

OptoTEC™ HTX Series Thermoelectric Cooler

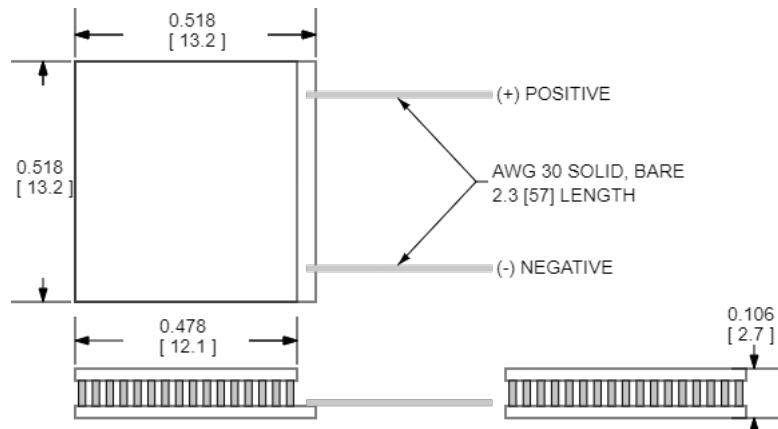
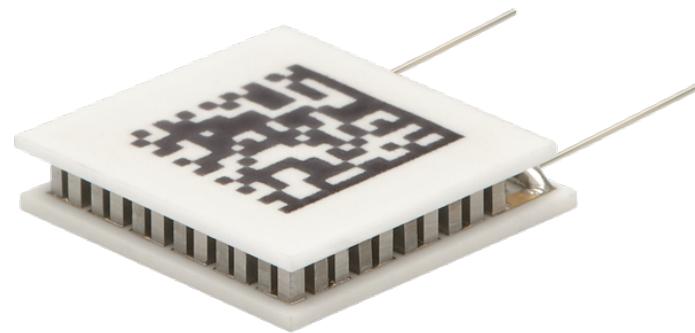
The HTX12-65-F2A-1312-11-W2.25 is a high-performance, high-temperature, miniature thermoelectric cooler. The HTX12-65-F2A-1312-11-W2.25 is primarily used in applications to stabilize the temperature of sensitive optical components in the telecom and photonics industries. It has a maximum Q_c of 5.8 Watts when $\Delta T = 0$ and a maximum ΔT of 81.6 °C at $Q_c = 0$.

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

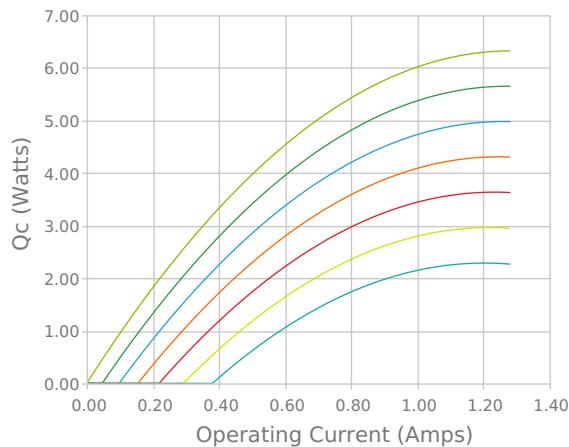


CERAMIC MATERIAL: Al_2O_3
SOLDER CONSTRUCTION: 280°C, AuSn

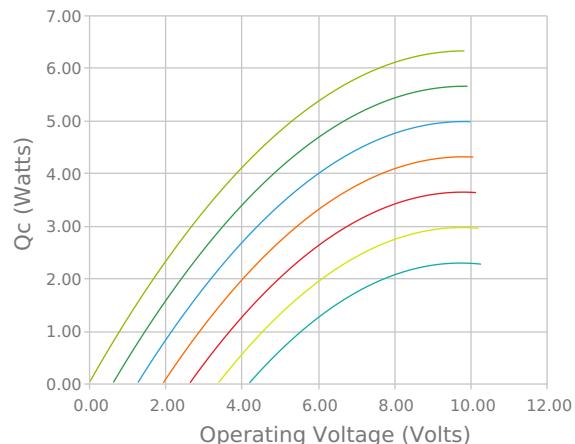
INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

