

OptoTEC™ OT Series Thermoelectric Cooler

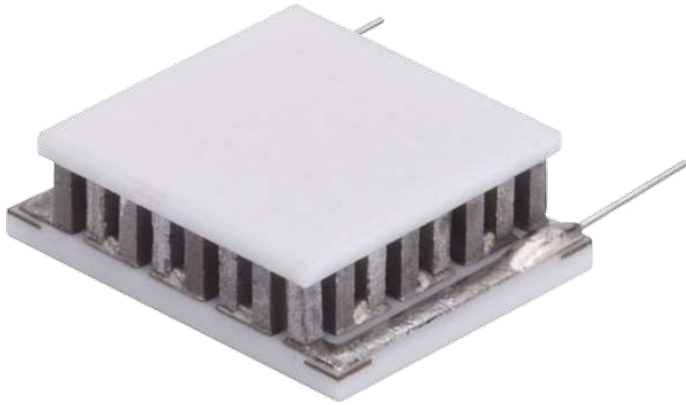
Note: This product is not recommended for new designs.

This product series has been replaced with the OptoTEC™ OTX Series.

The recommended replacement is:

MFG Part Number: 387006640

Description: OTX08-32-F0-0707-11-W2.25

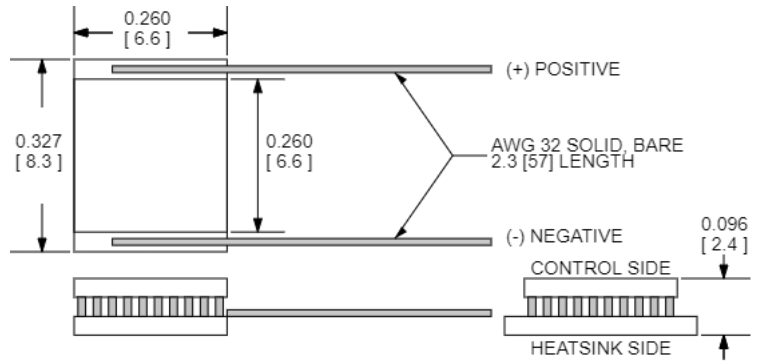


Features

- Miniature geometric sizes
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

Applications

- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Heads-Up Displays, Imaging Sensors



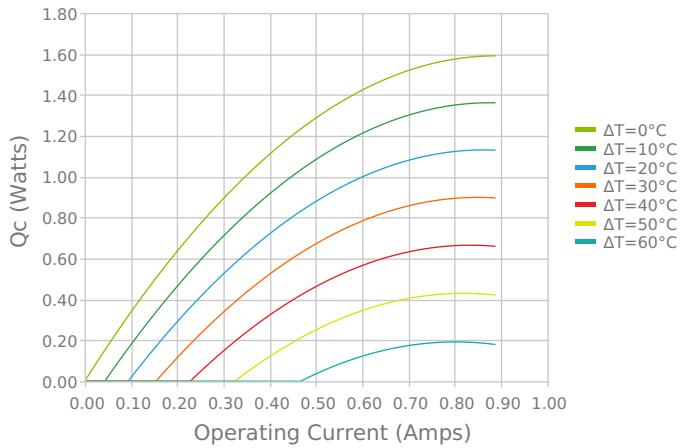
CERAMIC MATERIAL: Al₂O₃
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

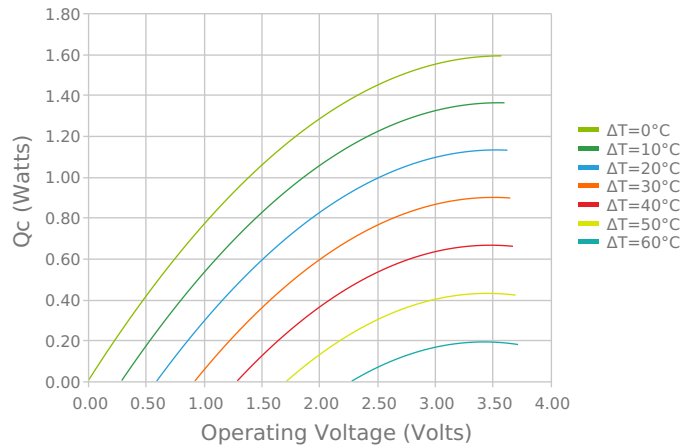
ELECTRICAL AND THERMAL PERFORMANCE

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.

