

OptoTEC™ HTX Series Thermoelectric Cooler

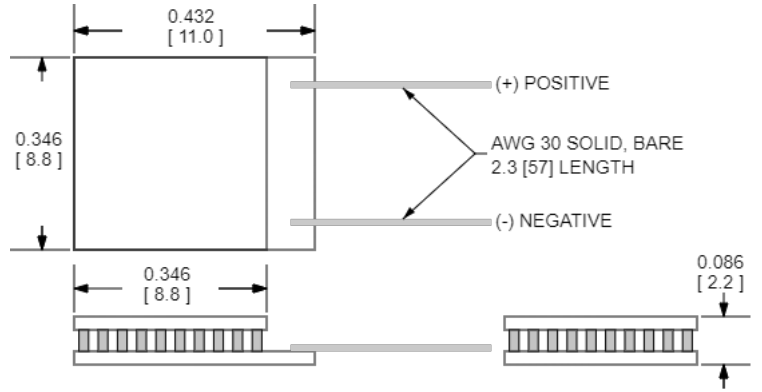
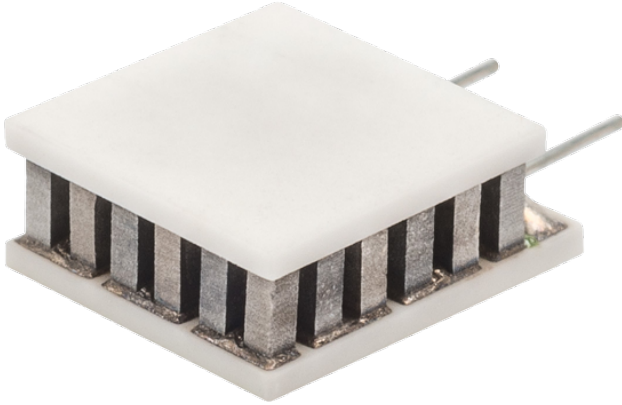
The HTX20-31-F2A-0909-11-W2.25 is a high-performance, high-temperature, miniature thermoelectric cooler. The HTX20-31-F2A-0909-11-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Qc of 4.6 Watts when $\Delta T = 0$ and a maximum ΔT of 81.6 °C at Qc = 0.

Features

- Miniature footprint
- Precise temperature control
- Reliable solid-state operation
- Operates in high-temperature applications
- 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

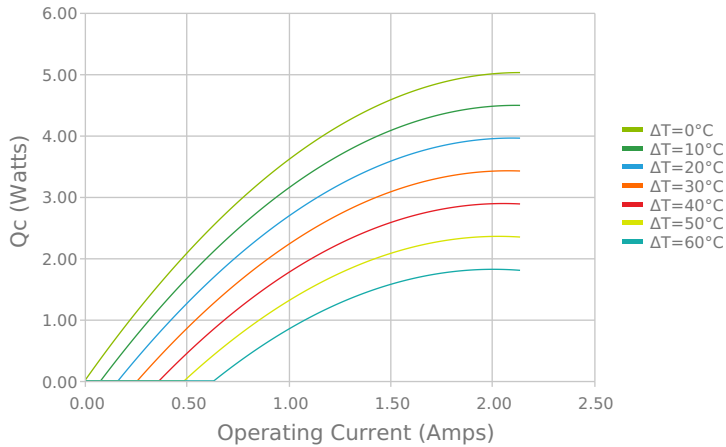


CERAMIC MATERIAL: Al₂O₃
 SOLDER CONSTRUCTION: 280°C, AuSn

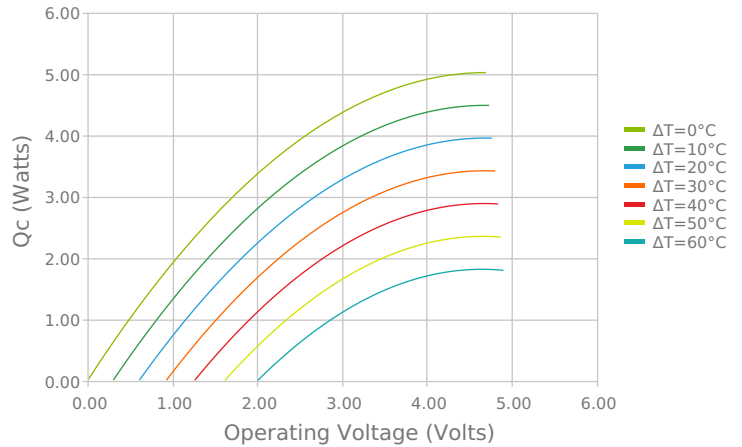
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