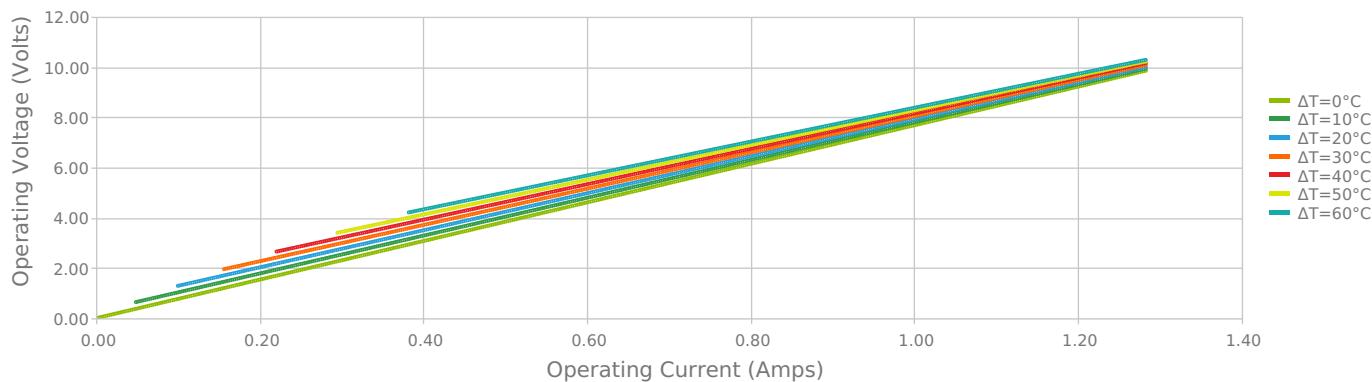
Heat Pumped at Cold Side
Thot = 85 °C

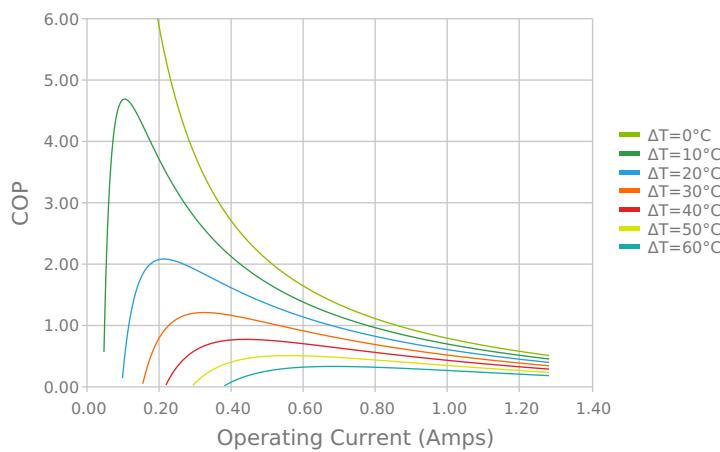
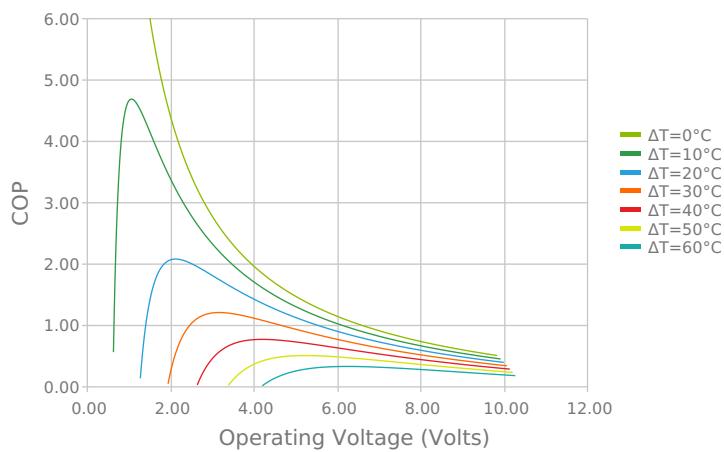
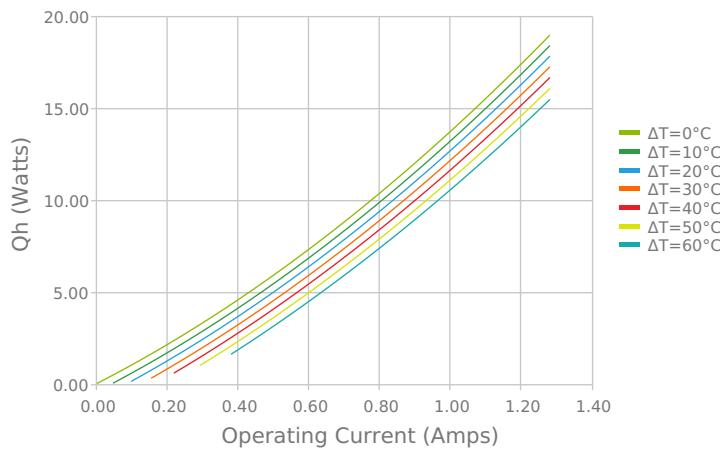
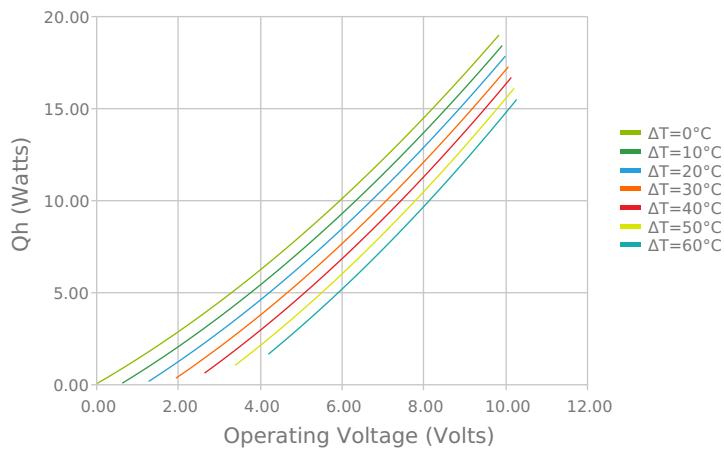
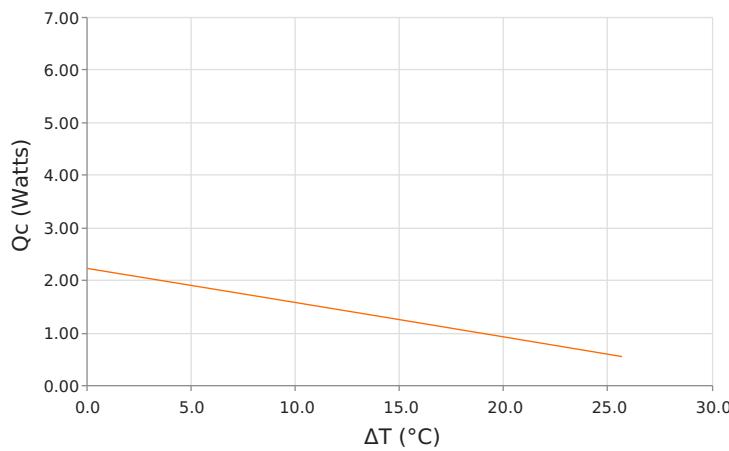
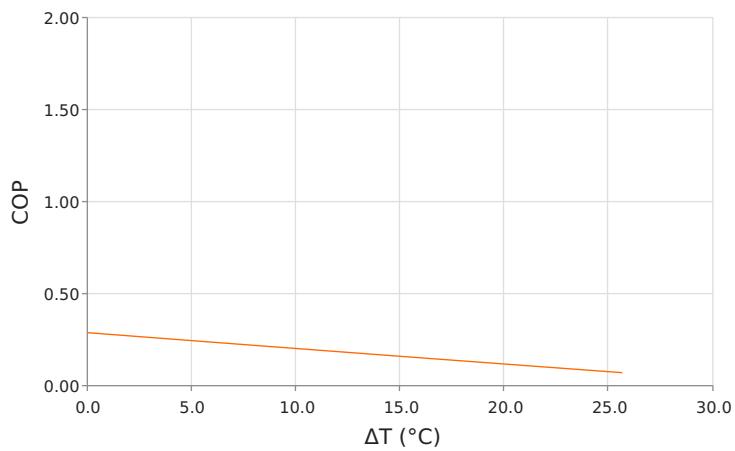


