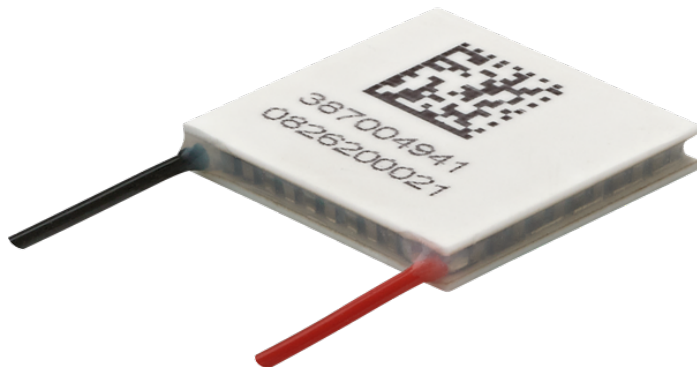


HiTemp ETX Series Thermoelectric Cooler

The ETX4-7-F1-2323-TA-RT-W6 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 21.7 Watts when $\Delta T = 0$ and a maximum ΔT of 83.2 °C at Qc = 0.

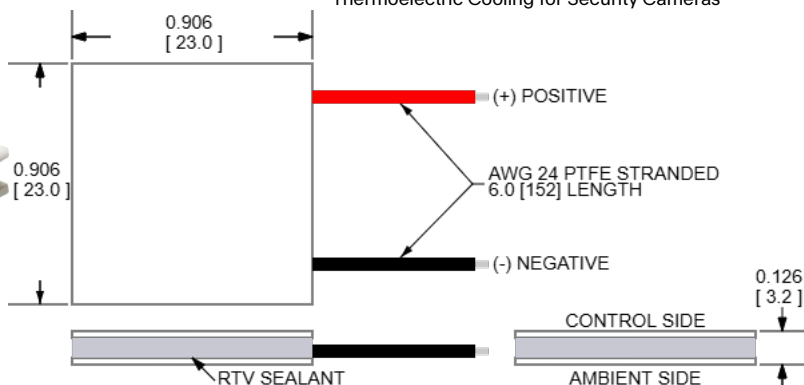


Features

- 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



CERAMIC MATERIAL: Al₂O₃

SOLDER CONSTRUCTION: 232°C, SbSn

INCHES [MM]

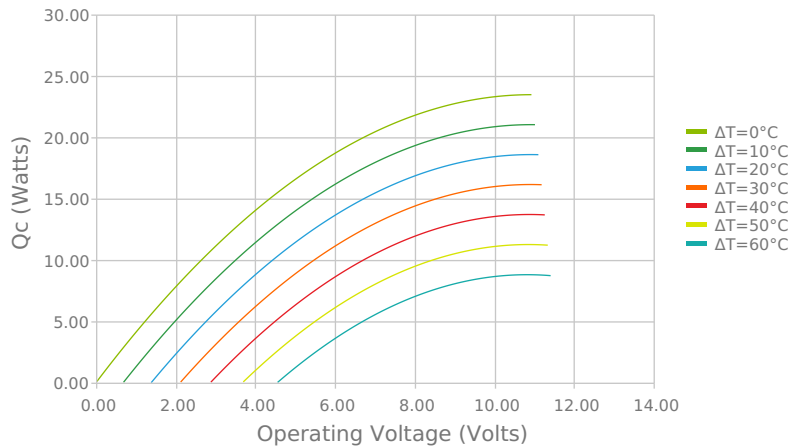
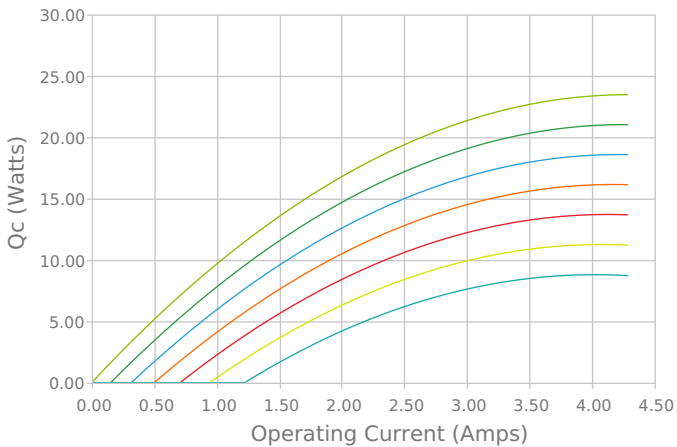
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

