

**OptoTEC™ OT Series Thermoelectric Cooler**

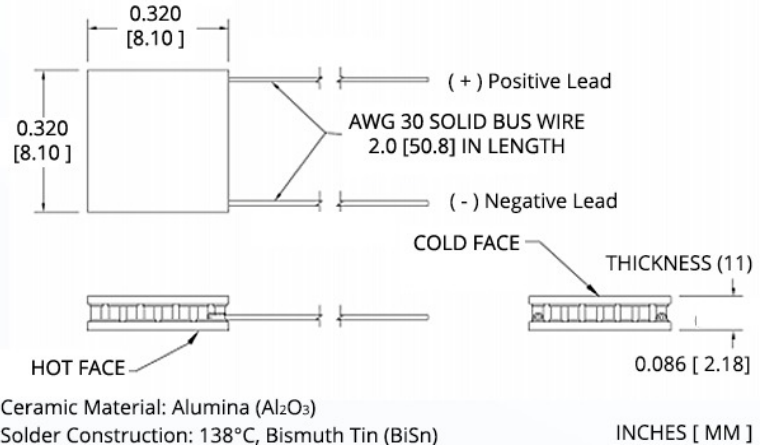
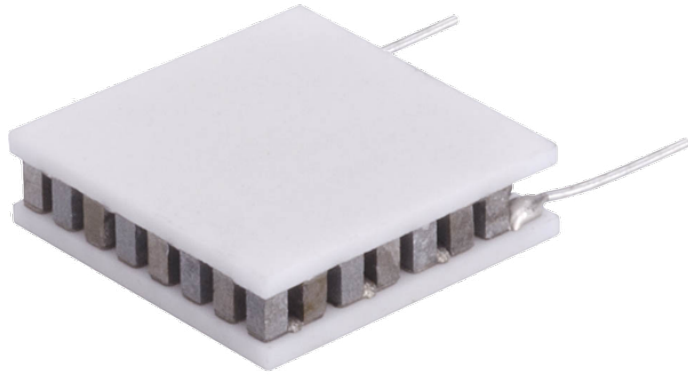
The OT20-31-F1-0808-11-W2.25 is a miniature thermoelectric cooler. The OT20-31-F1-0808-11-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Qc of 3.9 Watts when ΔT = 0 and a maximum ΔT of 68 °C at Qc = 0.

