

OptoTEC™ OTX Series Thermoelectric Cooler

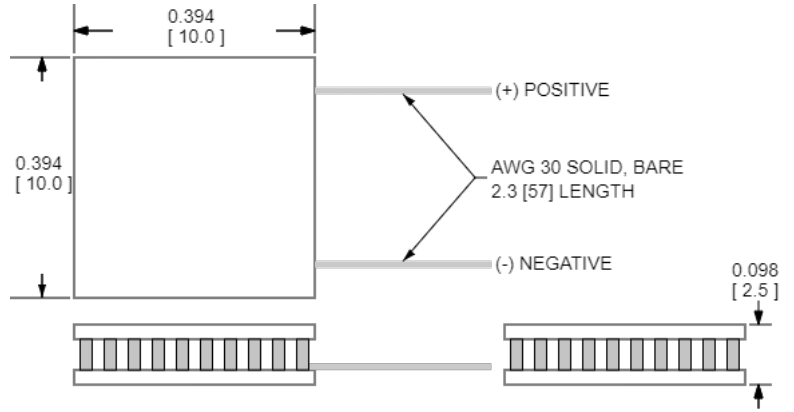
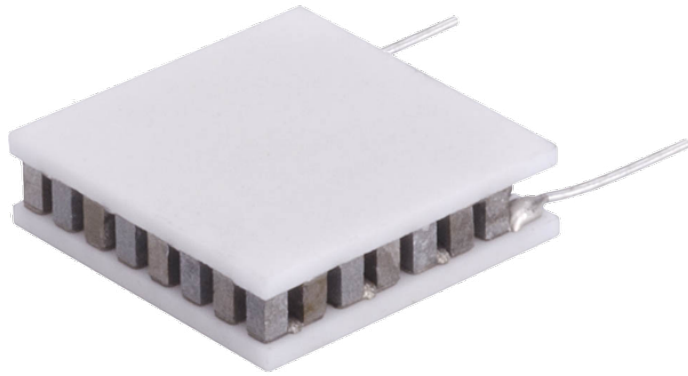
The OTX24-31-F1-1010-11-W2.25 is a high-performance, miniature thermoelectric cooler. The OTX24-31-F1-1010-11-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Q_c of 5.4 Watts when $\Delta T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

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

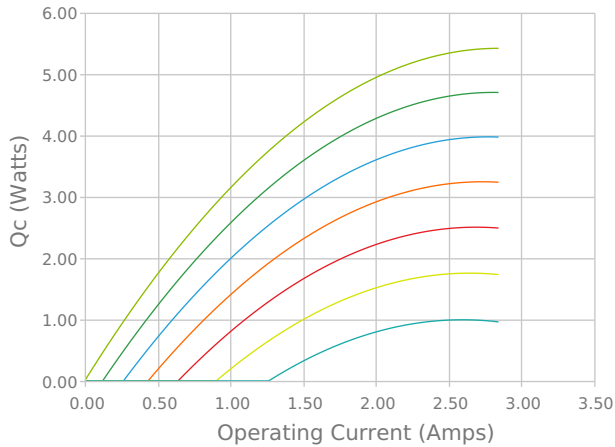


CERAMIC MATERIAL: Al₂O₃
 SOLDER CONSTRUCTION: 232°C, SbSn

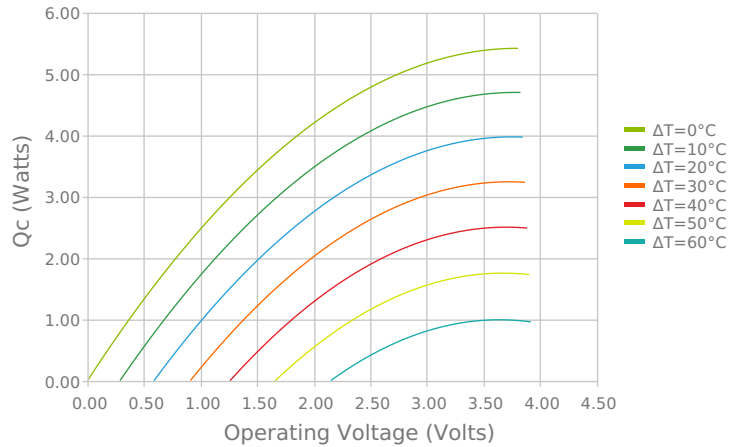
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

