

UltraTEC™ UT Series Thermoelectric Cooler

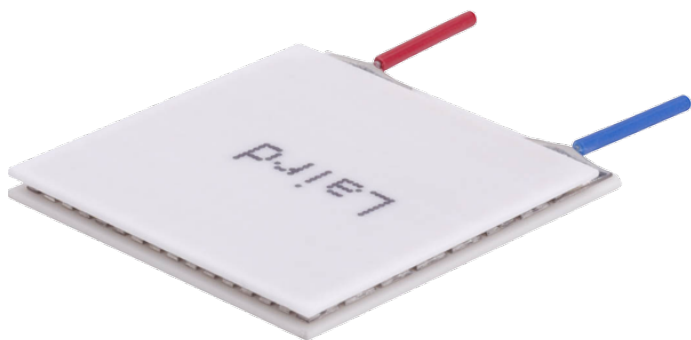
Note: This product is not recommended for new designs.

This product series has been replaced with the UltraTEC UTX Series product offering.

The recommended replacement is:

MFG Part Number: 387004708

Description: UTX8-12-F2-2525-TA-EP-W6

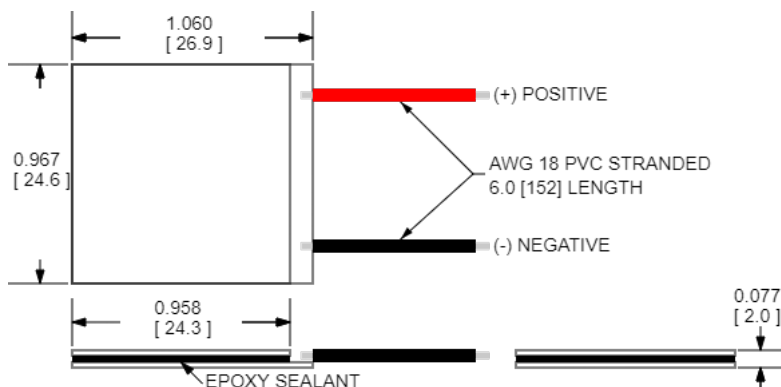


Features

- High heat pump density
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

Applications

- Thermoelectric Coolers and Assemblies for Medical Applications
- Thermoelectric Coolers for Handheld Cosmetic Lasers
- Industrial Laser Cooling
- Peltier Cooling for Digital Light Processors



CERAMIC MATERIAL: Al_2O_3

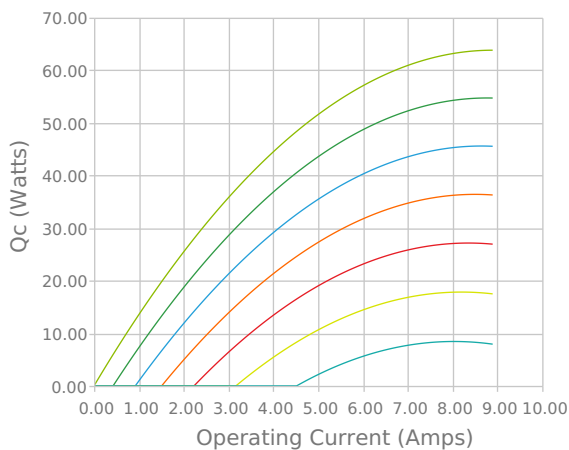
SOLDER CONSTRUCTION: 138°C, BiSn

INCHES [MM]

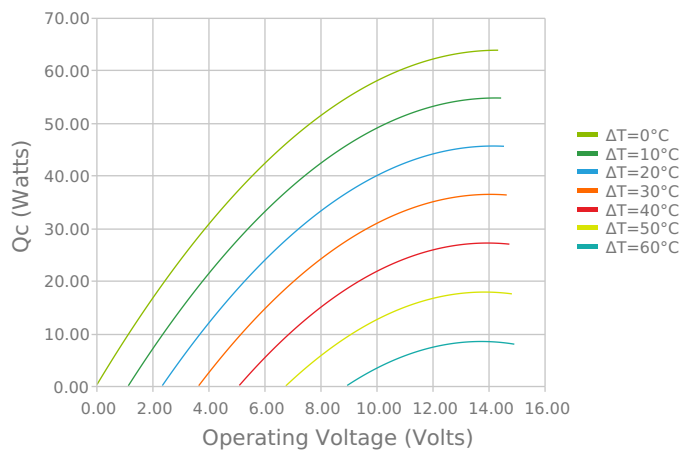
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

