

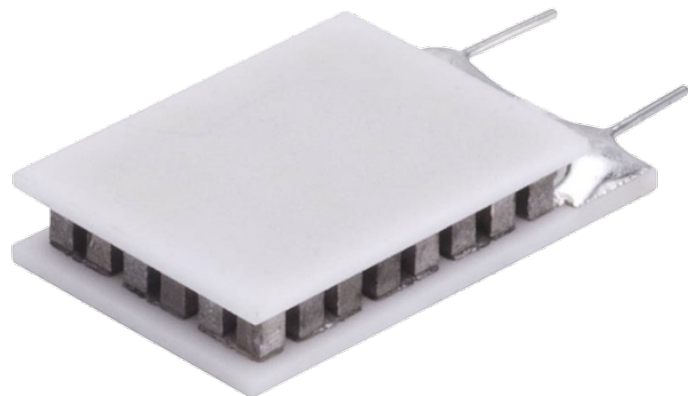
## HiTemp ET Series Thermoelectric Cooler

**Note: This product is not recommended for new designs.**

This product series has been replaced with the HiTemp ETX Series.

The recommended replacement is:

Description: OTX-20-24-F2A-0709-11-33-W2.25

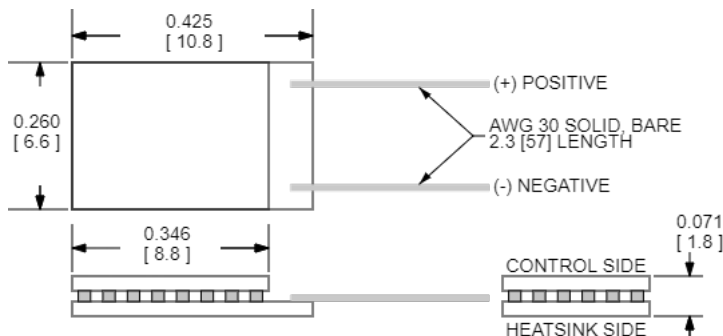


## Features

- High-temperature operation
- Reliable solid-state
- No sound or vibration
- Environmentally-friendly
- RoHS-compliant

## Applications

- Peltier Cooling for Refrigerated Centrifuges
- Peltier Cooling for Machine Vision
- Thermoelectric Cooling for CMOS Sensors
- Cooling Solutions for Autonomous Systems
- Peltier Cooling for Digital
- Light Processors



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

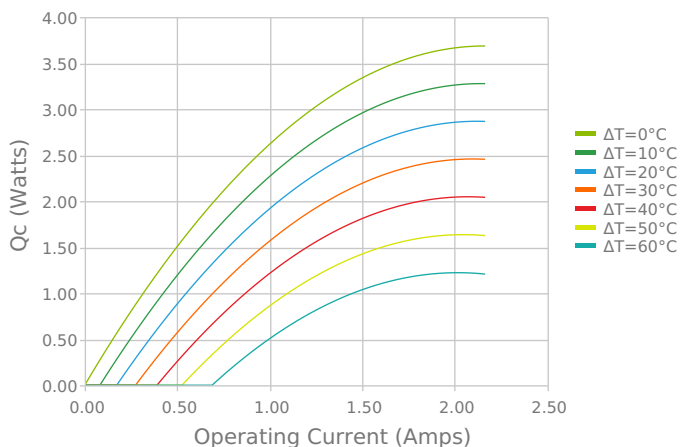
SOLDER CONSTRUCTION: 232°C, SbSn

INCHES [MM]

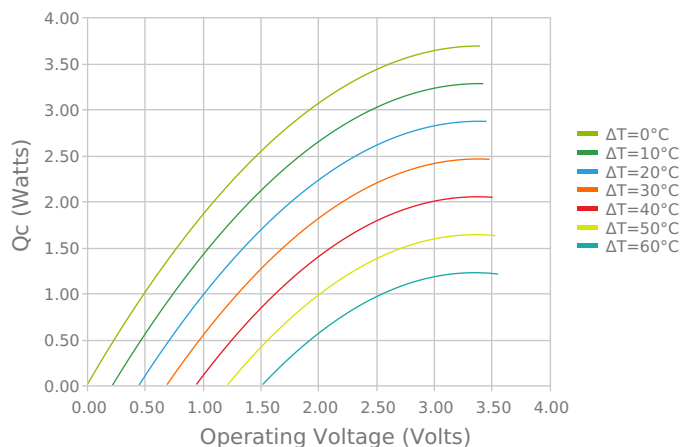
## ELECTRICAL AND THERMAL PERFORMANCE

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the HEATSINK side against the heat sink or other heat rejection method. The CONTROL side is always opposite the side with lead attachments. Lead attachment is a passive heat loss and less impactful if located on the side that attaches to the heat exchanger.

