TTS
TARK THERMAL SOLUTIONS

ZT Series ZT4-12-F1-3030-TA-RT-W8
MFG Part Number: 7940002-604

Legacy Product

ZT Series Thermoelectric Cooler

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

The recommended replacement is:

MFG Part Number: 387004967

Description: ETX4-12-F1-3030-TA-RT-W8

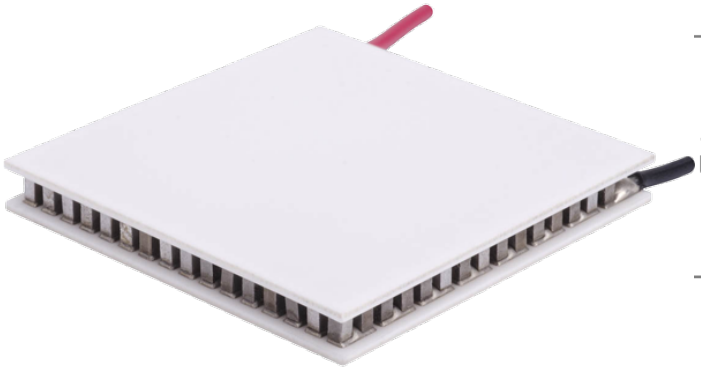
The ZT4-12-F1-3030-TA-RT-W8 is a high performance thermoelectric cooler that achieves a higher temperature differential than standard single stage thermoelectric coolers. It has a maximum Qc of 33.3 Watts when ΔT = 0 and a maximum ΔT of 71.7 °C at Qc = 0.

