

OptoTEC™ OT Series Thermoelectric Cooler

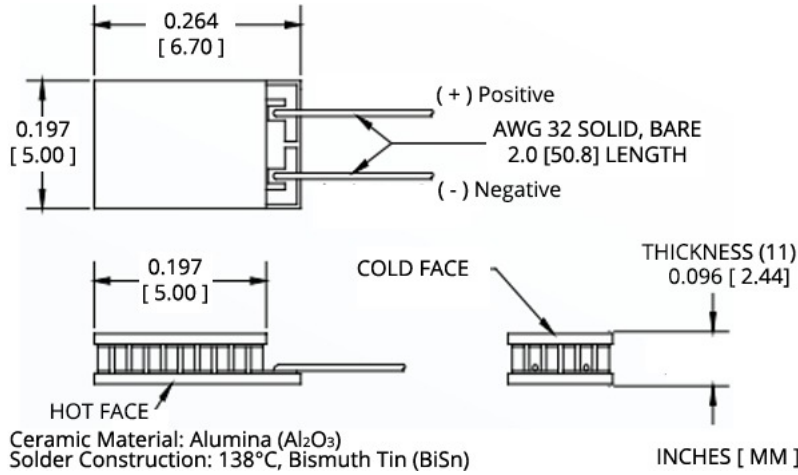
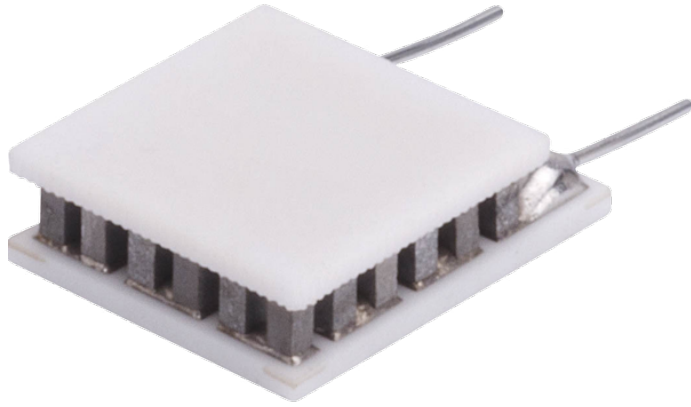
The OT08-18-F2-0505-11-EP-W2.25 is a miniature thermoelectric cooler. The OT08-18-F2-0505-11-EP-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Qc of 0.9 Watts when $\Delta T = 0$ and a maximum ΔT of 68 °C at Qc = 0.

Features

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

Applications

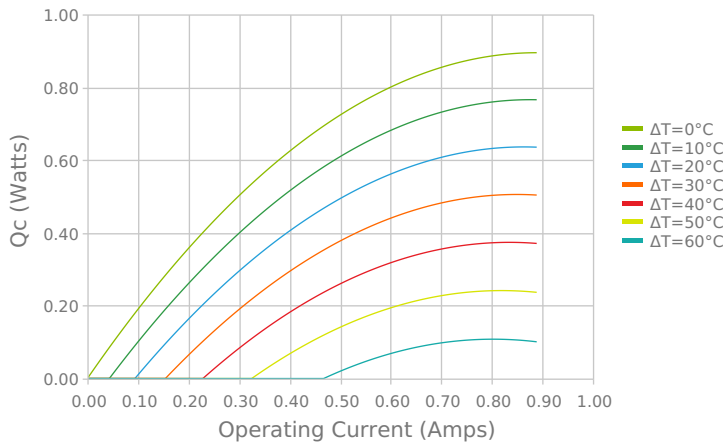
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Heads-Up Displays, Imaging Sensors



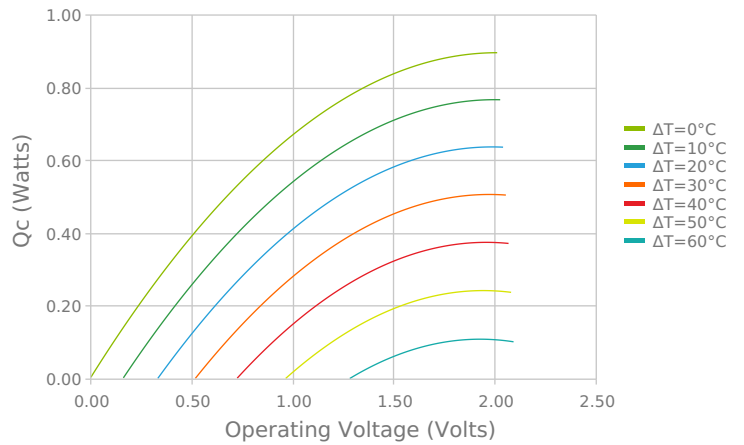
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