Heat Pumped at Cold Side
Thot = 85 °C



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



Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 85^\circ\text{C}$

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 $T_{hot} = 85^\circ\text{C}$

 Total Heat Dissipated at Hot Side ($Q_h = Q_c + P_{in}$)
 $T_{hot} = 85^\circ\text{C}$

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 $T_{hot} = 85^\circ\text{C}$

 Heat Pumped at Cold Side (Q_c)
 $T_{hot} = 85^\circ\text{C}$ | Current = 1.0 Amps

 Coefficient of Performance (COP = Q_c/P_{in})
 $T_{hot} = 85^\circ\text{C}$ | Current = 1.0 Amps


SPECIFICATIONS*

	50.0 °C	85.0 °C	110.0 °C
Qcmax (ΔT = 0)	5.8 Watts	6.3 Watts	6.5 Watts
ΔTmax (Qc = 0)	81.6°C	93.4°C	99.9°C
I_{max} (I @ ΔT_{max})	1.2 Amps	1.1 Amps	1.1 Amps
V_{max} (V @ ΔT_{max})	8.4 Volts	9.6 Volts	10.5 Volts
Module Resistance	6.58 Ohms	7.68 Ohms	8.40 Ohms
Max Operating Temperature	150 °C		
Weight	2.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
11	2.692 ±0.127 mm 0.106 ± 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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Date: 12/15/2021