

### OptoTEC™ OTX Series Thermoelectric Cooler

The OTX12-66-F0-1211-TB-RT-W2.25 is a high-performance, miniature thermoelectric cooler. The OTX12-66-F0-1211-TB-RT-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 5.5 Watts when  $\Delta T = 0$  and a maximum  $\Delta T$  of 72.9 °C at  $Q_c = 0$ .

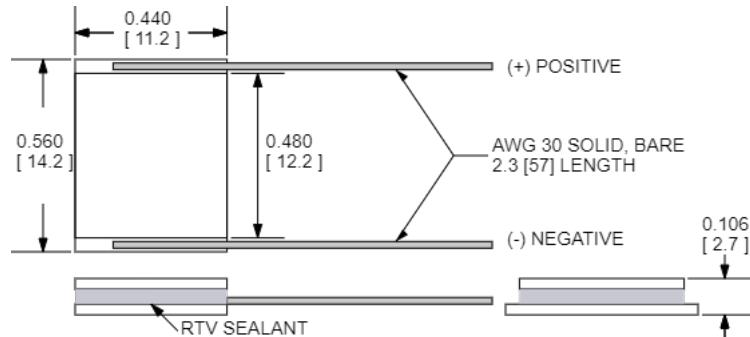


### Features

- 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



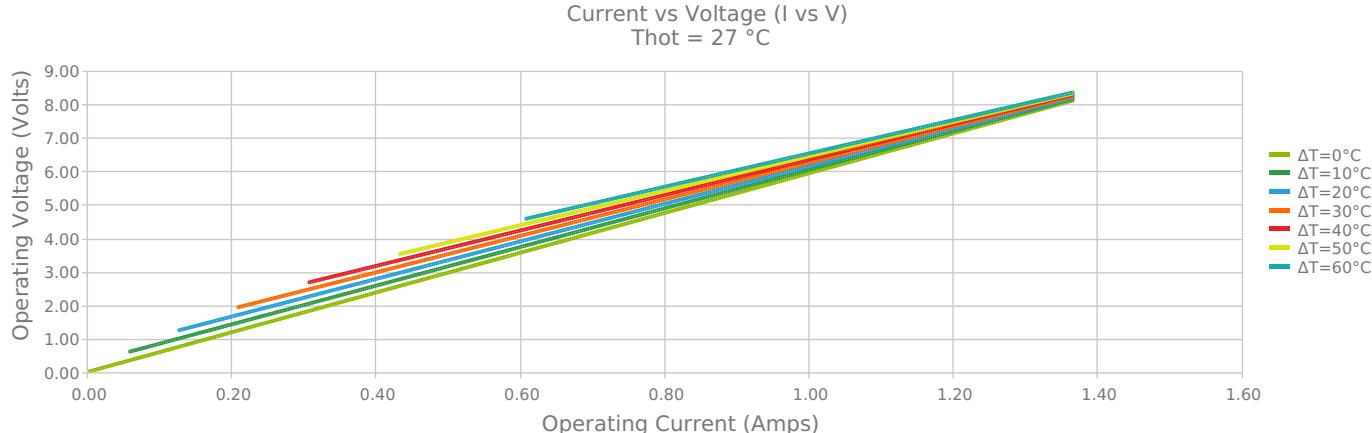
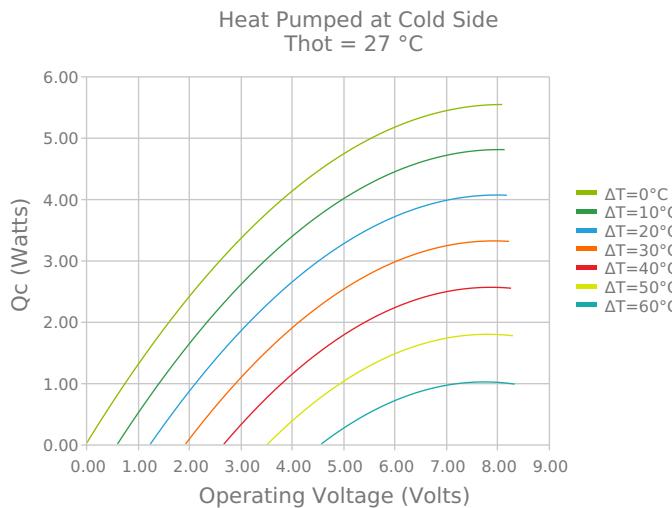
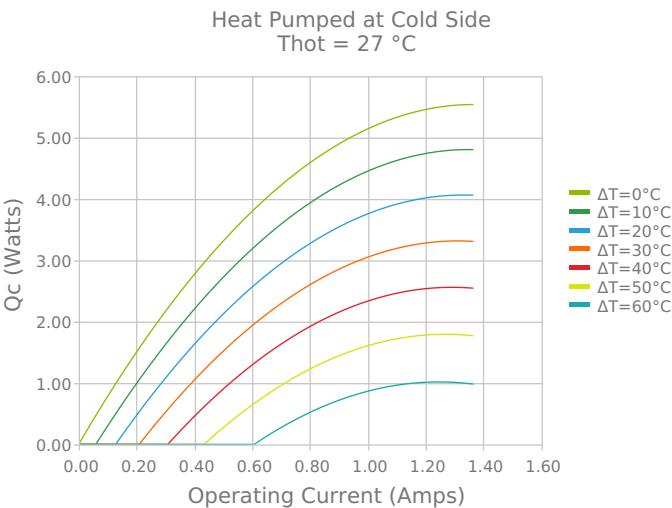
CERAMIC MATERIAL:  $\text{Al}_2\text{O}_3$