ELECTRICAL AND THERMAL PERFORMANCE

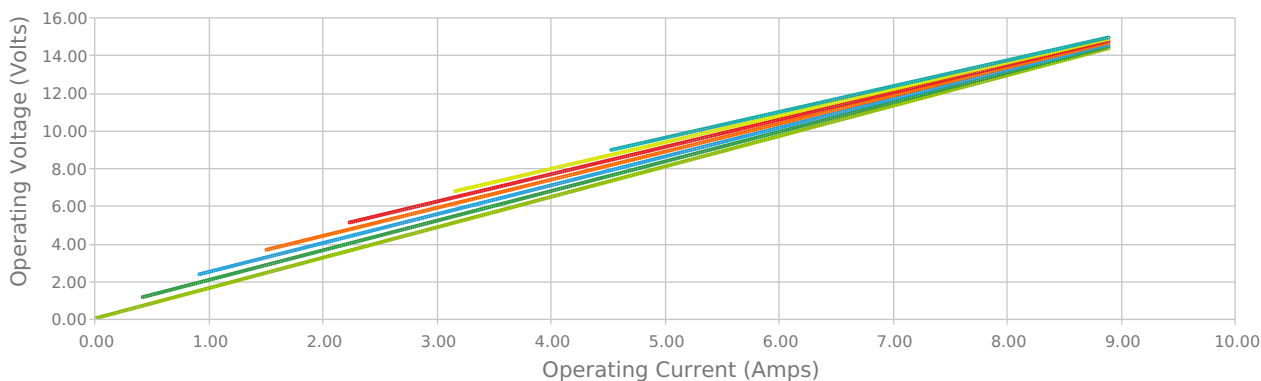
Heat Pumped at Cold Side
 $T_{\text{hot}} = 27^\circ\text{C}$



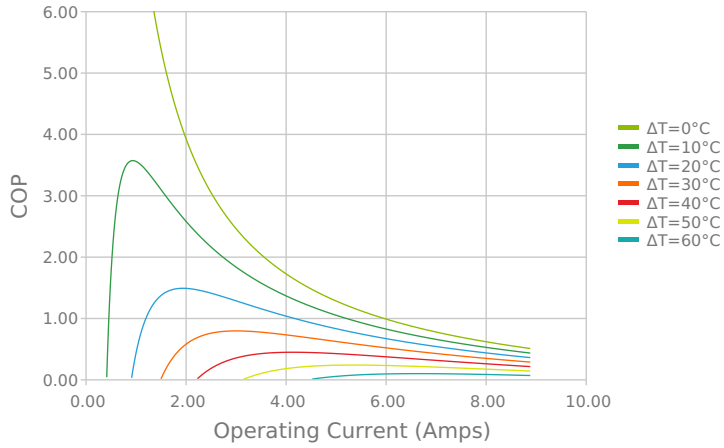
Heat Pumped at Cold Side
 $T_{\text{hot}} = 27^\circ\text{C}$



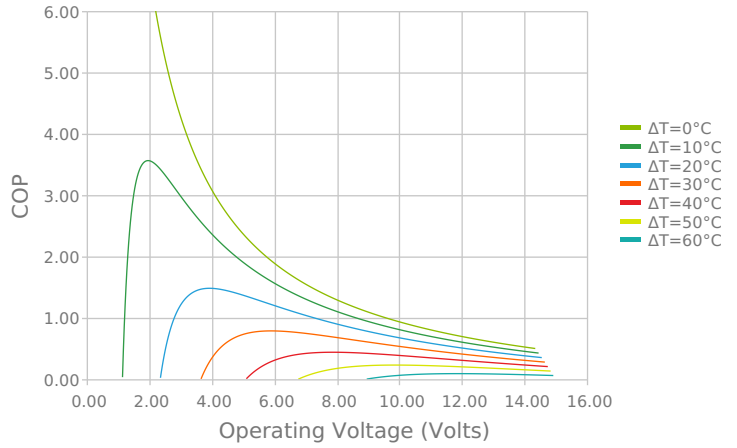
Current vs Voltage (I vs V)
 $T_{\text{hot}} = 27^\circ\text{C}$



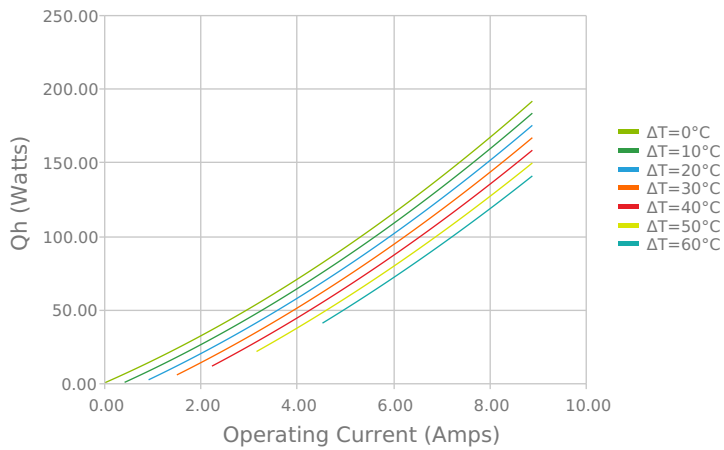
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



