TECs for TO Cans

Phononic’s high-performance TECs efficiently cool TO can lasers while reducing your overall TOSA power consumption. Configured to your specific application, this series can be used to cool a variety of TO can sizes, including TO56, TO40, and even as small as TO32. They are a great option for cost-effective, low-data-rate lasers from 1G-50G 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 roadmap. We will not limit you to standard products; all of our solutions are designed to meet your needs, and we ramp quickly to accommodate tight product launch timelines.

**Features**
- Small footprint
- Lower power consumption
- High heat pumping density
- Compatible with I-temp or C-temp operating ranges
- Application-specific designs available

**End-Customer Applications**
- Laser cooling for optical components and telecommunications
- 10G tunable lasers for DWDM (dense wavelength division multiplexing)
- Lasers for Passive Optical Network (PON) applications
- 10G EML (electro-absorption modulated lasers)
- 1550nm and 1577nm TO can lasers

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

**Benefits:**
- **Extremely Low Power Consumption**
  Achieve 30% lower power consumption than typical TEC performance
- **High Heat Pumping Density**
  Realize 60% higher heat pumping density in a very thin TEC - our pico-TEC platform is perfect for FTTx applications
- **Exceptional Design Support**
  Benefit from our expertise: we’ll consult with you, enabling faster time to market with a design done right the first time

Up to 30% Lower Power Consumption in a Small Package
<table>
<thead>
<tr>
<th>Part Number</th>
<th>TEC Dimensions</th>
<th>AC Resistance (Ω)</th>
<th>Optimum heat load (Watts)*</th>
<th>$Q_{C,\text{MAX}}$ [Watts]</th>
<th>$DT_{\text{MAX}}$ [°C]</th>
<th>$V_{\text{MAX}}$ [Volts]</th>
<th>$I_{\text{MAX}}$ [Amps]</th>
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<td>FBM-009394</td>
<td><img src="image1" alt="FBM-009394" /></td>
<td>6.6</td>
<td>120 - 400</td>
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<td>0.96</td>
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</table>

*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.