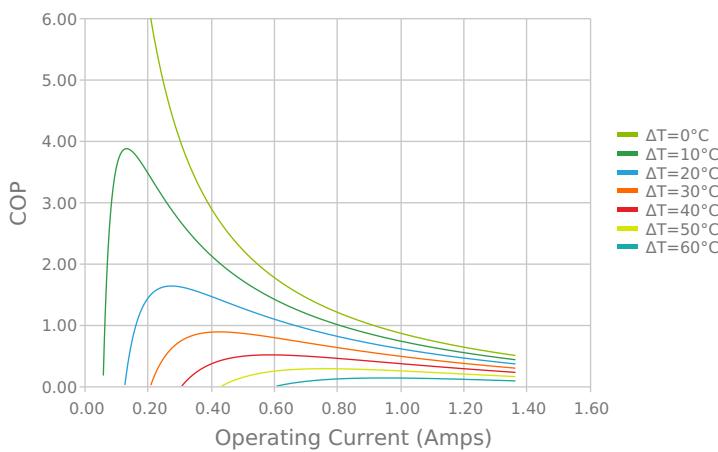
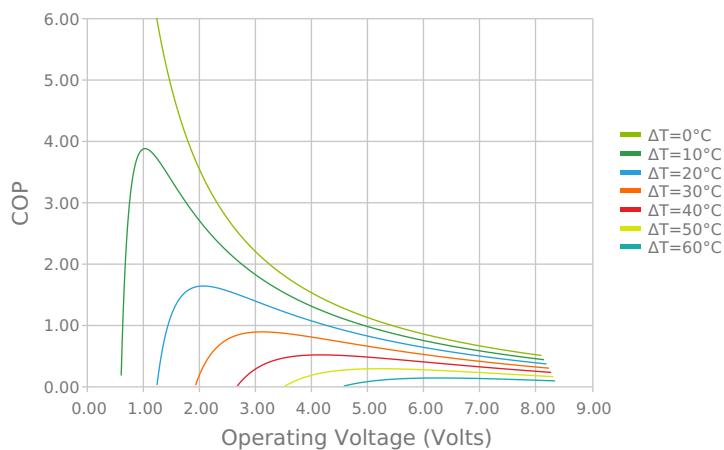
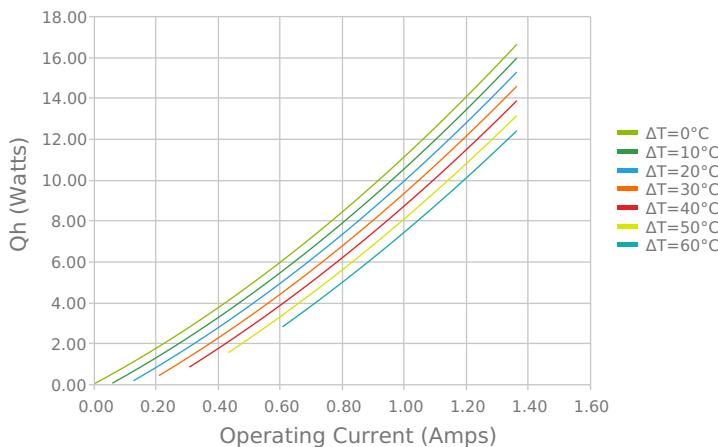
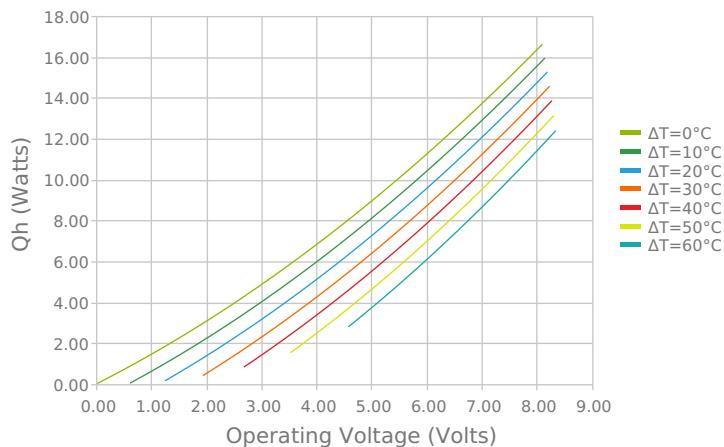
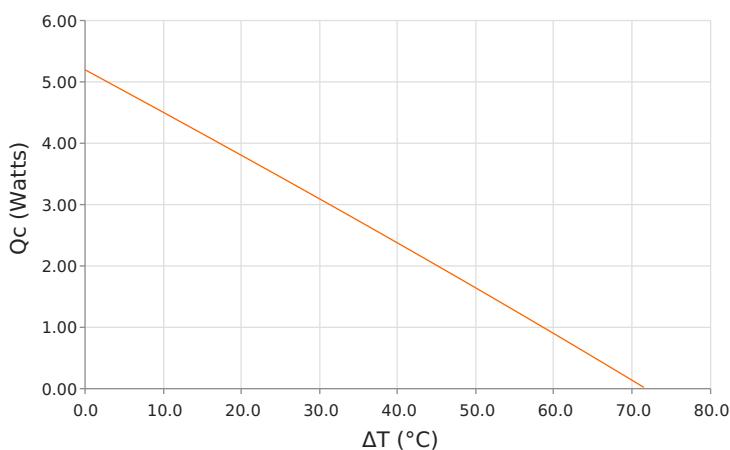
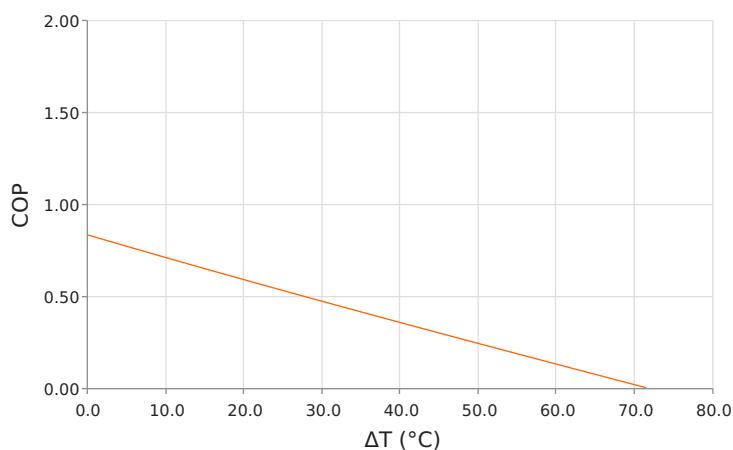
SOLDER CONSTRUCTION: 232°C, SbSn