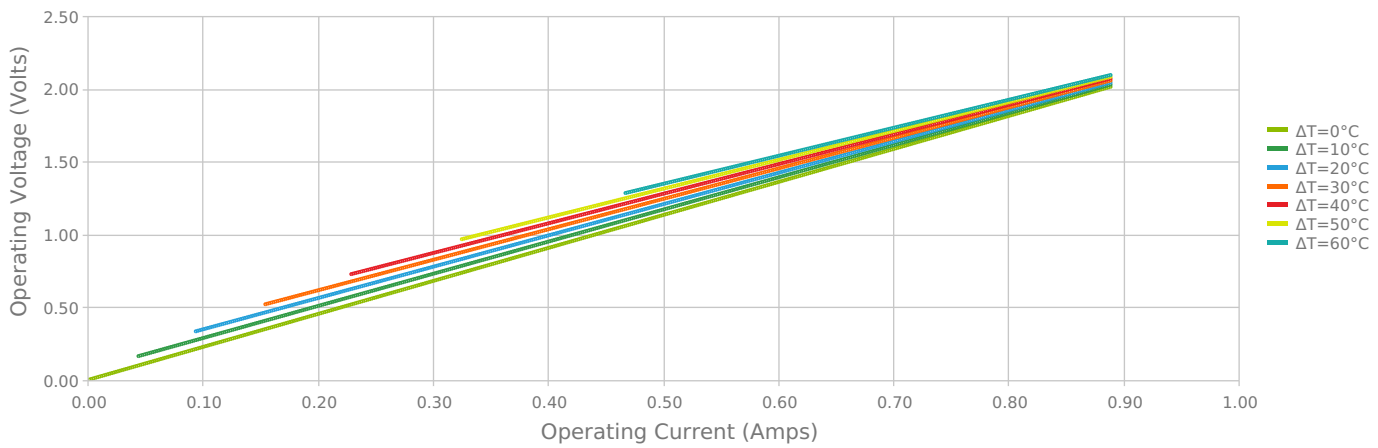
Heat Pumped at Cold Side
 Thot = 27 °C



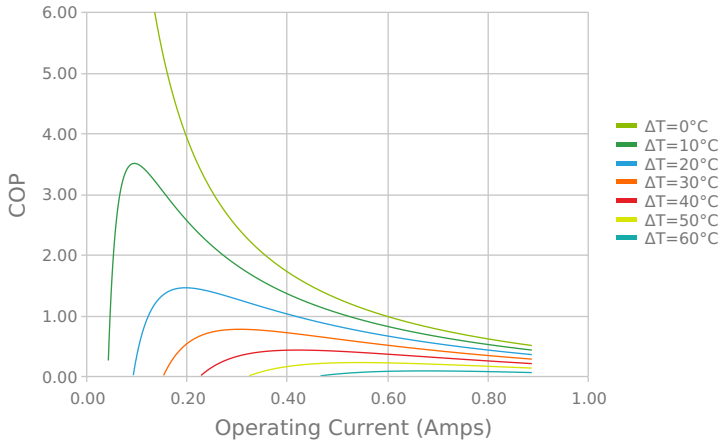
Heat Pumped at Cold Side
 Thot = 27 °C



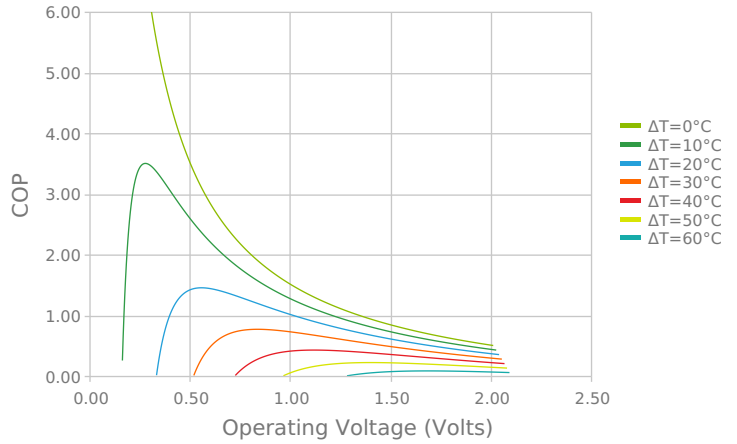
Current vs Voltage (I vs V)
 Thot = 27 °C



