

OptoTEC™ OT Series Thermoelectric Cooler

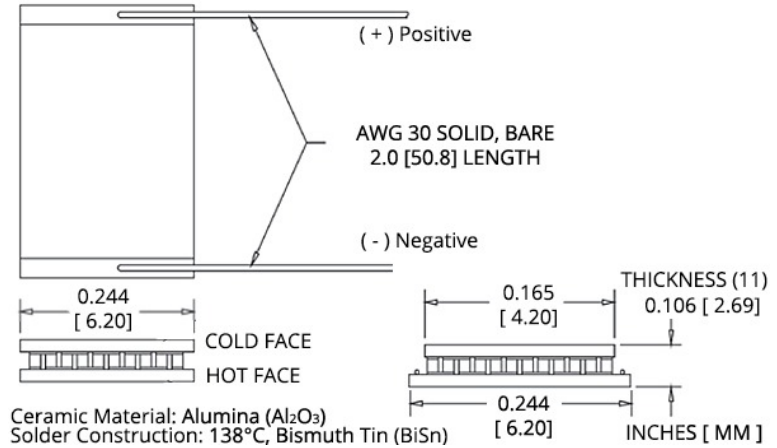
The OT12-12-F0-0406-GG-W2.25 is a miniature thermoelectric cooler. The OT12-12-F0-0406-GG-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Q_c of 0.9 Watts when $\Delta T = 0$ and a maximum ΔT of 68 °C at $Q_c = 0$.