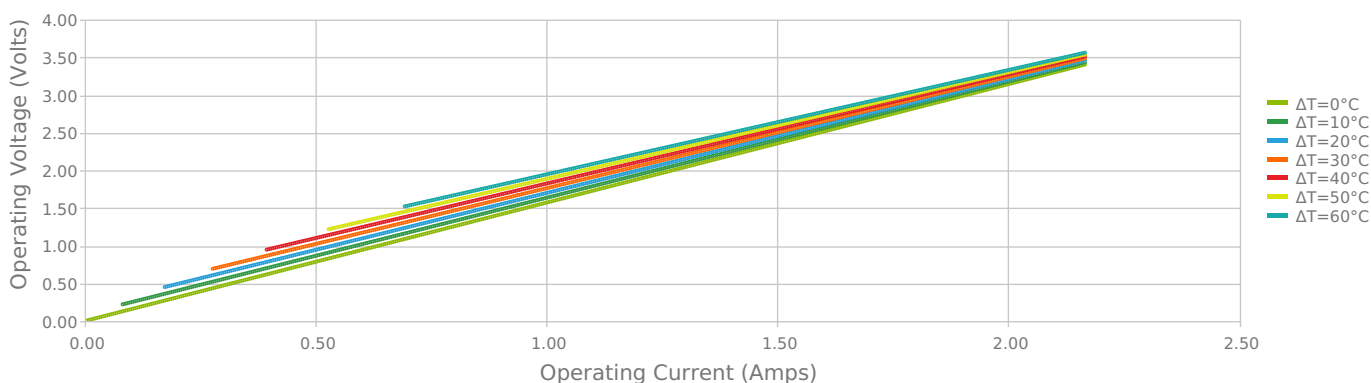
Heat Pumped at Cold Side  
 $T_{\text{hot}} = 85^\circ\text{C}$



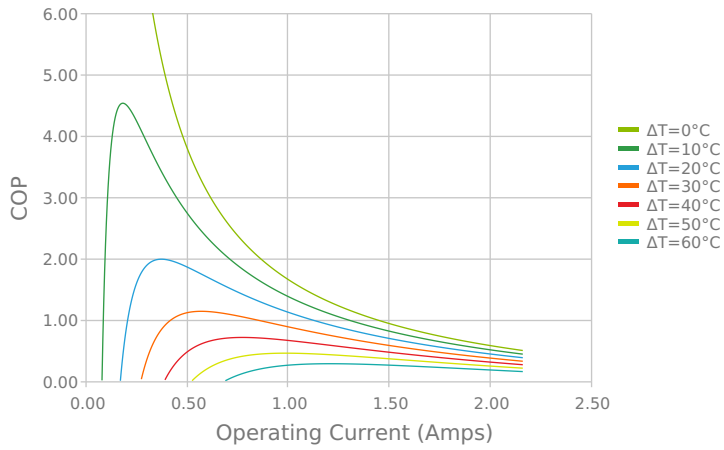
Heat Pumped at Cold Side  
 $T_{\text{hot}} = 85^\circ\text{C}$



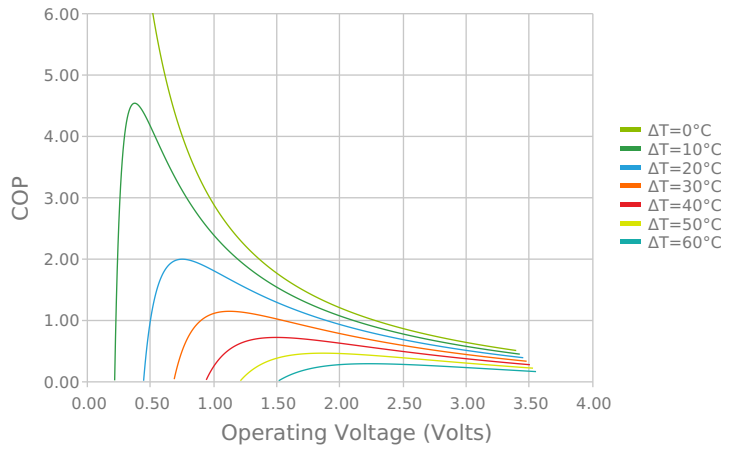
Current vs Voltage (I vs V)  
 $T_{\text{hot}} = 85^\circ\text{C}$



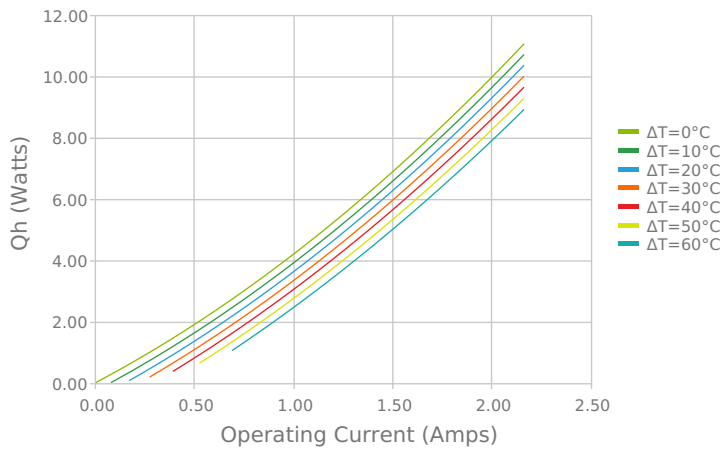
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$