INCHES [ MM ]

Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

## ELECTRICAL AND THERMAL PERFORMANCE



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

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 Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
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 Heat Pumped at Cold Side ( $Q_c$ )  
 $T_{hot} = 27^\circ\text{C}$  | Current = 1.0 Amps

 Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27^\circ\text{C}$  | Current = 1.0 Amps


## SPECIFICATIONS\*

	27.0 °C	50.0 °C	80.0 °C
<b>Qcmax (ΔT = 0)</b>	5.5 Watts	6.0 Watts	6.4 Watts
<b>ΔTmax (Qc = 0)</b>	72.9°C	81.8°C	92.1°C
<b>I<sub>max</sub> (I @ ΔT<sub>max</sub>)</b>	1.2 Amps	1.2 Amps	1.2 Amps
<b>V<sub>max</sub> (V @ ΔT<sub>max</sub>)</b>	7.7 Volts	8.5 Volts	9.6 Volts
<b>Module Resistance</b>	5.93 Ohms	6.68 Ohms	7.64 Ohms
<b>Max Operating Temperature</b>	120 °C		
<b>Weight</b>	2.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TB	2.692 ± 0.013 mm 0.106 ± 0.0005 in	0.013 mm / 0.013 mm 0.0005 in / 0.0005 in	Lapped	Lapped	50.8 mm 2.00 in

## SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
RT	RTV	Translucent or White	-60 to 204°C	Non-corrosive, silicone adhesive

## NOTES

1. Max operating temperature: 120°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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