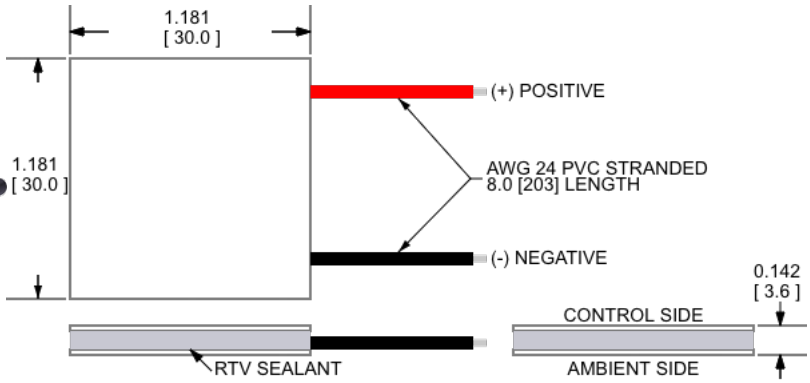
Features

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

Applications

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





CERAMIC MATERIAL: Al_2O_3

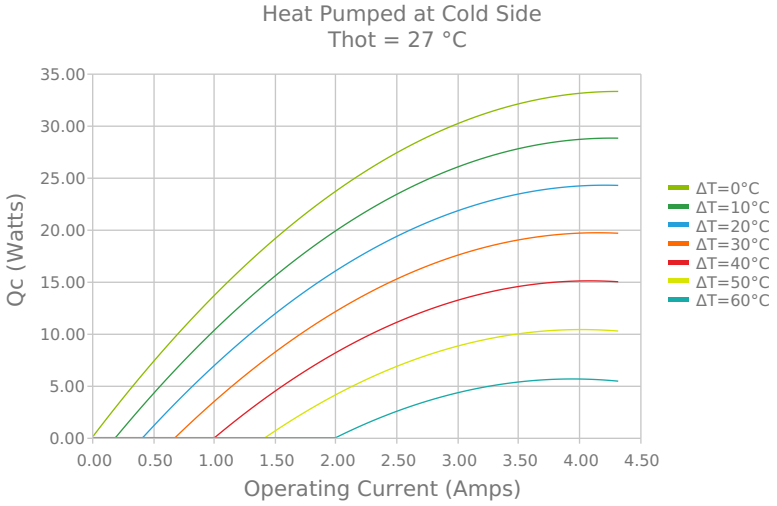
SOLDER CONSTRUCTION: 138°C, BiSn

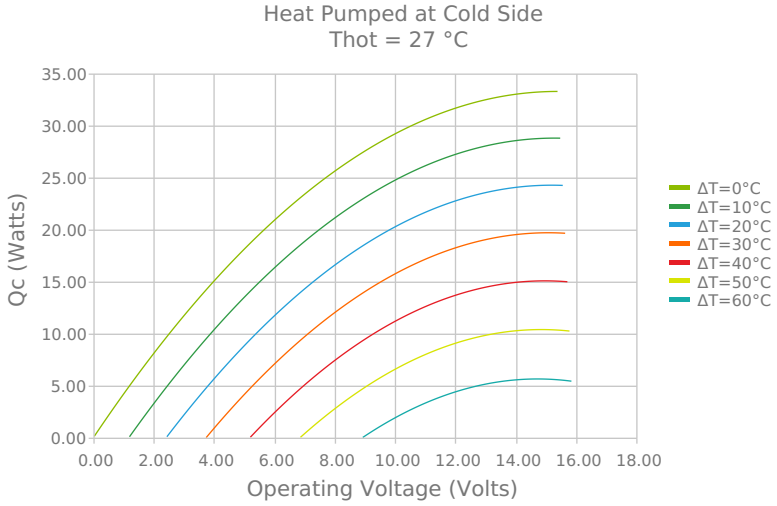
INCHES [MM]

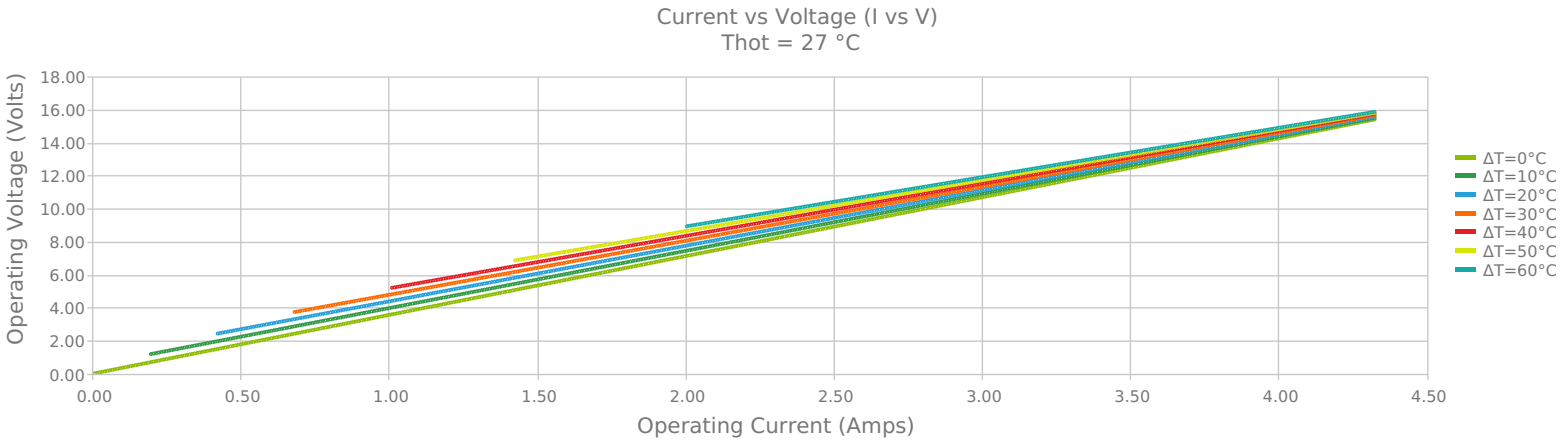
Note: Allow 0.020 in [0.5 mm] around perimeter of the thermoelectric cooler and lead wire attachment to accommodate sealant

Electrical and Thermal Performance

For maximum performance, be sure to orient the CONTROL side of the TEC against the application to be managed and the AMBIENT 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.