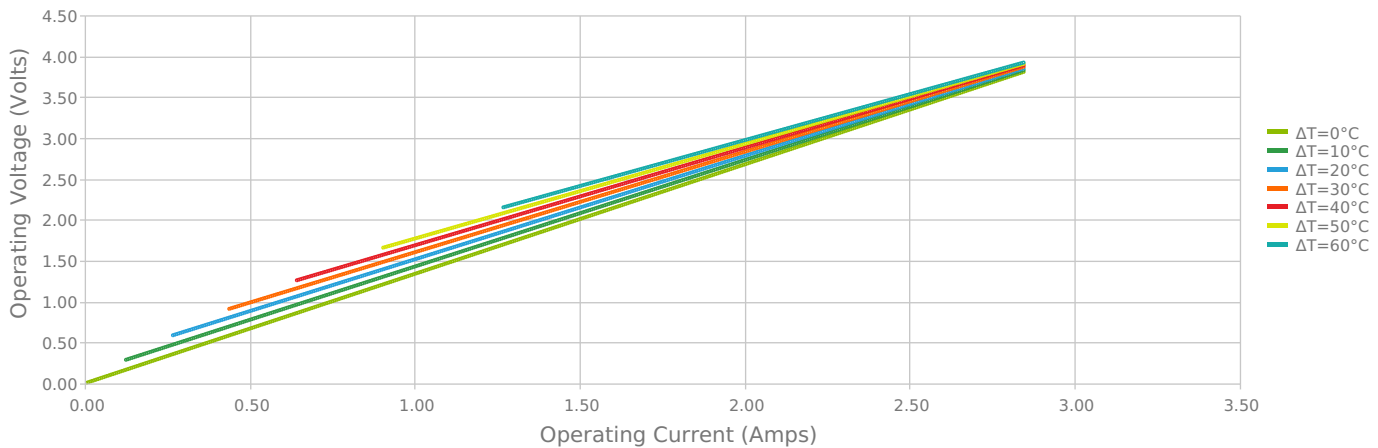
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



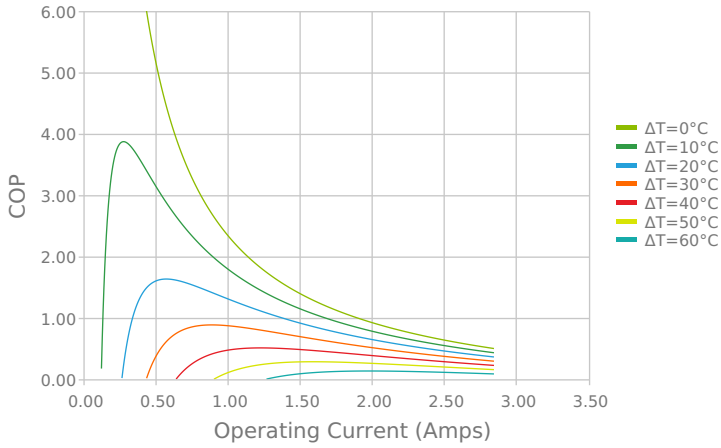
Heat Pumped at Cold Side
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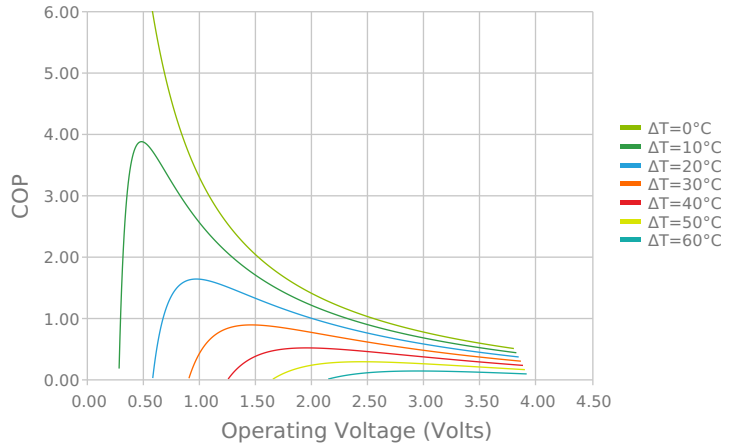
Current vs Voltage (I vs V)
 $T_{hot} = 27\text{ °C}$



