

OptoTEC™ OTX Series Thermoelectric Cooler

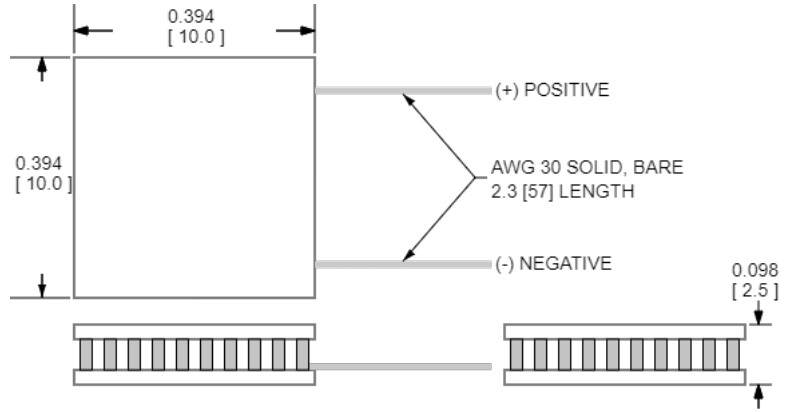
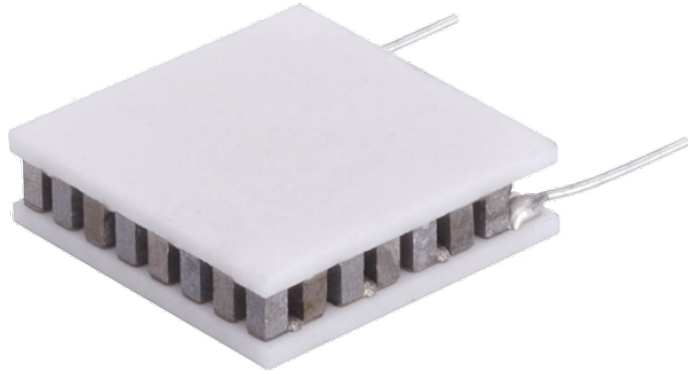
The OTX24-31-F1-1010-11-W2.25 is a high-performance, miniature thermoelectric cooler. The OTX24-31-F1-1010-11-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Qc of 5.4 Watts when $\Delta T = 0$ and a maximum ΔT of 72.9 °C at Qc = 0.

Features

- Miniature footprint
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- RoHS-compliant

Applications

- Laser Diodes
- Optical Transceivers
- Lidar Sensors
- Infrared Range (IR) Sensors
- CMOS Sensors
- Autonomous Systems
- Machine Vision
- Security Cameras

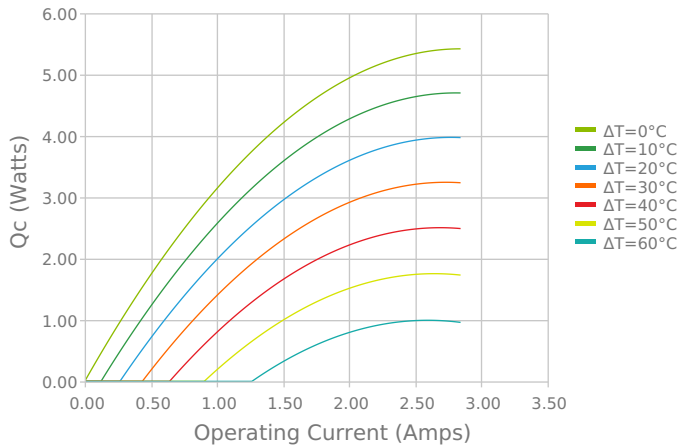


CERAMIC MATERIAL: Al₂O₃
 SOLDER CONSTRUCTION: 232°C, SbSn

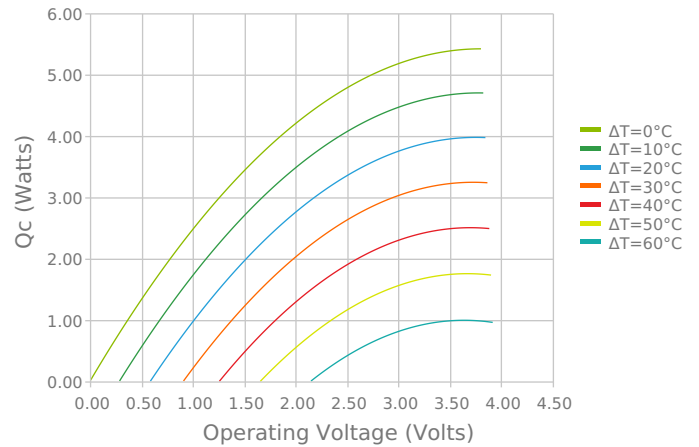
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