Electrical and Thermal Performance

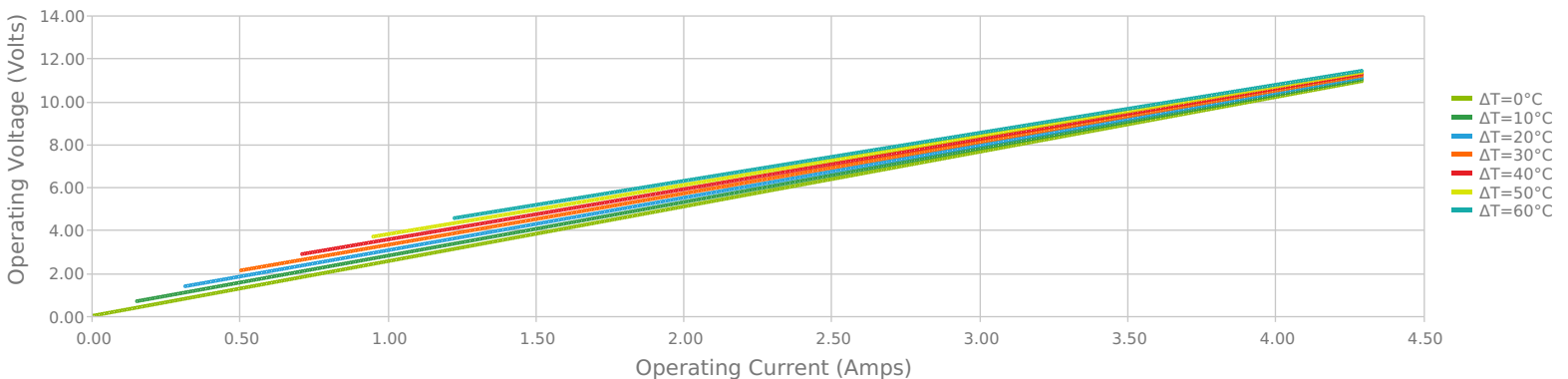
For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the AMBIENT side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.

