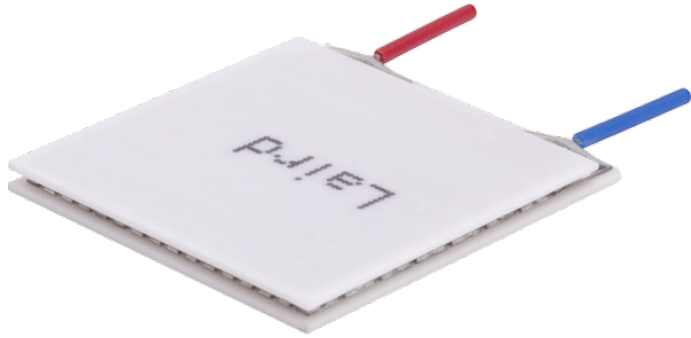


UltraTEC™ UT Series Thermoelectric Cooler

The UT8-12-F2-2525-TB-W6 is a high heat flux density thermoelectric cooler. The thermoelectric module is assembled with a large number of semiconducting thermoelectric couples to achieve a higher heat pumping capacity than standard single stage thermoelectric coolers. It has a maximum Q_c of 63.8 Watts when $\Delta T = 0$ and a maximum ΔT of 68.9 °C at $Q_c = 0$.

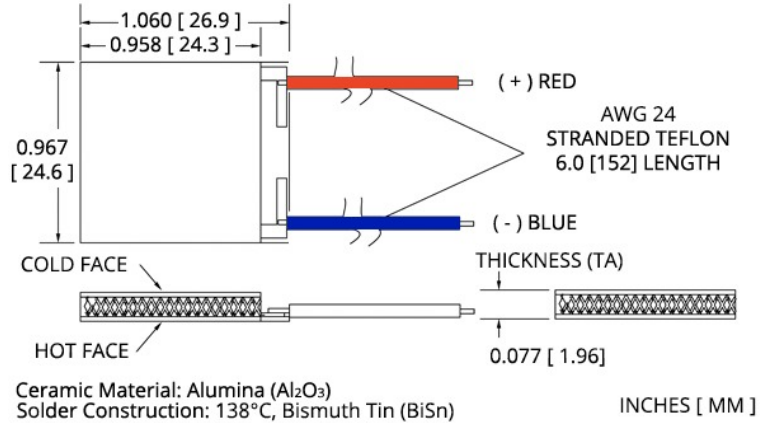


Features