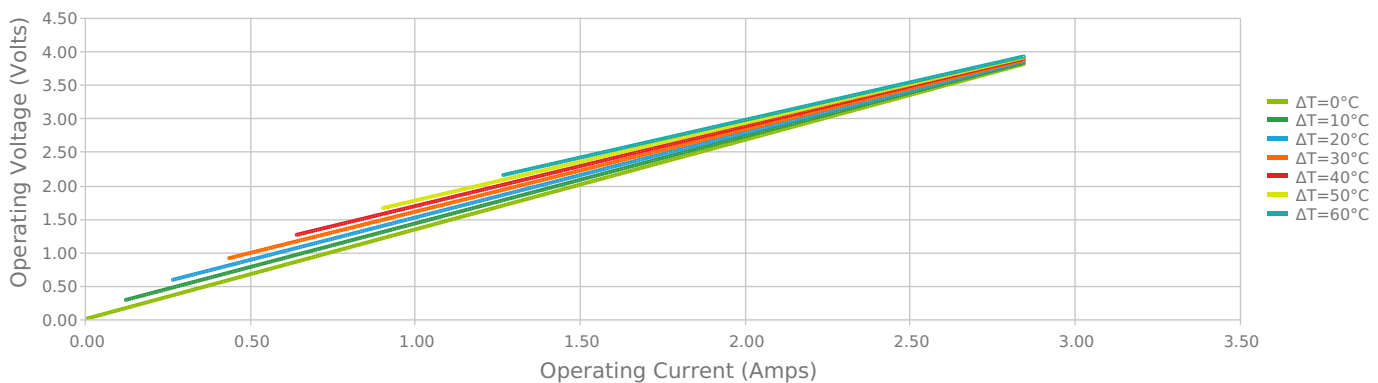
Heat Pumped at Cold Side
 Thot = 27 °C



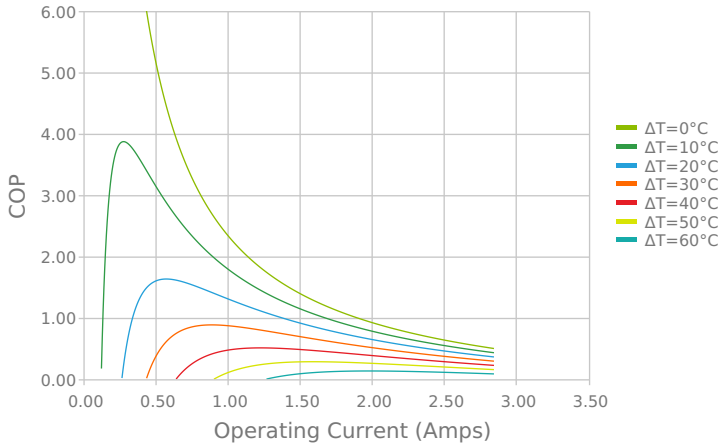
Heat Pumped at Cold Side
 Thot = 27 °C



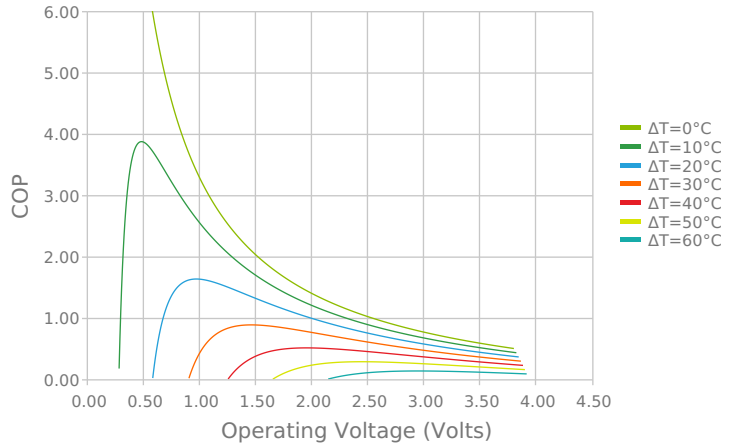
Current vs Voltage (I vs V)
 Thot = 27 °C



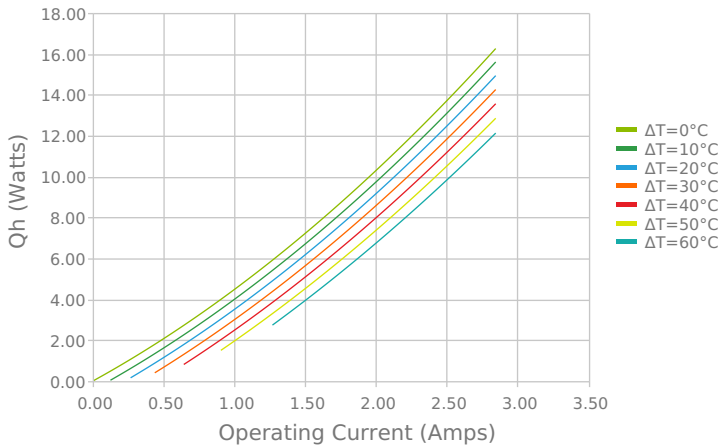
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



