

Technical Data Sheet

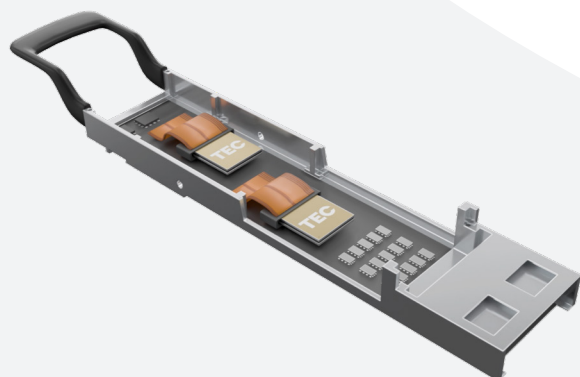
TECs for Co-Packaged Optics

Phononic's high-performance TEC technologies for co-packaged optics enable scalable, thermally robust optical performance, supporting switching architectures from today's 800G and 1.6T deployments to the multi-terabit CPO platforms of tomorrow.

Perfectly suited for AI factories, hyperscalers and other high performance compute environments, Phononic's cooling solutions for co-packaged optics deliver the performance, efficiency and long-term reliability these components demand.

Capitalize on Phononic's Design Expertise

Collaborate with our team of experienced Application Engineers and Thermal Management Experts to design cooling solutions optimized for the nuances of your specific end-application, with quick NPI timelines to accommodate tight product launch schedules, at scale.



Benefits

- **Industry-leading Design and Application Support:** Capitalize on our expertise. The Phononic team will consult and proactively engage with your team throughout the design process, enabling faster time to market with designs done right the first time.
- **Extremely Low Power Consumption:** Achieve up to 30% lower power consumption as compared with industry standard performance.
- **High Heat Pumping Density:** Customization for heat loads covering all classes of CW optical powers.

Features

- Lower power consumption
- Higher heat pumping density
- Supports OIF ELSFP requirements
- Suited for long reaches
- Compatible with I-temp or C-temp ranges
- Application-specific designs available

End-Customer Applications

- OIF External Laser
- Small Form Factor Pluggable compliance and support for high optical power
- UHP and SHP CW lasers

Integration Options

- Bare wire bond pads
- Wire bonding posts
- Cold side electrical connections
- High-temperature solder
- Solder pre-tinning
- Patterned cold-side metalization
- Pre-attached cold-side thermistor
- Automation-ready packaging

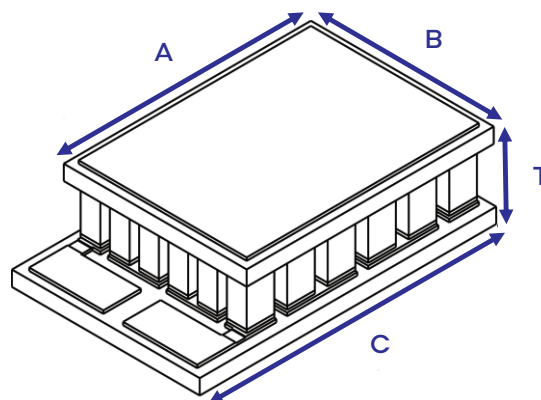
Product Portfolio

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]	ΔT Max [°C]	V Max [Volts]	I Max [Amps]	
FBM-020883	5.00	6.90	6.00	1.10	1.1 - 3.8	11.4	89	7.27	2.79	1.70
FBN-020884	10.70	15.30	11.70	1.90	3.1 - 10.3	31.2	92	11.63	4.74	1.63
FBP-020885	5.80	5.80	6.60	1.25	2.0 - 6.4	19.5	83	8.11	4.43	1.15
FBM-020886	8.00	8.30	9.00	1.00	3.0 - 9.8	29.8	87	8.23	6.49	0.82
FBP-020887	11.60	14.10	12.50	0.87	4.2 - 13.8	41.7	83	12.59	6.01	1.37
FBP-020888	11.10	7.20	12.00	1.00	3.9 - 12.8	38.8	84	10.28	6.85	0.96
FBP-020889	9.50	5.80	9.60	1.25	2.0 - 6.5	19.6	83	7.16	5.03	0.86

*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.

Considerations to Maximize Performance

To maximize performance, longevity and 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 or designing the right TEC optimized for your specific application, please consult with one of our Application Engineers at phononic.com/contact-us, or learn more about Phononic’s proprietary approach to TEC design at phononic.com/tecs-for-fiber-optics.



Learn More:



Unleash Every Watt. Unlock Every Degree.

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Phononic, Inc. 800 Capitola Dr #7, Durham, NC 27713 | phononic.com