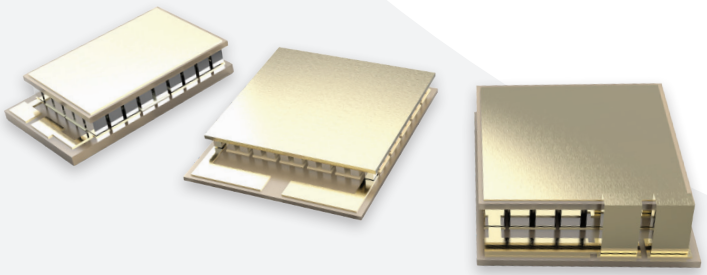
Technical Data Sheet

TECs for TO Can packages

Phononic's high-performance TECs efficiently cool TO can lasers to reduce your overall TOSA power consumption. Configured to your specific application, This series can be used to cool a variety of TO can sizes, including TO60, TO56, and even as small as TO40. They are a great option for cost-effective lasers in a variety of bandwidths from 1G to 100G and for use in passive optical networks, wireless network and FTTX applications. These TECs are excellent for use in any package or TOSA form factor where space is at a premium. Leverage our expertise to plan your future product road map. We will not limit you to standard products; all our solutions are designed to meet your needs, and we ramp quickly to accommodate tight product launch timelines.



Features

- Small footprint for use in TO Can lasers
- Industry-leading diffusion barriers and electrical contacts
- Compatible with I-temp & C-temp operating ranges
- Application-specific designs available
- RoHS compliant

End-Customer Applications

- Laser cooling for optical communications components
- 10G and 25G tunable lasers for DWDM (dense wavelength division multiplexing)
- 50G PAM4 lasers
- 25G L-WDM and M-WDM lasers for 5G wireless
- 100G single wavelength
- Components for Passive Optical Network (PON) applications
- 1550nm and 1577nm TO can lasers

Integration Options

- Bare wire bond pads
- Cold side electrical connections
- Hot side vias for flip-chip electrical connection
- High temperature solder
- Solder pre-tinning
- Patterned cold side metalization
- Pre-attached cold side thermistor
- Automation-ready packaging

Benefits

- **Low power consumption:** Achieve up to 30% lower power consumption than typical TEC performance
- **High Heat Pumping Density:** Realize up to 60% higher heat pumping density in a very thin TEC
- **Exceptional Design and Application Support:** Benefit from our expertise—we'll consult throughout the design process to ensure optimum thermal performance

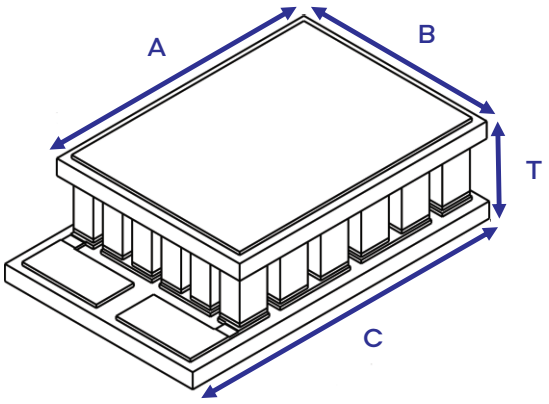
Product Portfolio

Part Number	TEC Dimensions				TEC Performance (Thot = 75°C)					AC Resistance @ 25°C (Ω)
	A (mm)	B (mm)	C (mm)	T (mm)	Optimal Heat Load (milliwatts)	Qc Max (Watts)	DT Max (°C)	V Max (Volts)	I Max (Amps)	
FBP-016624	3.30	1.70	3.80	0.80	270 - 900	2.70	85	3.27	1.48	1.81
FBM-013865	2.37	2.00	2.87	0.90	170 - 580	1.74	89	2.98	1.04	1.92
FBP-017398	2.05	2.00	2.60	0.83	160 - 530	1.60	87	3.20	1.00	2.40
FBM-015626	2.00	1.75	2.60	1.10	150 - 500	1.47	85	2.46	1.09	1.92
FBP-015268	2.05	1.45	2.50	0.80	100 - 300	1.10	85	1.95	0.98	2.82
FBP-015289	1.50	1.50	2.10	0.90	100 - 320	0.96	87	1.30	1.30	0.85
FBP-016622	2.43	1.25	2.96	0.80	100 - 300	0.94	88	2.64	0.63	3.55
FBM-008828	3.00	1.30	3.60	1.10	80 - 270	0.80	88	1.47	0.98	1.26
FBM-009395	1.90	1.10	2.30	1.10	40 - 110	0.40	87	0.81	0.79	0.78

*Optimal heat load is the cold side heat load range under which the TEC operates at or near highest efficiency conditions. Hot side temperature is 75°C, cold side temperature is 45°C to 55°C.

Application Considerations

For maximum reliability, TEC storage and operation at or below 85°C ambient in a non-condensing environment is recommended. Recommended mounting methods are bonding with thermal epoxy or soldering with metalized ceramics. For additional information or assistance selecting the right TEC for your application, please consult with one of our Applications Engineers at **1.844.476.4202** or at **www.phononic.com/contact/**



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