**Features**

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

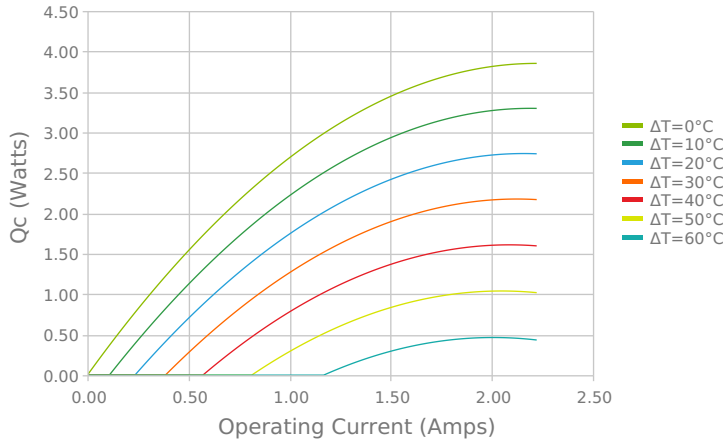
**Applications**

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

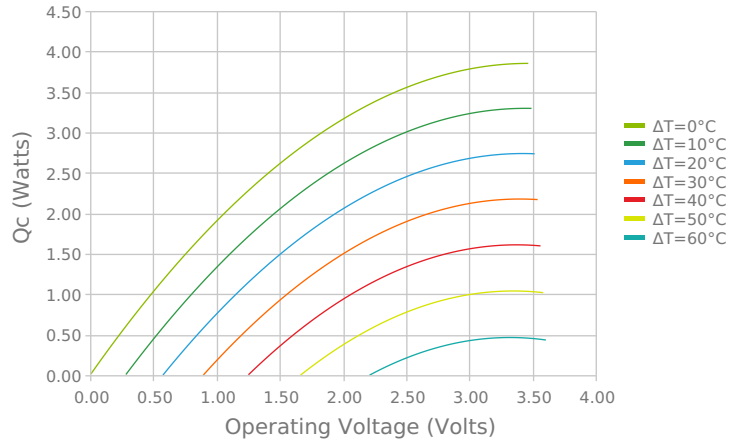


**ELECTRICAL AND THERMAL PERFORMANCE**

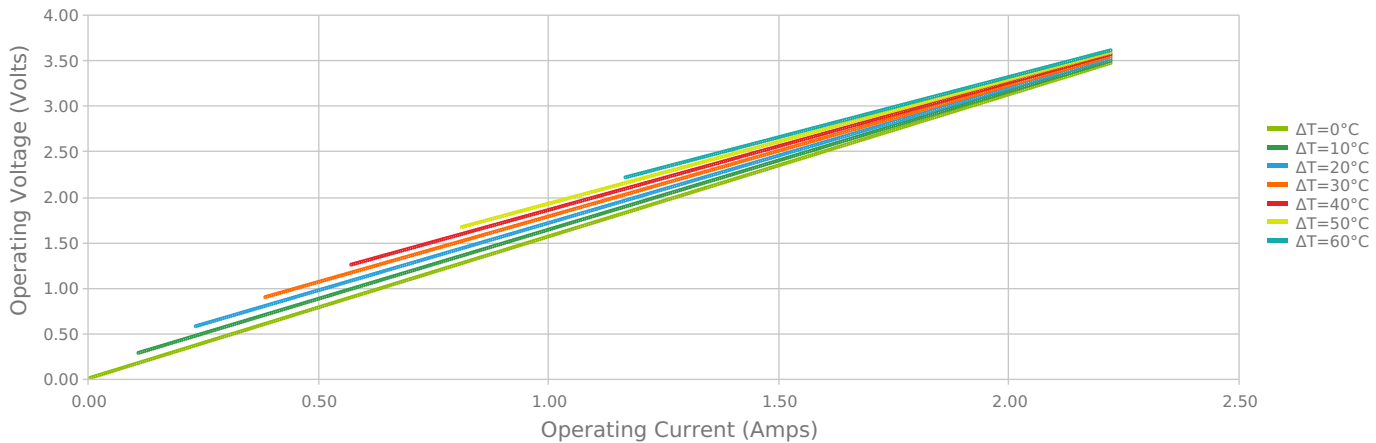
Heat Pumped at Cold Side  
 Thot = 27 °C



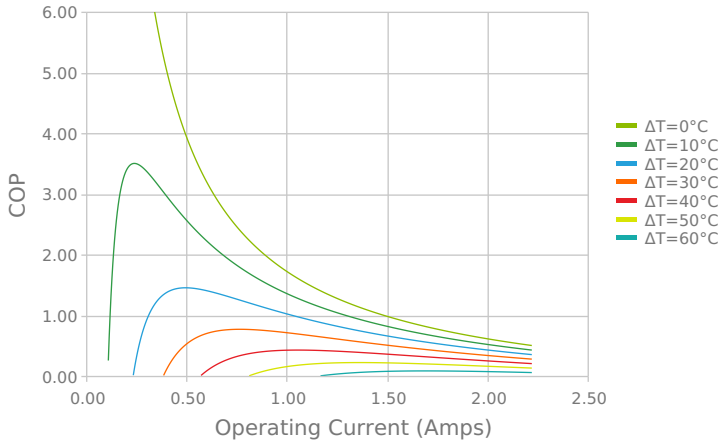
Heat Pumped at Cold Side  
 Thot = 27 °C



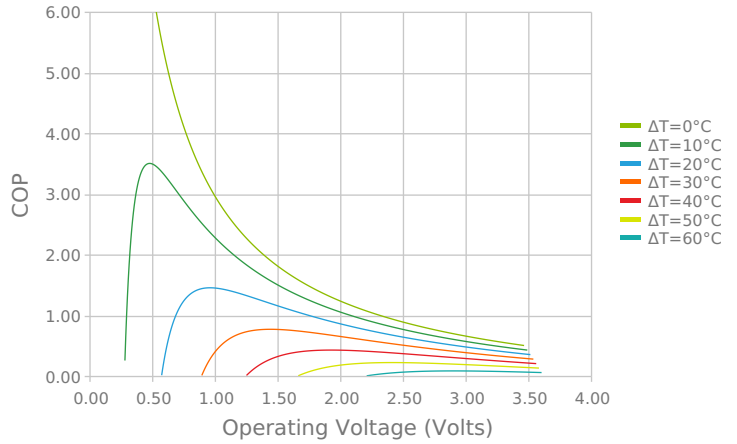
Current vs Voltage (I vs V)  
 Thot = 27 °C



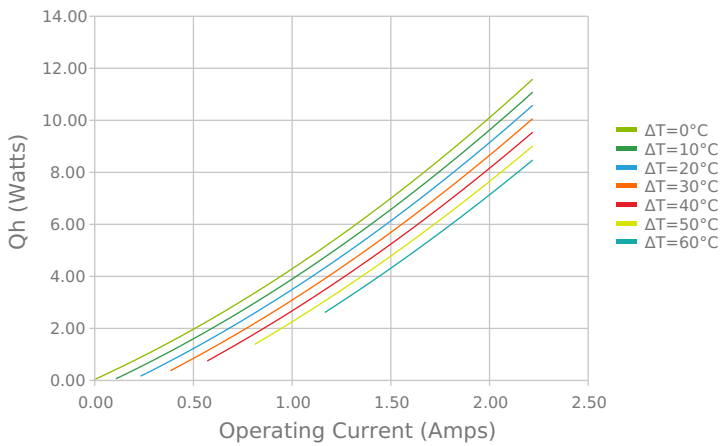
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