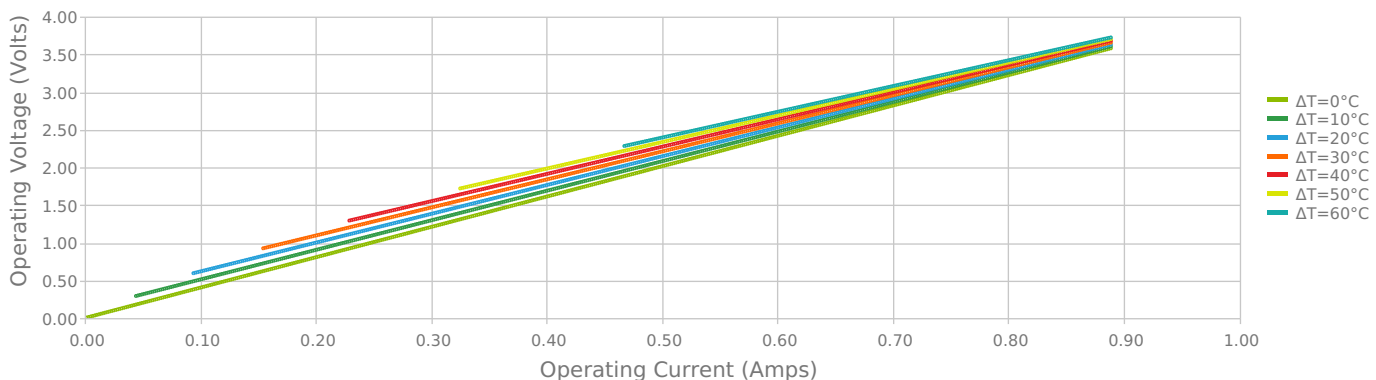
Heat Pumped at Cold Side
Thot = 27 °C



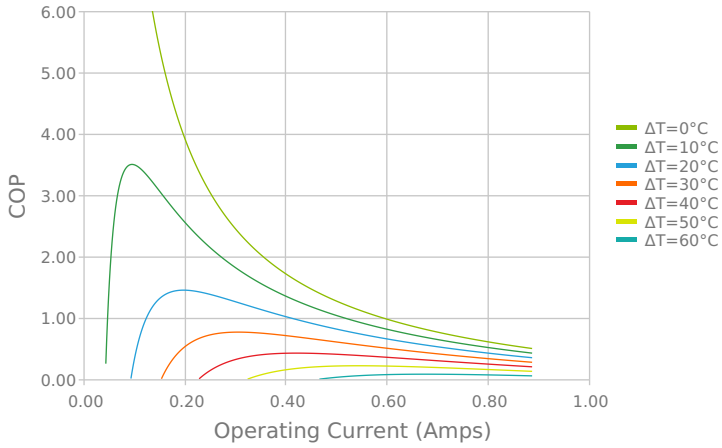
Heat Pumped at Cold Side
Thot = 27 °C



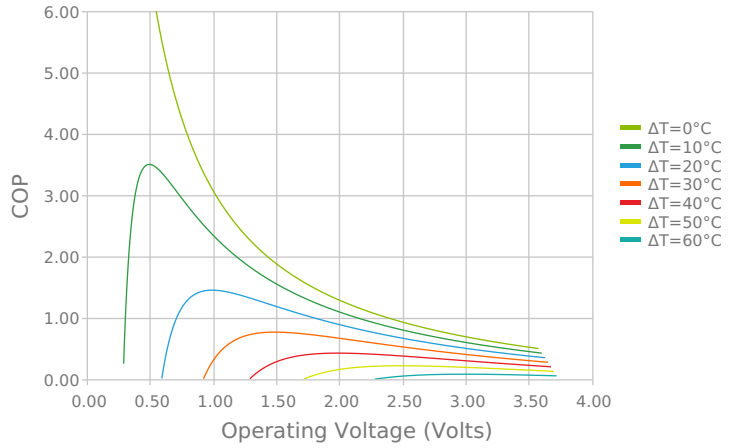
Current vs Voltage (I vs V)
Thot = 27 °C



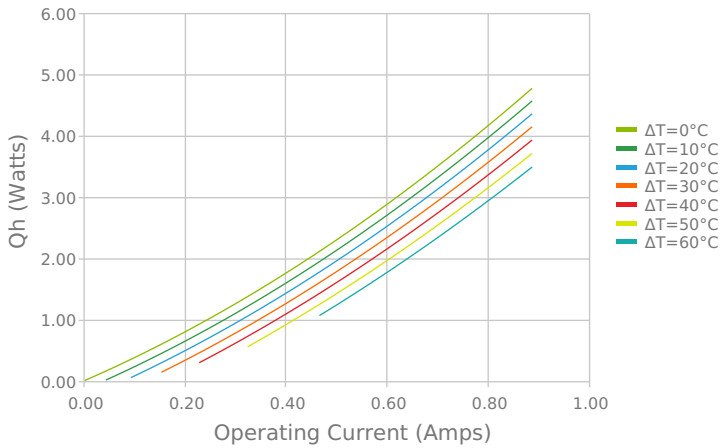
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