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

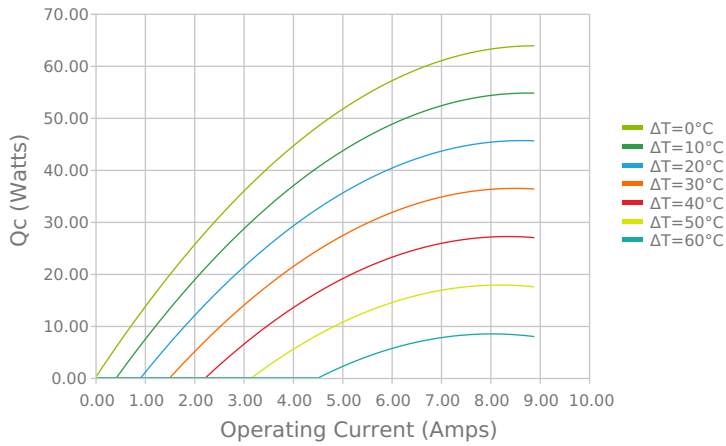
Applications

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

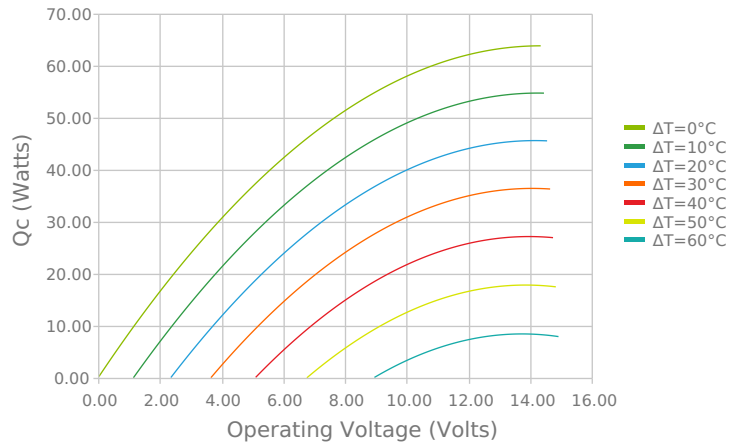


ELECTRICAL AND THERMAL PERFORMANCE

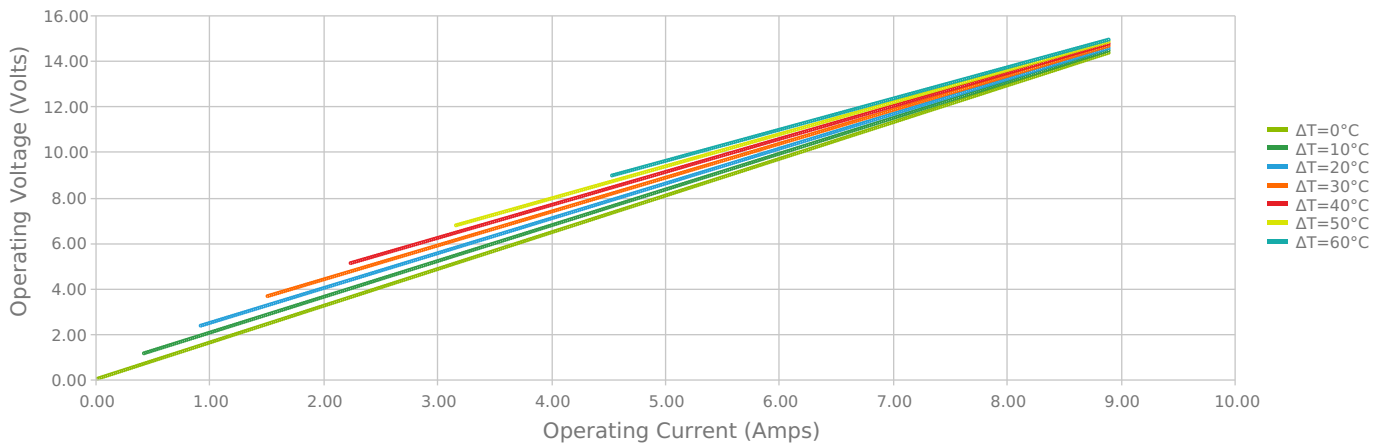
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



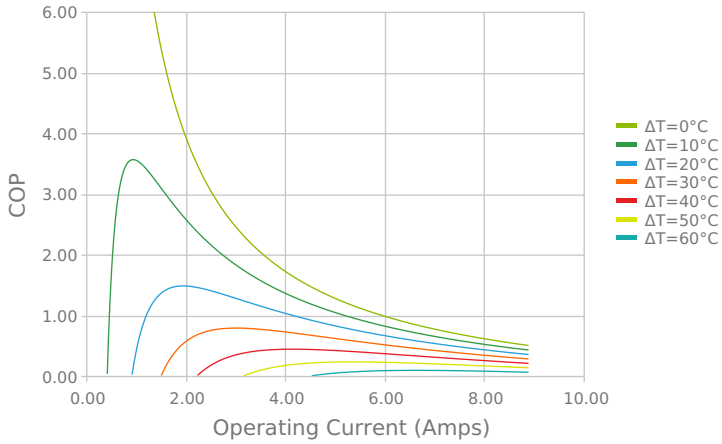
Heat Pumped at Cold Side
 $T_{hot} = 27\text{ °C}$



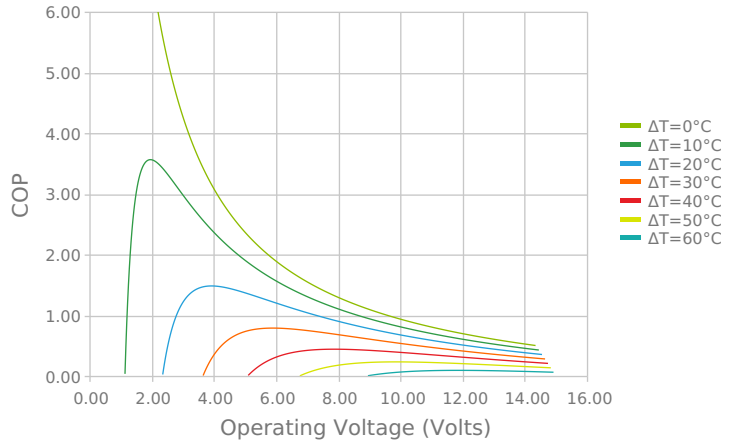
Current vs Voltage (I vs V)
 $T_{hot} = 27\text{ °C}$