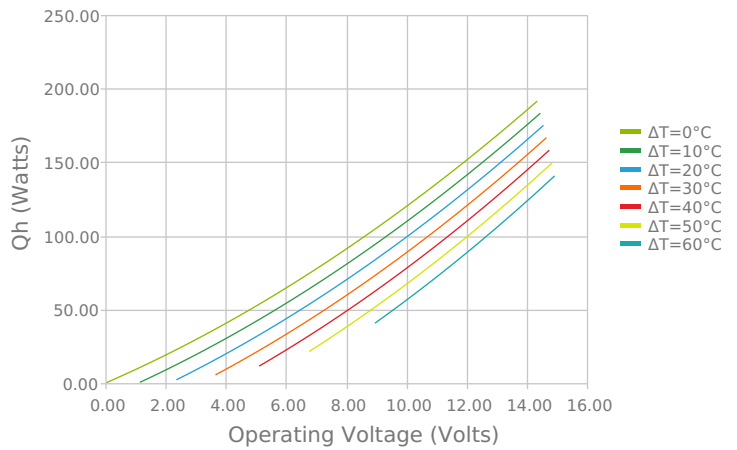
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



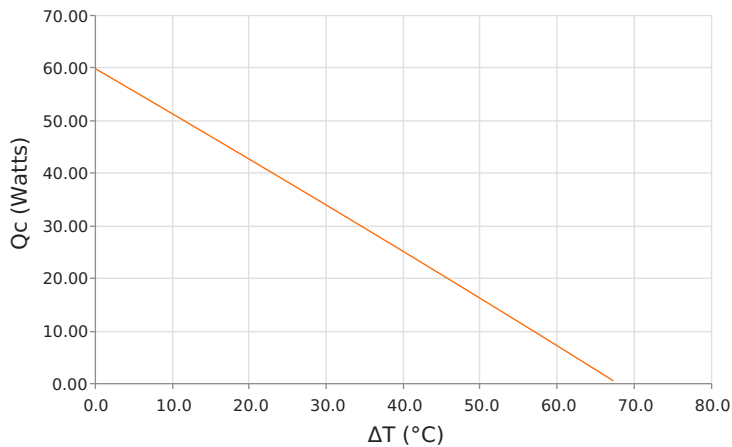
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



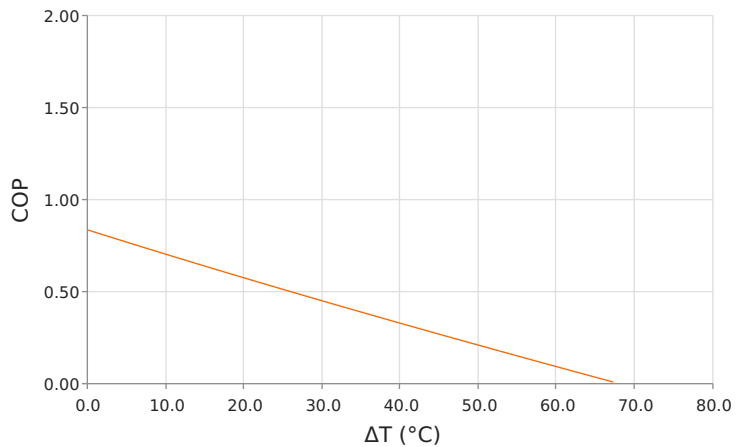
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 6.7 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C | Current = 6.7 Amps



SPECIFICATIONS*

Hot Side Temperature

Qcmax ($\Delta T = 0$)

ΔT_{max} ($Q_c = 0$)

I_{max} (I @ ΔT_{max})

V_{max} (V @ ΔT_{max})

Module Resistance

Max Operating Temperature

Weight

	27.0 °C	35.0 °C	50.0 °C
Qcmax ($\Delta T = 0$)	63.8 Watts	65.8 Watts	69.2 Watts
ΔT_{max} ($Q_c = 0$)	68.9°C	71.8°C	77.0°C
I _{max} (I @ ΔT_{max})	7.9 Amps	7.8 Amps	7.8 Amps
V _{max} (V @ ΔT_{max})	13.6 Volts	14.2 Volts	15.1 Volts
Module Resistance	1.61 Ohms	1.68 Ohms	1.81 Ohms
Max Operating Temperature	80 °C		
Weight	7.0 gram(s)		

* Specifications reflect thermoelectric coefficients updated March 2020

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	1.956 ±0.025 mm 0.077 ± 0.0010 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	152.4 mm 6.00 in

SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
EP	Epoxy	Black	-55 to 150°C	Low density syntactic foam epoxy encapsulant

NOTES

1. Max operating temperature: 80°C
2. Do not exceed I_{max} or V_{max} when operating module
3. Reference assembly guidelines for recommended installation

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