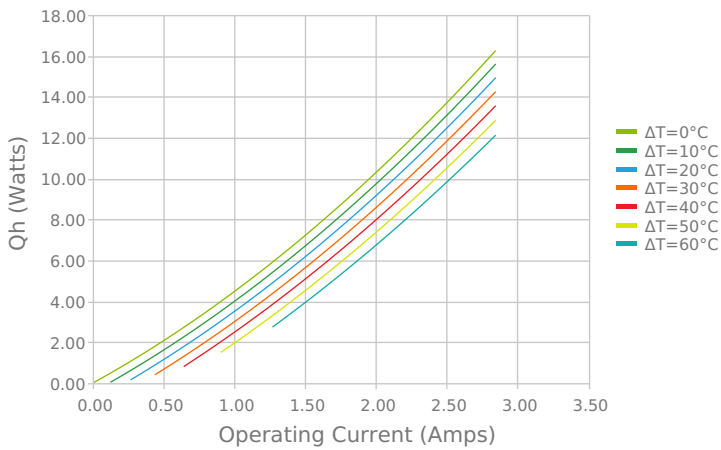
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$



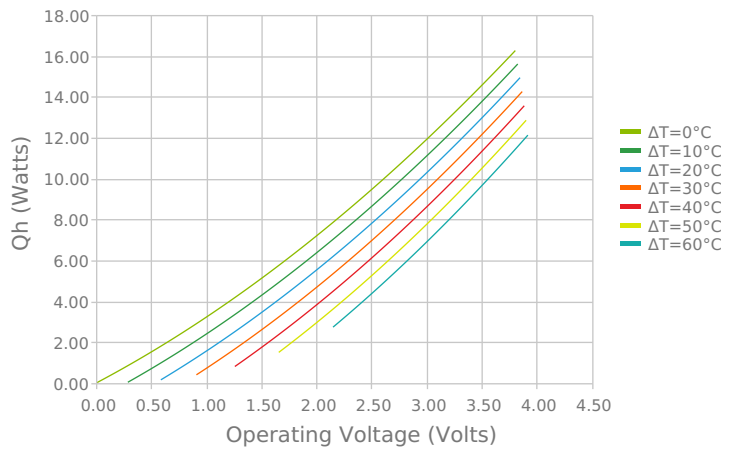
Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$



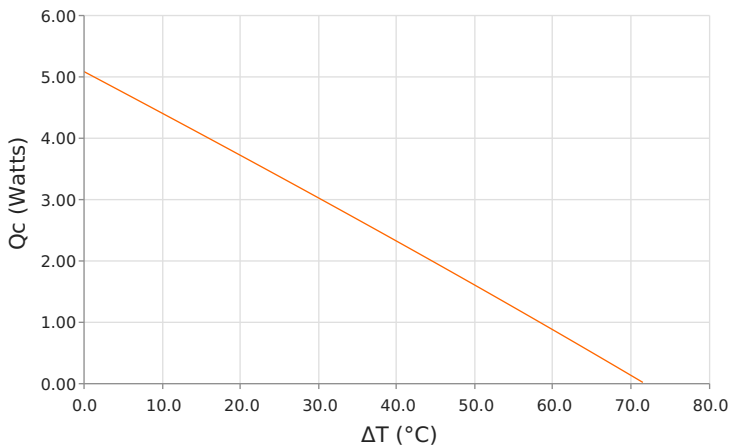
Total Heat Dissipated at Hot Side ($Q_h=Q_c+P_{in}$)
 $T_{hot} = 27\text{ }^\circ\text{C}$



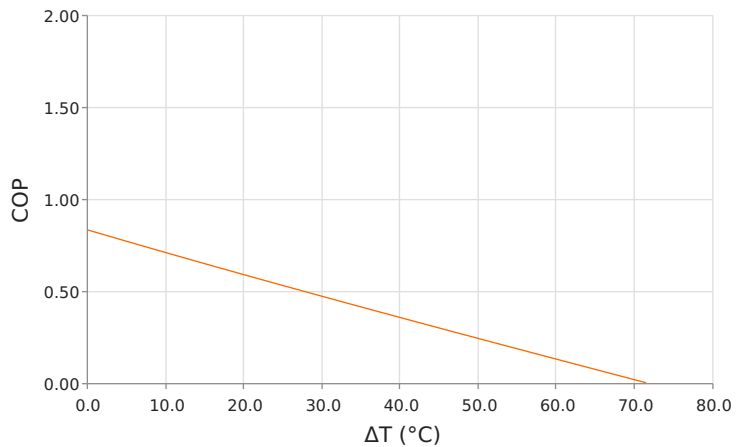
Total Heat Dissipated at Hot Side ($Q_h=Q_c+P_{in}$)
 $T_{hot} = 27\text{ }^\circ\text{C}$



Heat Pumped at Cold Side (Q_c)
 $T_{hot} = 27\text{ }^\circ\text{C}$ | Current = 2.1 Amps



Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 27\text{ }^\circ\text{C}$ | 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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