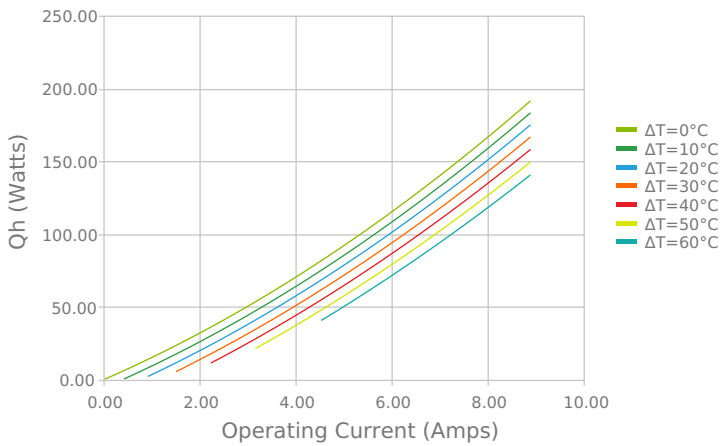
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



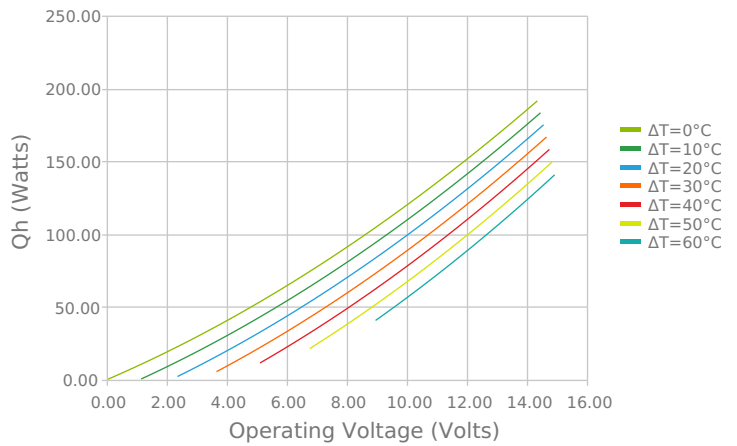
Coefficient of Performance (COP = Qc/Pin)
Thot = 27 °C



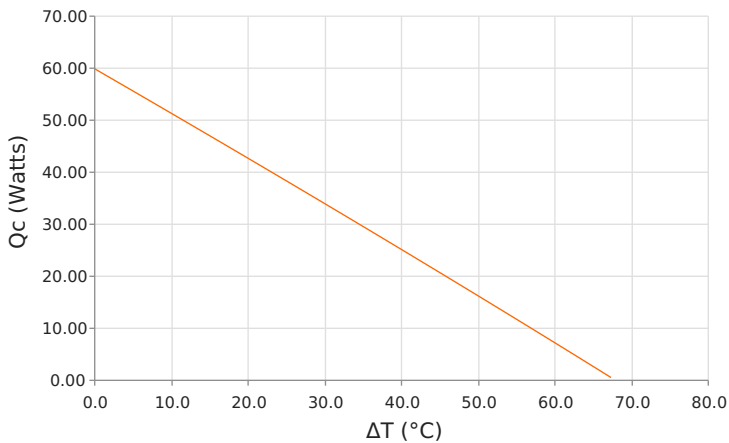
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



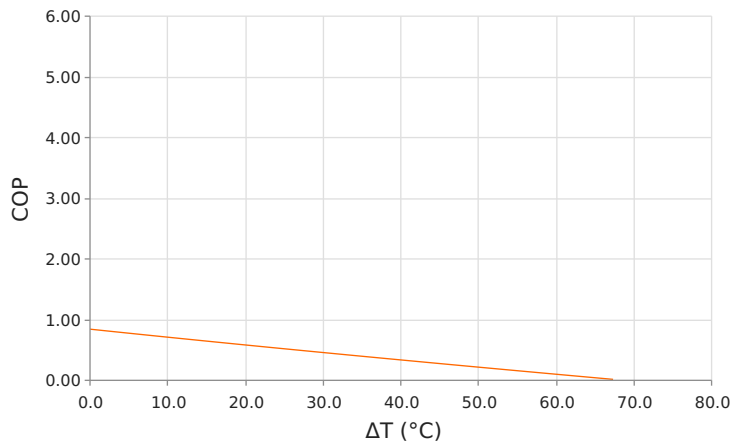
Total Heat Dissipated at Hot Side (Qh=Qc+Pin)
Thot = 27 °C



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 | 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 |
|--------|-------------------------------------|--|----------|-----------|---------------------|
| TB | 1.956 ±0.013 mm 0.077 ± 0.001 in | 0.013 mm / 0.013 mm 0.0005 in / 0.0005 in | Lapped | Lapped | 152.4 mm 6.00 in |

SEALING OPTIONS

| Suffix | Sealant | Color | Temp Range | Description |
|--------|---------|-------|------------|----------------------|
| | None | | | No sealing specified |

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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Date: 04/24/2020