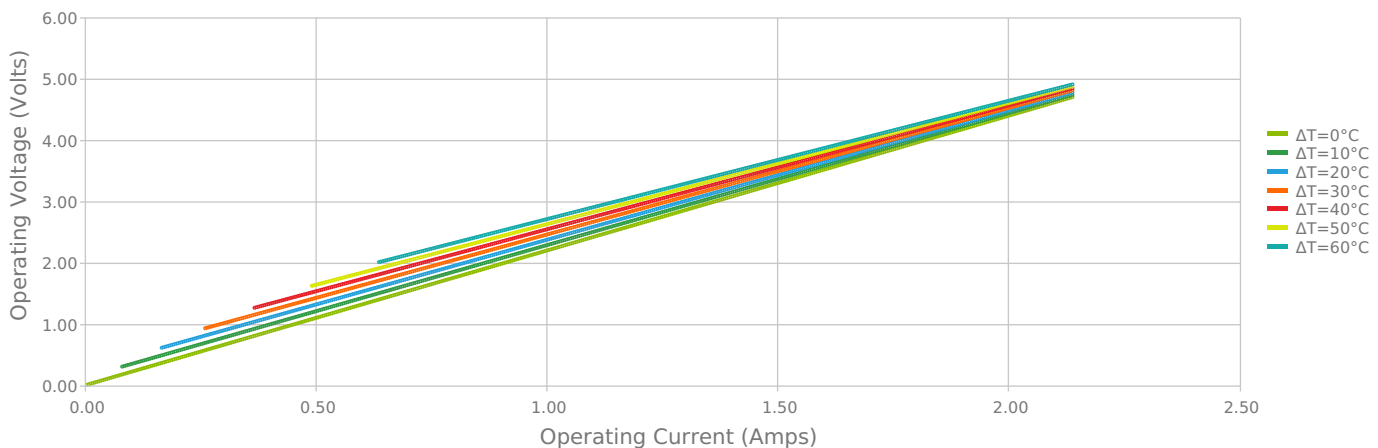
Heat Pumped at Cold Side
 Thot = 85 °C



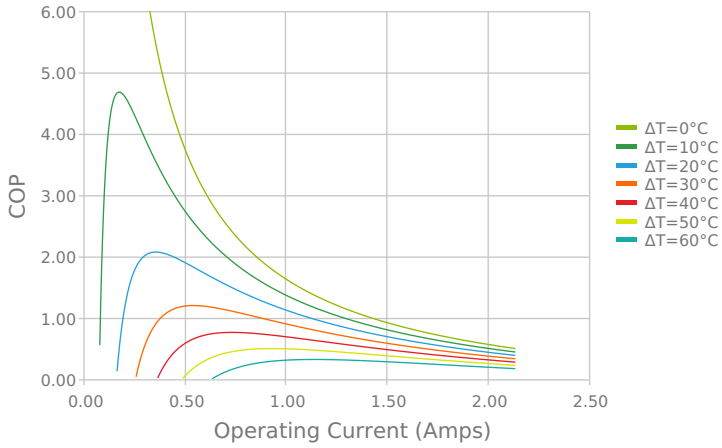
Heat Pumped at Cold Side
 Thot = 85 °C



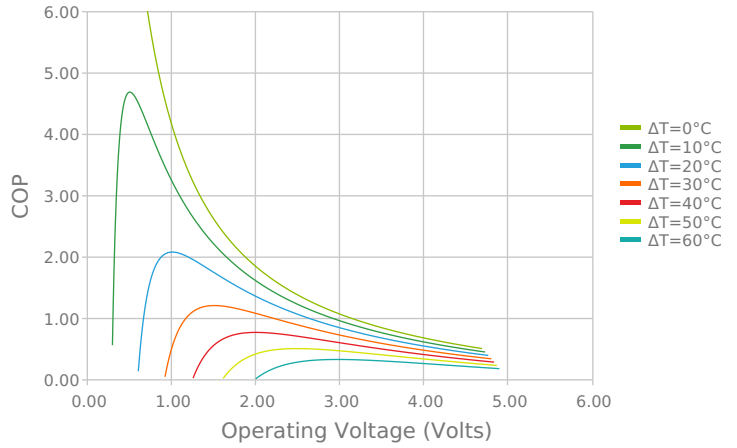
Current vs Voltage (I vs V)
 Thot = 85 °C



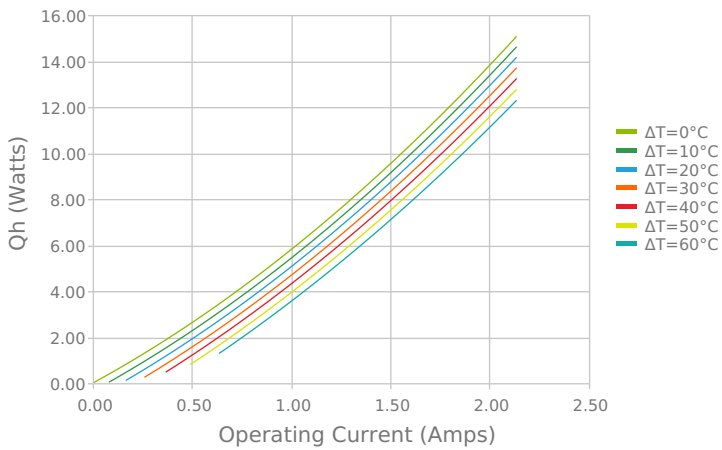
Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C



