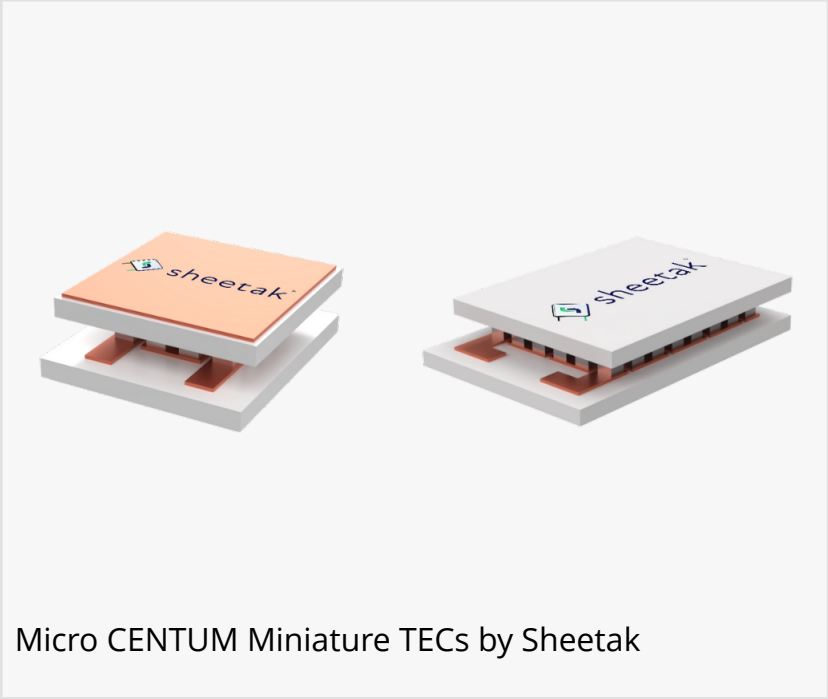
Sheetak Launches µCENTUM™ Miniature Thermoelectric Coolers for Precision Temperature Control in Optoelectronics

Micro-Scale Peltier Cooler Modules Enable Thermal Management for Laser Diodes, Optical Transceivers, and Photodetectors



Micro CENTUM Miniature TECs by Sheetak

AUSTIN, TX, UNITED STATES, January 7, 2026 /EINPresswire.com/ -- Sheetak, a U.S.-based manufacturer of advanced thermal management solutions, announces the expansion of its CENTUM® platform with the introduction of µCENTUM™ miniature thermoelectric coolers (micro TECs). Designed for high-performance optoelectronics and photonics applications, these compact Peltier cooler modules deliver precision thermal management for laser diodes, optical transceivers, photodetectors, and sensor systems where space constraints and temperature stability are critical.

Temperature control is essential in optical components, where thermal fluctuations cause wavelength drift, signal degradation, and accelerated device failure. As optical systems become more power-dense and miniaturized, traditional cooling methods cannot provide the localized precision required. Sheetak's µCENTUM™ micro thermoelectric coolers address these thermal management challenges with solid-state Peltier cooling technology in ultra-compact form factors starting at just 3.6 x 4.7 millimeters.

The µCENTUM™ miniature TEC family includes four thermoelectric cooler modules ranging from 3.6 x 4.7mm to 5 x 10.2mm with a uniform 1.6mm profile. These micro Peltier modules provide maximum cooling capacity from 0.9 watts to 10 watts and achieve temperature differentials (ΔT) between 73°C and 82°C. This performance range allows engineers to select the optimal thermoelectric cooler for their specific thermal load while maintaining minimal system footprint for integration into laser diode packages, optical transceiver assemblies, and photodetector

modules.

Sheetak Advanced Thermal Management

“Engineers developing photonics and optoelectronics systems need miniature thermoelectric coolers that deliver both high thermal performance and compact size,” says Ian Defilippi, Director of Product Management at Sheetak. “The µCENTUM™ micro TEC series brings proven CENTUM® Peltier cooler technology to applications including laser diode temperature stabilization, optical transceiver thermal control, photodetector cooling, and precision sensor systems. These are critical applications where accurate temperature regulation directly impacts wavelength stability, signal integrity, and device reliability.”

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>
> *Ian Defilippi, Director of Product Management*

All µCENTUM™ miniature thermoelectric coolers are designed, manufactured, and tested at Sheetak’s Austin, Texas facility. This U.S.-based production capability ensures faster lead times and responsive technical support compared to offshore thermoelectric module suppliers. For applications requiring customized thermal solutions, Sheetak provides tailored Peltier cooler prototypes with typical delivery in 3 to 6 weeks. Detailed specifications for µCENTUM™ micro TECs are available at https://sheetak.com/peltier-thermoelectric-coolers/micro-sized-thermoelectric-coolers.

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About Sheetak

Based in Austin, Texas, Sheetak develops advanced thermoelectric, solid-state cooling, and energy harvesting technologies for high-performance electronics. With expertise in thermoelectric materials, device engineering, and U.S.-based manufacturing, Sheetak provides precision thermal management solutions for applications in photonics, telecommunications, aerospace, defense, computing, and medical systems. By supporting shorter development cycles and faster lead times, Sheetak helps customers bring products to market with greater efficiency.

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