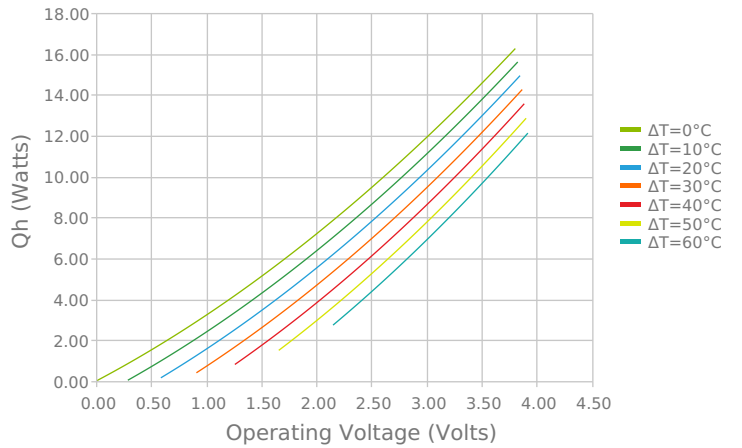
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



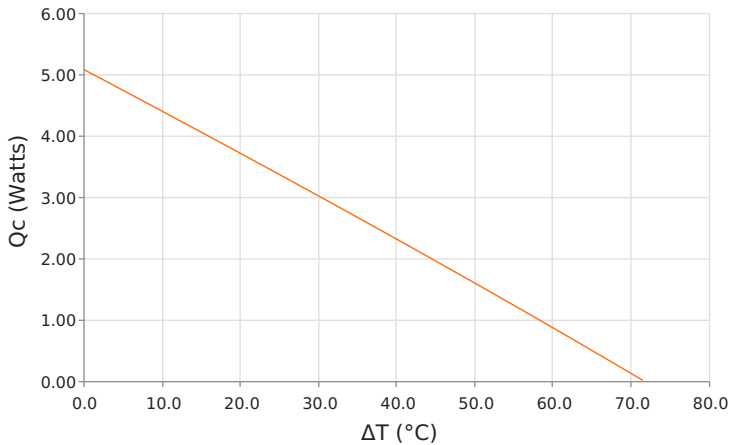
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



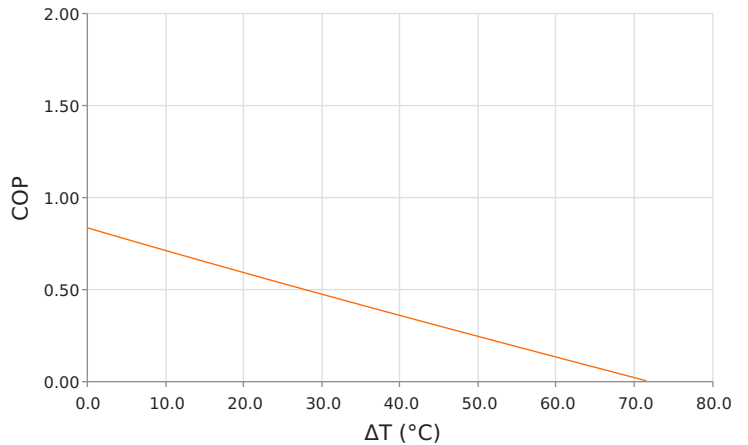
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 2.1 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C | Current = 2.1 Amps



SPECIFICATIONS*

| Hot Side Temperature | 27.0 °C | 50.0 °C | 80.0 °C |
|---|-------------|-----------|-----------|
| Qcmax ($\Delta T = 0$) | 5.4 Watts | 5.8 Watts | 6.3 Watts |
| ΔT_{max} ($Q_c = 0$) | 72.9°C | 81.8°C | 92.1°C |
| I_{max} (I @ ΔT_{max}) | 2.5 Amps | 2.5 Amps | 2.4 Amps |
| V_{max} (V @ ΔT_{max}) | 3.6 Volts | 4.0 Volts | 4.5 Volts |
| Module Resistance | 1.34 Ohms | 1.51 Ohms | 1.72 Ohms |
| Max Operating Temperature | 120 °C | | |
| Weight | 1.0 gram(s) | | |

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

| Suffix | Thickness | Flatness / Parallelism | Hot Face | Cold Face | Lead Length |
|--------|--------------------------------------|--|----------|-----------|--------------------|
| 11 | 2.500 ±0.127 mm 0.098 ± 0.0050 in | 0.051 mm / 0.051 mm 0.002 in / 0.002 in | Lapped | Lapped | 50.8 mm 2.00 in |

SEALING OPTIONS

| Suffix | Sealant | Color | Temp Range | Description |
|--------|---------|-------|------------|----------------------|
| | None | | | No sealing specified |

NOTES

1. Max operating temperature: 120°C
2. Do not exceed I_{max} or V_{max} when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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