Heat Pumped at Cold Side
Thot = 85 °C

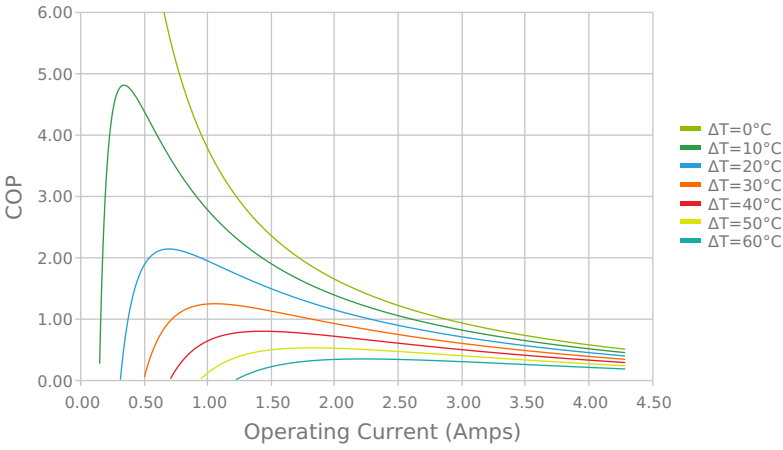
Heat Pumped at Cold Side
Thot = 85 °C



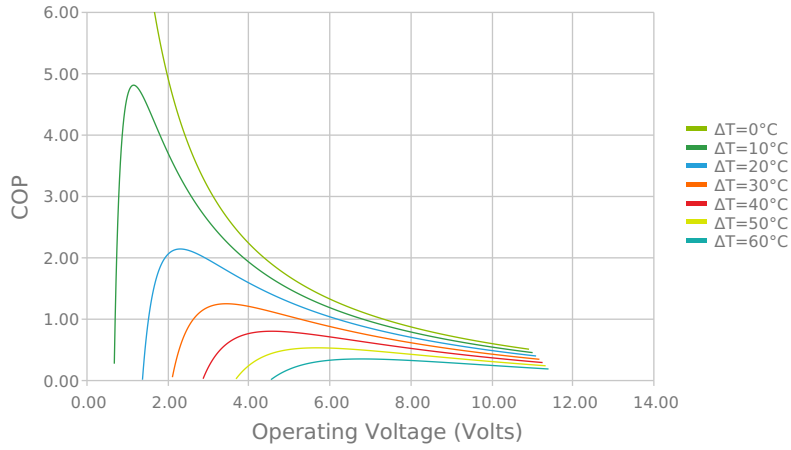
Current vs Voltage (I vs V)
Thot = 85 °C



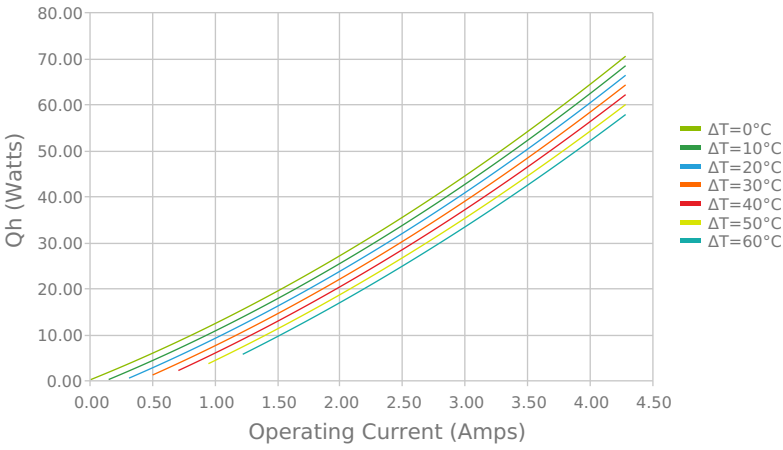
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



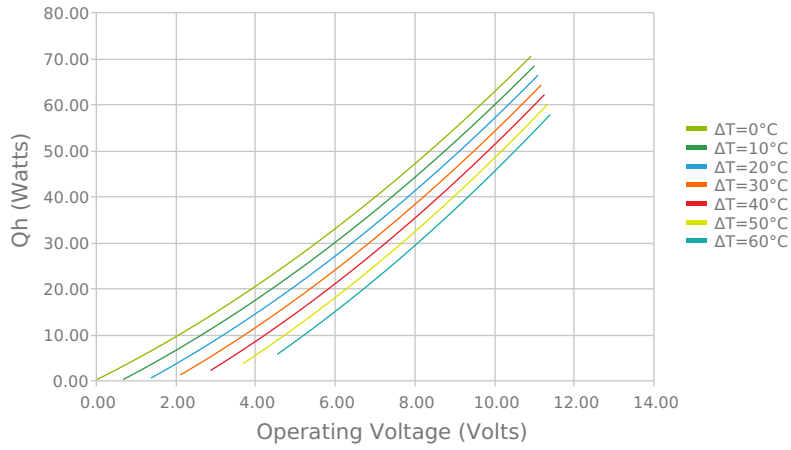
Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C