Features

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

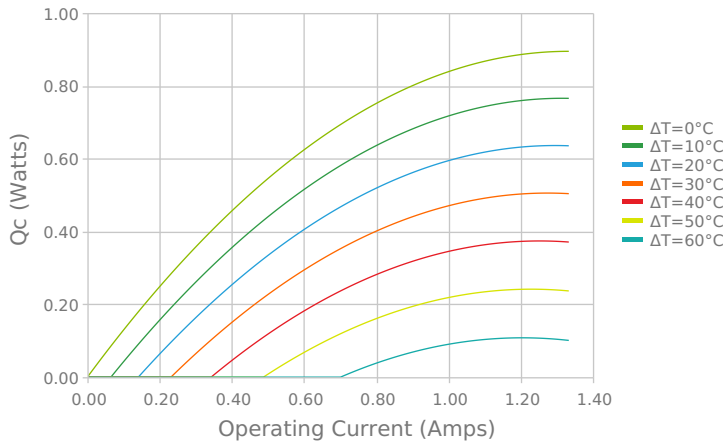
Applications

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

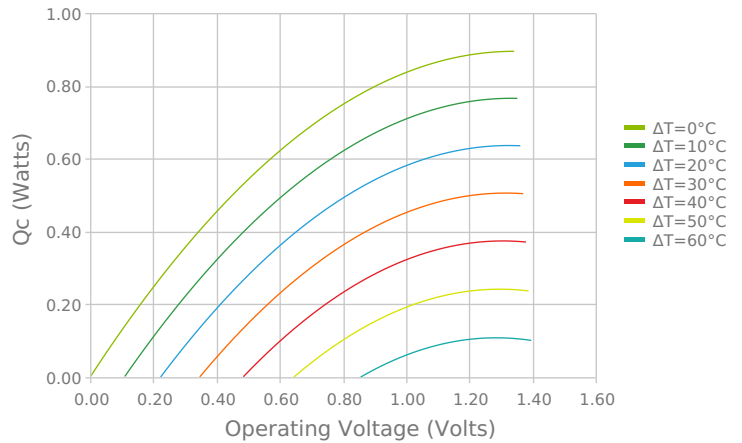


ELECTRICAL AND THERMAL PERFORMANCE

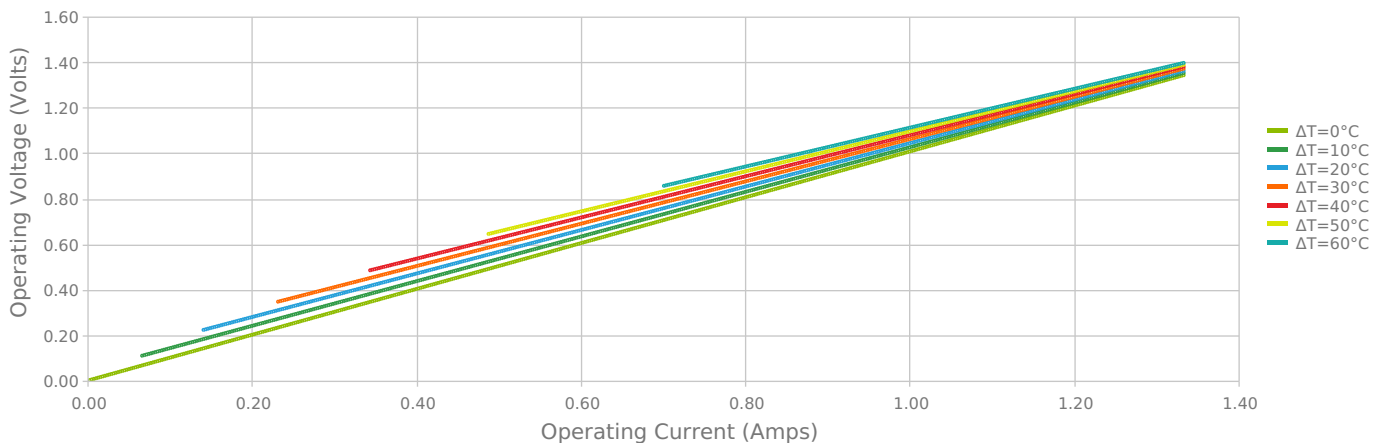
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



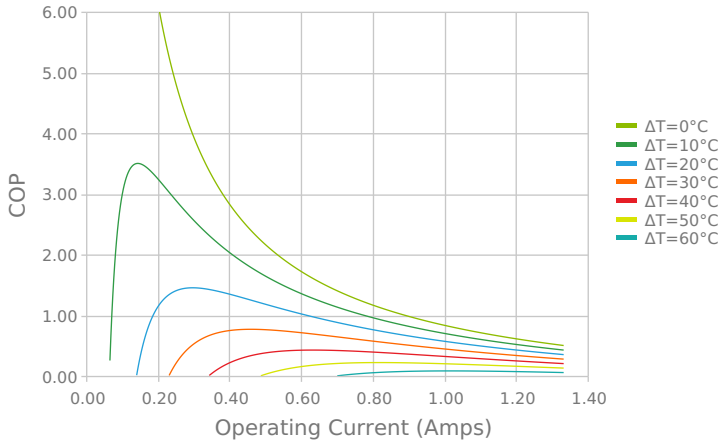
Heat Pumped at Cold Side
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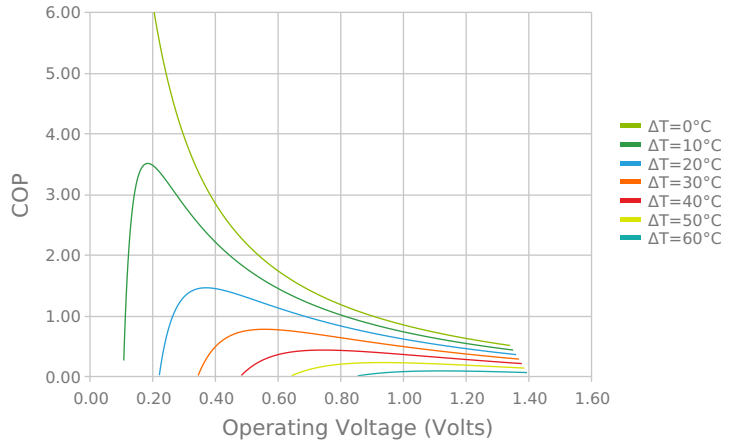
Current vs Voltage (I vs V)
 $T_{hot} = 27\text{ °C}$



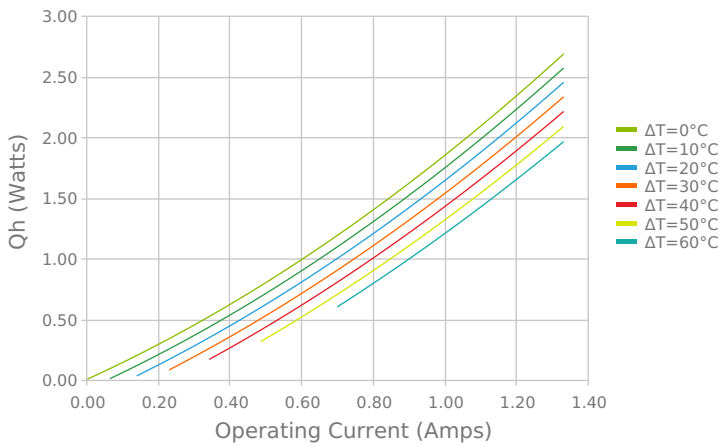
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