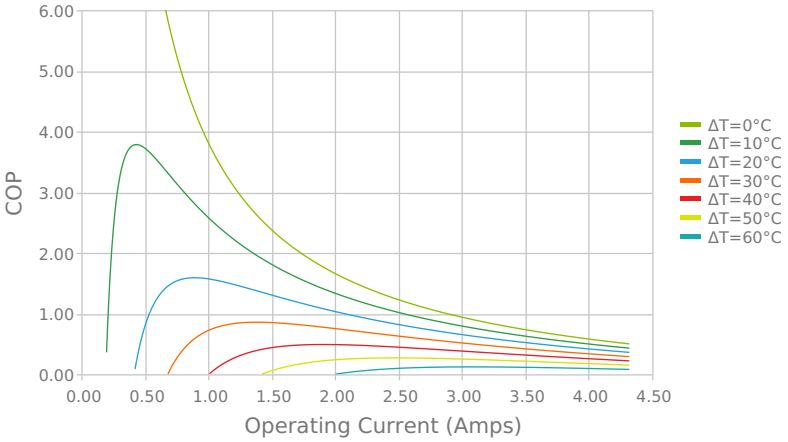




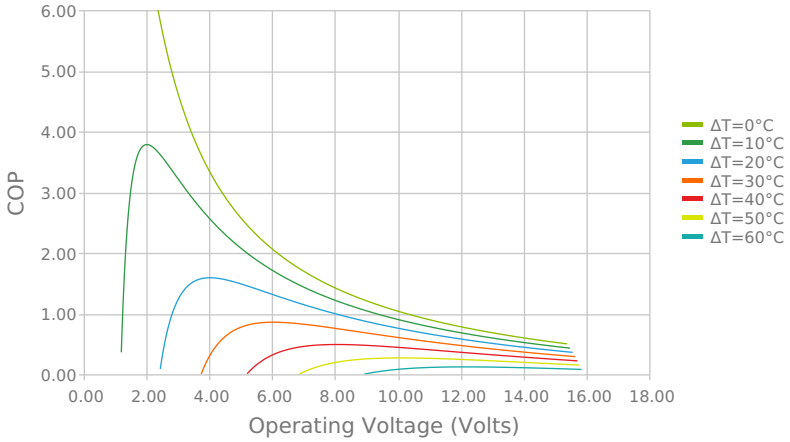
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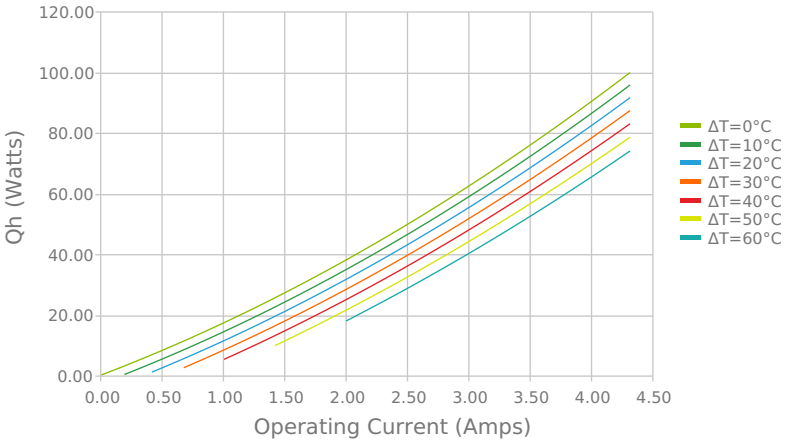
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