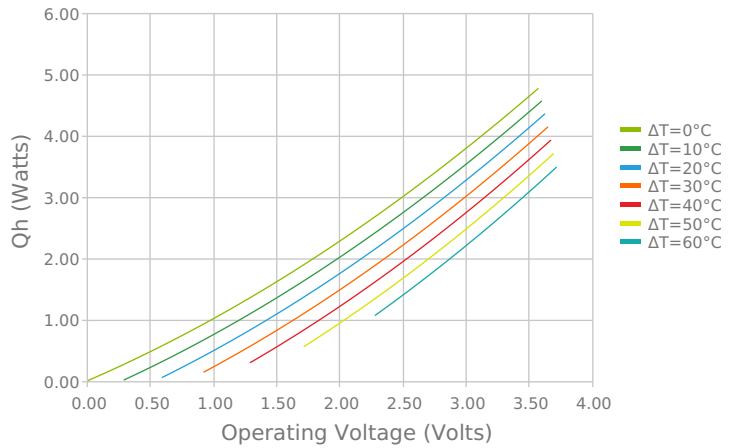
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



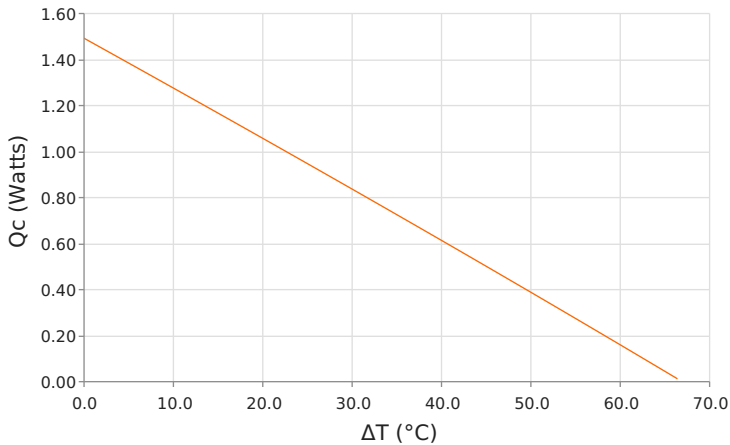
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



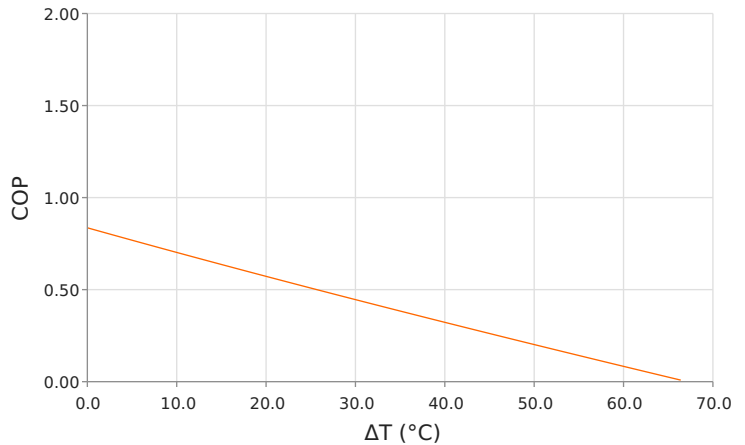
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 0.7 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 0.7 Amps



SPECIFICATIONS*

| Hot Side Temperature | 27.0 °C | 35.0 °C | 50.0 °C |
|---|-------------|-----------|-----------|
| Qcmax ($\Delta T = 0$) | 1.6 Watts | 1.6 Watts | 1.7 Watts |
| ΔT_{max} ($Q_c = 0$) | 68.0°C | 70.9°C | 76.0°C |
| I_{max} (I @ ΔT_{max}) | 0.8 Amps | 0.8 Amps | 0.8 Amps |
| V_{max} (V @ ΔT_{max}) | 3.4 Volts | 3.5 Volts | 3.8 Volts |
| Module Resistance | 4.03 Ohms | 4.19 Ohms | 4.51 Ohms |
| Max Operating Temperature | 80 °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 | 2.438 ±0.127 mm 0.096 ± 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: 80°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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Revision: 00 Date: 06-01-2022

Print Date: 06-15-2022