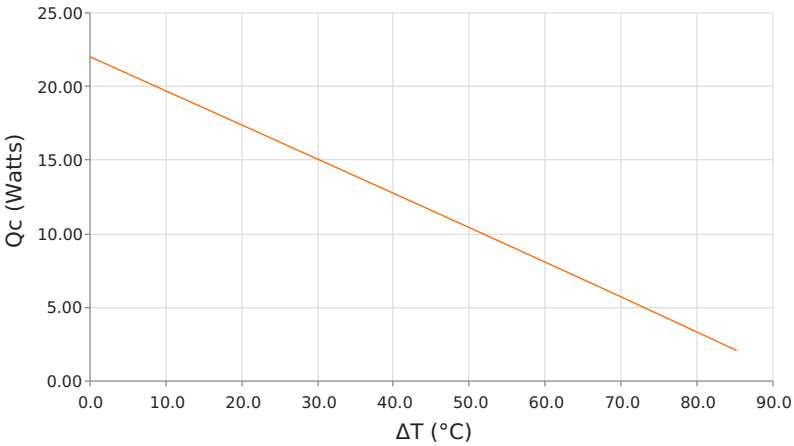
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



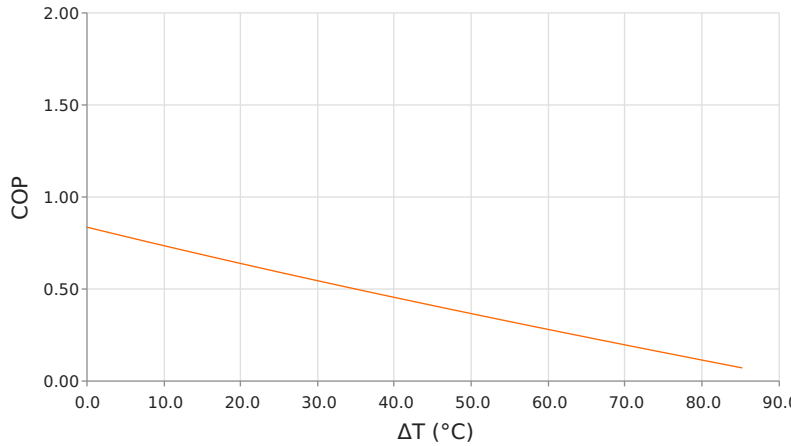
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 85 °C



Heat Pumped at Cold Side (Qc)
Thot = 85 °C | Ioperating = 3.2 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 85 °C | Ioperating = 3.2 Amps



Specifications

| Hot Side Temperature | 50.0 °C | 85.0 °C | 110.0 °C |
|---|-------------|------------|------------|
| Qcmax ($\Delta T = 0$) | 21.7 Watts | 23.5 Watts | 24.2 Watts |
| ΔT_{max} ($Q_c = 0$) | 83.2°C | 95.3°C | 102.0°C |
| I_{max} (I @ ΔT_{max}) | 4.0 Amps | 3.8 Amps | 3.7 Amps |
| V_{max} (V @ ΔT_{max}) | 9.3 Volts | 10.7 Volts | 11.6 Volts |
| Module Resistance | 2.18 Ohms | 2.55 Ohms | 2.79 Ohms |
| Max Operating Temperature | 150 °C | | |
| Weight | 6.0 gram(s) | | |

Finishing Options

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|--------------------------------------|--|----------|-----------|---------------------|
| TA | 3.200 ±0.025 mm 0.126 ± 0.0010 in | 0.025 mm / 0.025 mm 0.001 in / 0.001 in | Lapped | Lapped | 152.4 mm 6.00 in |

Sealing Options

| Suffix | Sealant | Color | Temp Range | Description |
|--------|---------|----------------------|--------------|----------------------------------|
| RT | RTV | Translucent or White | -60 to 204°C | Non-corrosive, silicone adhesive |

Notes

Max operating temperature: 150°C
Do not exceed I_{max} or V_{max} when operating module
Reference assembly guidelines for recommended installation

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