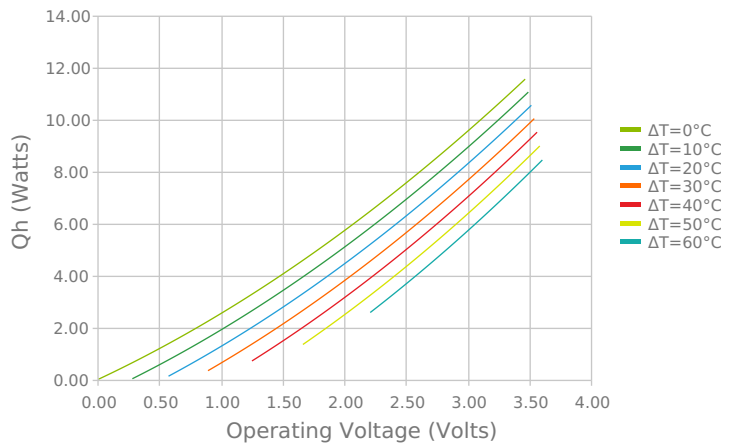
Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C



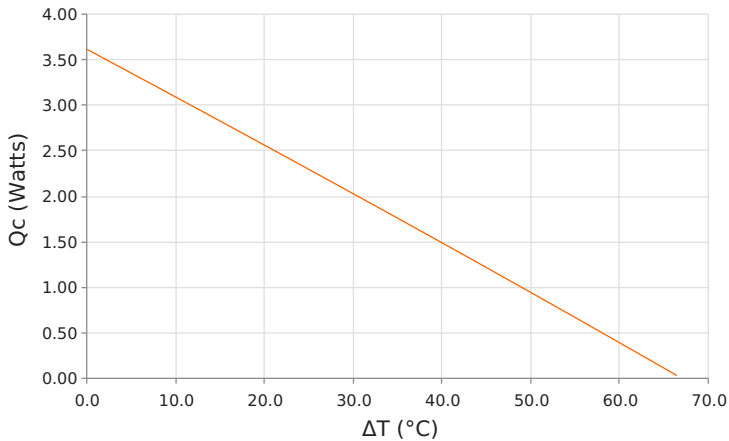
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Thot = 27 °C



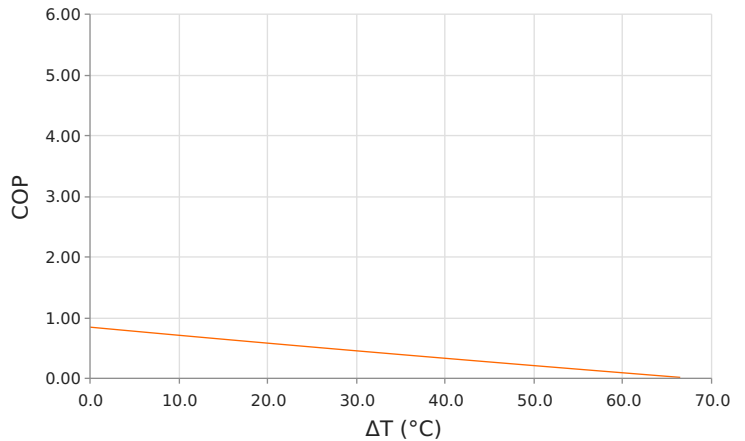
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)  
 Thot = 27 °C



Heat Pumped at Cold Side (Qc)  
 Thot = 27 °C | Current = 1.7 Amps



Coefficient of Performance (COP = Qc/Pin)  
 Thot = 27 °C | Current = 1.7 Amps



## SPECIFICATIONS\*

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
<b>Qcmax (<math>\Delta T = 0</math>)</b>	3.9 Watts	4.0 Watts	4.2 Watts
<b><math>\Delta T_{max}</math> (<math>Q_c = 0</math>)</b>	68.0°C	70.9°C	76.0°C
<b>I<sub>max</sub> (I @ <math>\Delta T_{max}</math>)</b>	2.0 Amps	2.0 Amps	1.9 Amps
<b>V<sub>max</sub> (V @ <math>\Delta T_{max}</math>)</b>	3.3 Volts	3.4 Volts	3.7 Volts
<b>Module Resistance</b>	1.56 Ohms	1.63 Ohms	1.75 Ohms
<b>Max Operating Temperature</b>	80 °C		
<b>Weight</b>	1.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	2.184 ±0.051 mm 0.086 ± 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
	None			No sealing specified

## NOTES

1. Max operating temperature: 80°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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