and hermetic sealing to accommodate non-hermetic packaging.

For more information, go to:
https://lairdthermal.com/products/thermoelectric-cooler-modules/micro-MBX-series

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About Laird Thermal Systems
Laird Thermal Systems designs, develops and manufactures thermal management solutions for

demanding applications across medical, industrial and telecommunications markets. We manufacture one of the most diverse product portfolios in the industry, ranging from thermoelectric coolers and assemblies to temperature controllers and liquid cooling systems. With unmatched thermal management expertise, our engineers use advanced thermal modeling and management techniques to solve complex heat and temperature control problems. By offering a broad range of design, prototyping and in-house testing capabilities, we partner closely with our customers across the entire product development lifecycle to reduce risk and accelerate time-to-market. Our global design, manufacturing and support resources help customers shorten their product design cycle, maximize productivity, uptime, performance, and product quality**. Laird Thermal Systems is the optimum choice for standard or custom thermal solutions.**

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