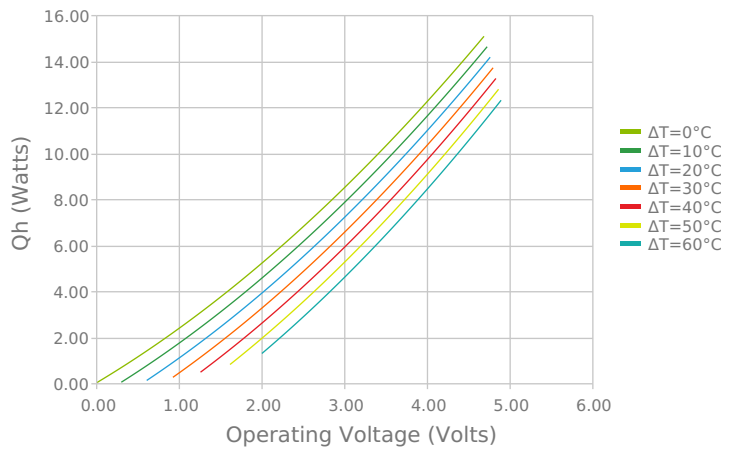
Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C



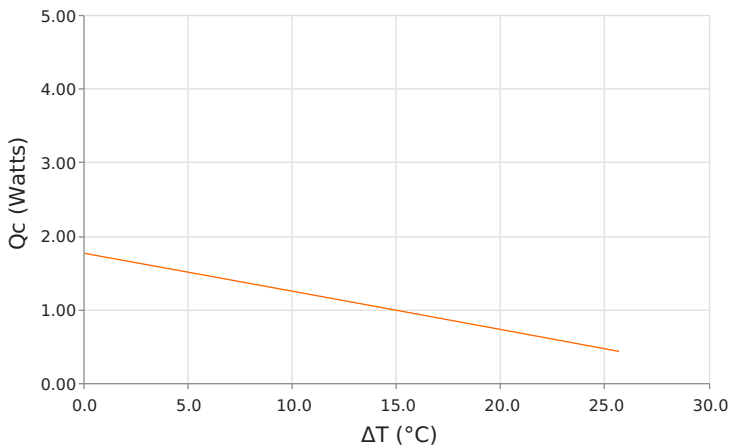
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 85 °C



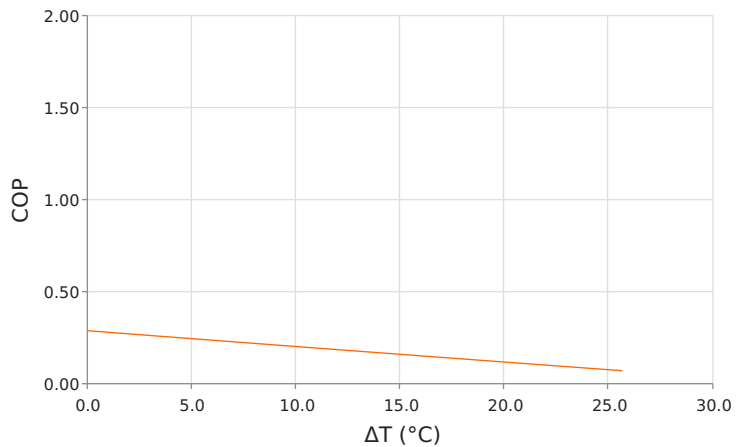
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
 Thot = 85 °C



Heat Pumped at Cold Side (Qc)
 Thot = 85 °C | Current = 1.6 Amps



Coefficient of Performance (COP = Qc/Pin)
 Thot = 85 °C | Current = 1.6 Amps



SPECIFICATIONS*

	50.0 °C	85.0 °C	110.0 °C
Hot Side Temperature			
Qcmax ($\Delta T = 0$)	4.6 Watts	5.0 Watts	5.2 Watts
ΔT_{max} ($Q_c = 0$)	81.6°C	93.4°C	99.9°C
I_{max} (I @ ΔT_{max})	2.0 Amps	1.9 Amps	1.9 Amps
V_{max} (V @ ΔT_{max})	4.0 Volts	4.6 Volts	5.0 Volts
Module Resistance	1.88 Ohms	2.20 Ohms	2.40 Ohms
Max Operating Temperature	150 °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	2.184 ±0.127 mm 0.086 ± 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: 150°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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