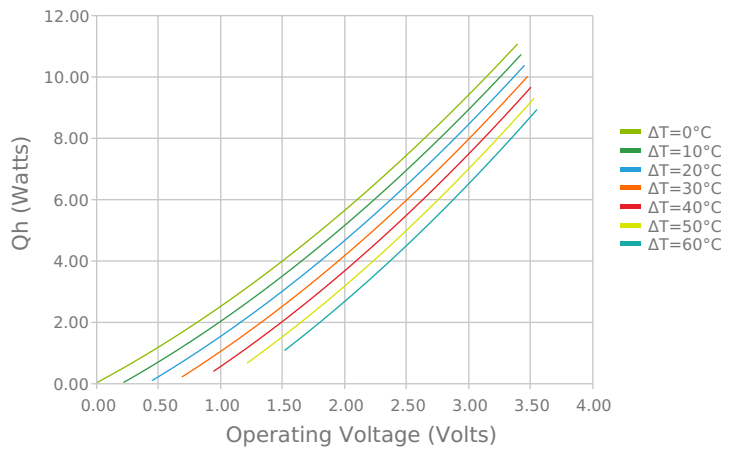
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$



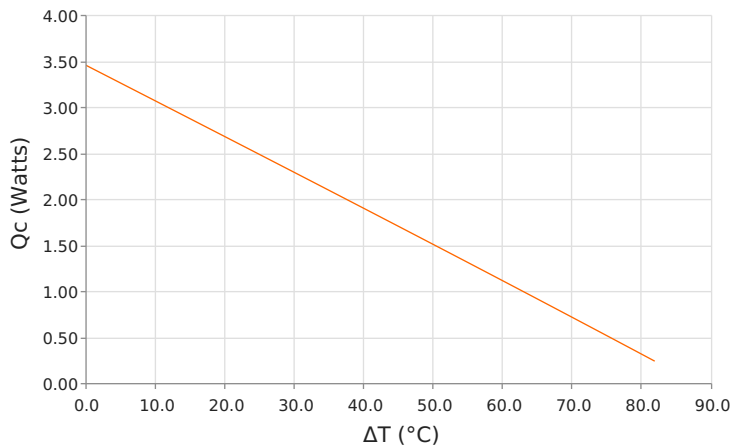
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$



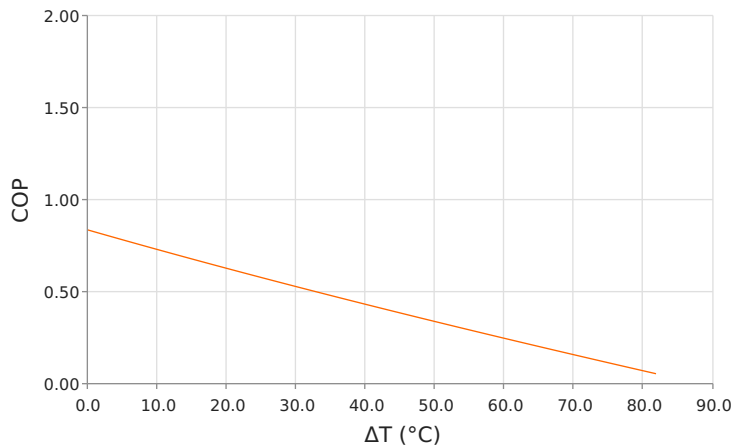
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$



Heat Pumped at Cold Side ( $Q_c$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$  | Current = 1.6 Amps



Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 85\text{ }^{\circ}\text{C}$  | Current = 1.6 Amps



## SPECIFICATIONS\*

### Hot Side Temperature

### Qcmax ( $\Delta T = 0$ )

### $\Delta T_{max}$ ( $Q_c = 0$ )

### I<sub>max</sub> (I @ $\Delta T_{max}$ )

### V<sub>max</sub> (V @ $\Delta T_{max}$ )

### Module Resistance

### Max Operating Temperature

### Weight

	50.0 °C	85.0 °C	110.0 °C
Qcmax ( $\Delta T = 0$ )	3.4 Watts	3.7 Watts	3.8 Watts
$\Delta T_{max}$ ( $Q_c = 0$ )	77.9°C	89.3°C	96.2°C
I <sub>max</sub> (I @ $\Delta T_{max}$ )	2.0 Amps	1.9 Amps	1.9 Amps
V <sub>max</sub> (V @ $\Delta T_{max}$ )	2.9 Volts	3.3 Volts	3.6 Volts
Module Resistance	1.35 Ohms	1.57 Ohms	1.72 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	1.800 ±0.051 mm 0.071 ± 0.0020 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<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation

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