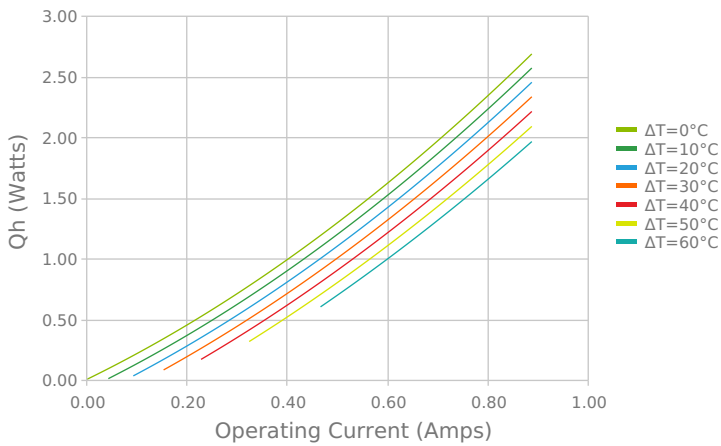
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



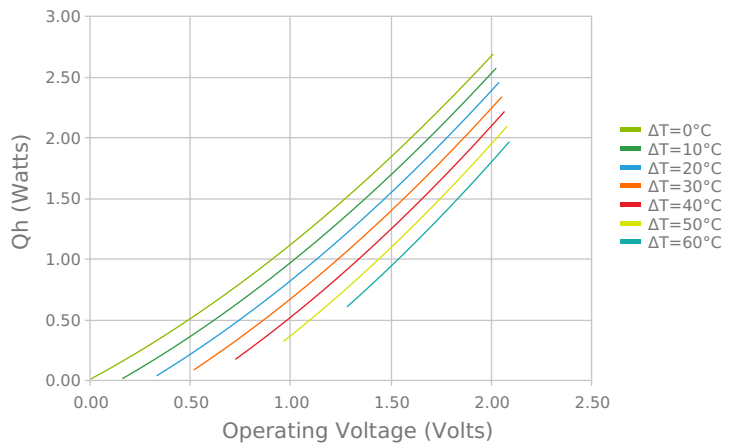
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



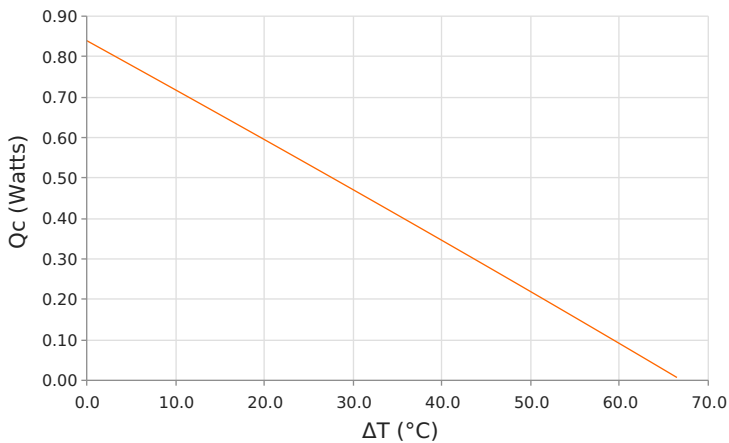
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



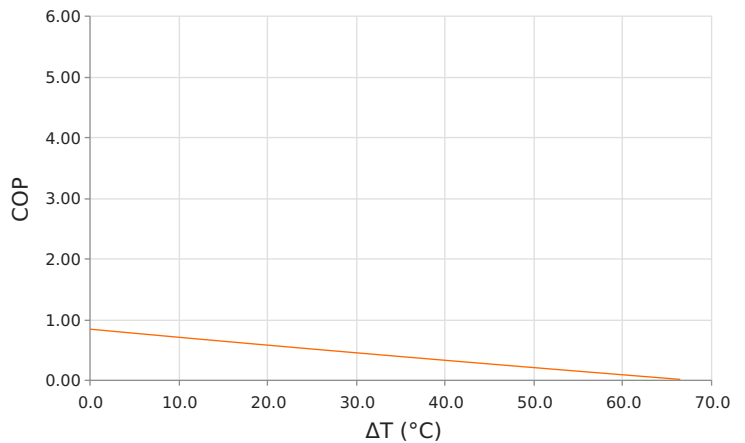
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



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 (ΔT = 0)	0.9 Watts	0.9 Watts	1.0 Watts
ΔTmax (Qc = 0)	68.0°C	70.9°C	76.0°C
Imax (I @ ΔTmax)	0.8 Amps	0.8 Amps	0.8 Amps
Vmax (V @ ΔTmax)	1.9 Volts	2.0 Volts	2.1 Volts
Module Resistance	2.27 Ohms	2.36 Ohms	2.54 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 ±0.051 mm 0.096 ± 0.002 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
EP	Epoxy	Black	-55 to 150°C	Low density syntactic foam epoxy encapsulant

NOTES

1. Max operating temperature: 80°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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