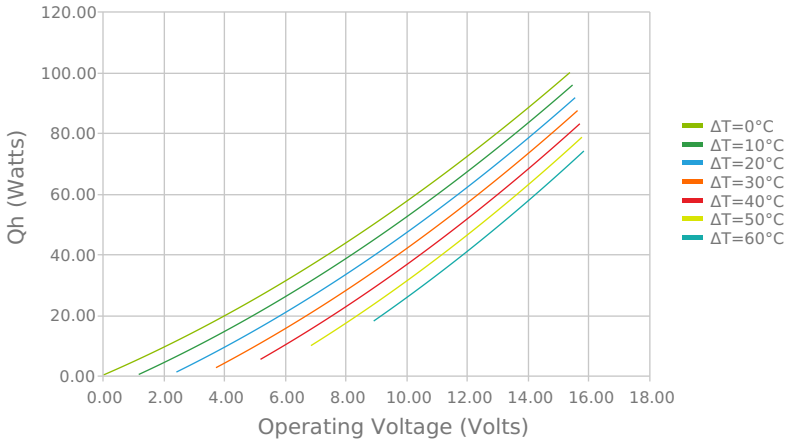
Coefficient of Performance (COP = Qc/Pin)
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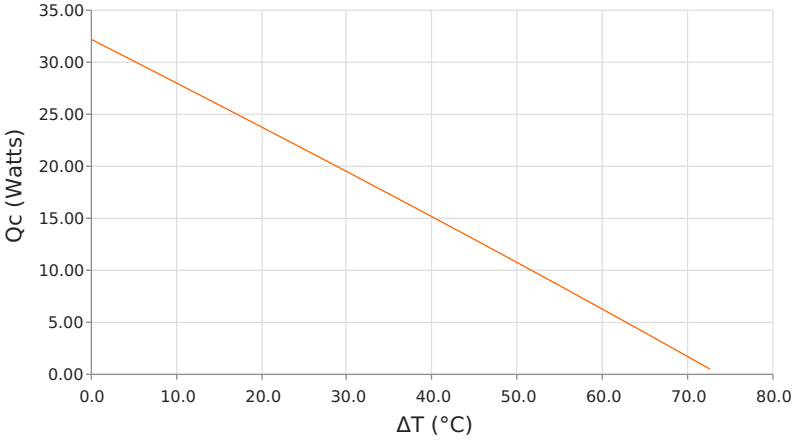
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



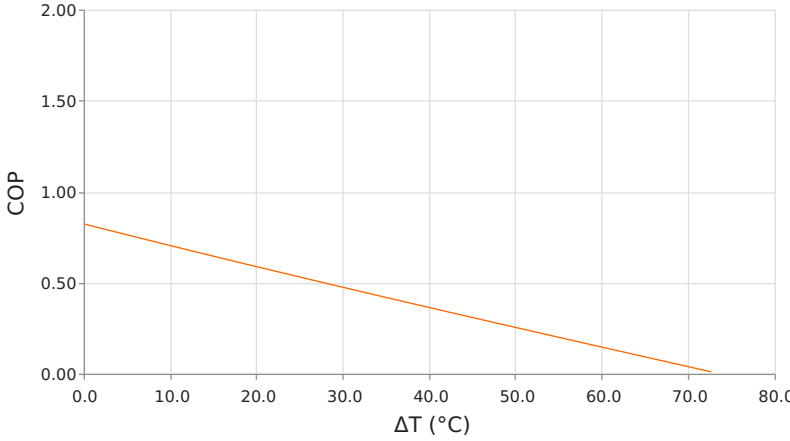
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



Heat Pumped at Cold Side (Qc)
Thot = 35 °C | Ioperating = 3.3 Amps



Coefficient of Performance (COP = Qc/Pin)
Thot = 35 °C | Ioperating = 3.3 Amps



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Specifications

Hot Side Temperature	27.0 °C	35.0 °C	50.0 °C
Qcmax (ΔT = 0)	33.3 Watts	34.2 Watts	35.8 Watts
ΔTmax (Qc = 0)	71.7°C	74.8°C	80.4°C
Imax (I @ ΔTmax)	3.9 Amps	3.8 Amps	3.8 Amps
Vmax (V @ ΔTmax)	14.6 Volts	15.1 Volts	16.2 Volts
Module Resistance	3.56 Ohms	3.71 Ohms	4.01 Ohms
Max Operating Temperature	80 °C		
Weight	12.0 gram(s)		

Finishing Options

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	3.610 ±0.025 mm 0.142 ± 0.0010 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	203.2 mm 8.00 in

Sealing Options

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

Notes

Max operating temperature: 80°C
Do not exceed Imax or Vmax when operating module
Reference assembly guidelines for recommended installation

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