HiTemp ETX Series Thermoelectric Cooler

The ETX6-12-F1-4040-TA-W8 high temperature, high-performance thermoelectric cooler uses Laird Thermal Systems’ enhanced thermoelectric module construction preventing performance degrading diffusion, which is common in standard grade thermoelectric coolers operating in high temperature environments exceeding 80 °C. It has a maximum Qc of 59.4 Watts when ΔT = 0 and a maximum ΔT of 83.2 °C at Qc = 0.

Features
- High-temperature operation
- Reliable solid-state
- No sound or vibration
- Environmentally-friendly
- RoHS-compliant

Applications
- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital Light Processors
- Heating and Cooling for Liquid Chromatography Systems
- Thermoelectric Cooling for Security Cameras

ELECTRICAL AND THERMAL PERFORMANCE

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the HEATSINK side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.
HiTemp ETX Series ETX6-12-F1-4040-TA-W8
MFG Part Number: 387009477

Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C

Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C

Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Current = 4.9 Amps

Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Current = 4.9 Amps
# SPECIFICATIONS*

- **Hot Side Temperature**
  - 50.0 °C
  - 85.0 °C
  - 110.0 °C

- **Qcmax (ΔT = 0)**
  - 59.4 Watts
  - 64.3 Watts
  - 66.3 Watts

- **ΔTmax (Qc = 0)**
  - 83.2°C
  - 95.3°C
  - 102.0°C

- **Imax (I @ ΔTmax)**
  - 6.1 Amps
  - 5.9 Amps
  - 5.7 Amps

- **Vmax (V @ ΔTmax)**
  - 16.6 Volts
  - 19.1 Volts
  - 20.8 Volts

- **Module Resistance**
  - 2.55 Ohms
  - 2.97 Ohms
  - 3.26 Ohms

- **Max Operating Temperature**
  - 150 °C

- **Weight**
  - 22.0 gram(s)

* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Thickness</th>
<th>Flatness / Parallelism</th>
<th>Hot Face</th>
<th>Cold Face</th>
<th>Lead Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>3.810 ±0.025 mm</td>
<td>0.025 mm / 0.025 mm</td>
<td>Lapped</td>
<td>Lapped</td>
<td>152.4 mm</td>
</tr>
<tr>
<td></td>
<td>0.150 ± 0.0010 in</td>
<td>0.001 in / 0.001 in</td>
<td></td>
<td></td>
<td>6.00 in</td>
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</tbody>
</table>

## SEALING OPTIONS

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Sealant</th>
<th>Color</th>
<th>Temp Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td>No sealing specified</td>
</tr>
</tbody>
</table>

## NOTES

1. Max operating temperature: 150°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation

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Revision: 00 Date: 08-30-2022
Print Date: 04-06-2023
Mouser Electronics

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387009477