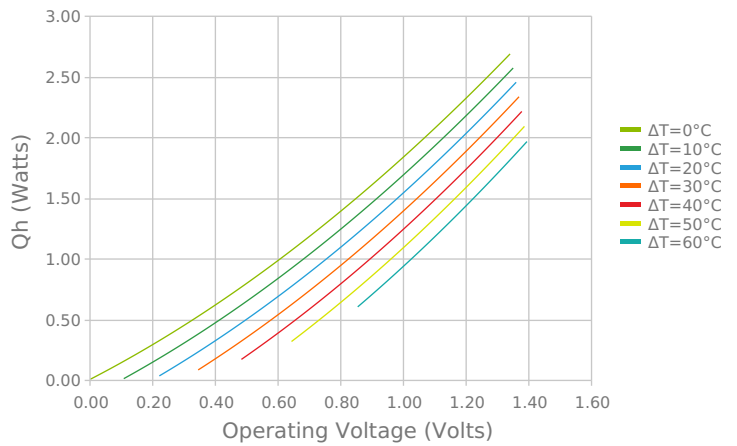
Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C



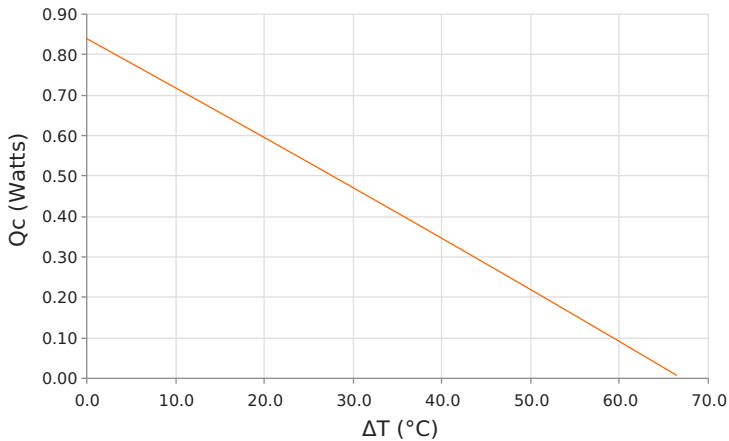
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



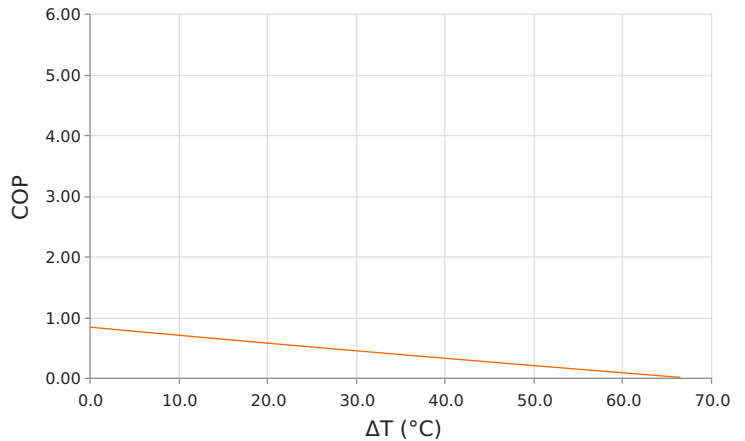
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)
 Thot = 27 °C | Current = 1.0 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 27 °C | Current = 1.0 Amps



SPECIFICATIONS*

	27.0 °C	35.0 °C	50.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	0.9 Watts	0.9 Watts	1.0 Watts
ΔT_{max} ($Q_c = 0$)	68.0°C	70.9°C	76.0°C
I_{max} (I @ ΔT_{max})	1.2 Amps	1.2 Amps	1.2 Amps
V_{max} (V @ ΔT_{max})	1.3 Volts	1.3 Volts	1.4 Volts
Module Resistance	1.01 Ohms	1.05 Ohms	1.13 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
GG	3.023 ± 0.127 mm 0.119 ± 0.005 in	N/A / N/A	Au Plated	Au Plated	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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