

UltraTEC™ UTX Series Thermoelectric Cooler

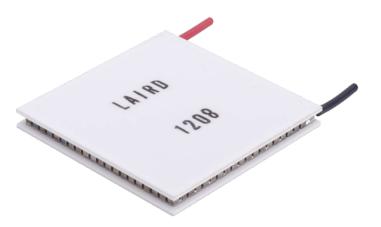
The UTX6-19-F1-4040-TA-W8 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature differential (Δ T) of 71.7 °C at Qc = 0. It has a maximum Qc of 82.6 Watts when Δ T = 0.

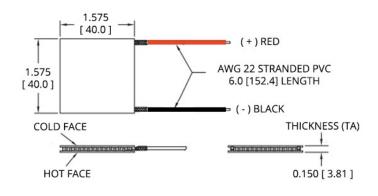
Features

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

Applications

- Spot Cooling for Industrial Lasers & Optics
- Thermoelectric Cooling for Projection Lasers

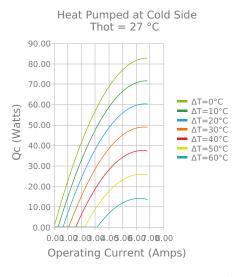


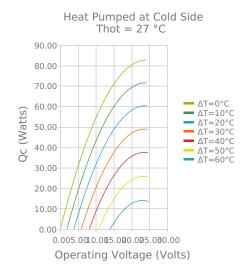


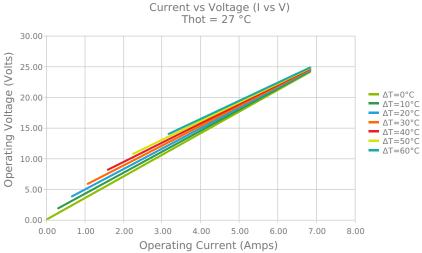
Ceramic Material: Alumina (Al₂O₃) Solder Construction: 138°C, Bismuth Tin (BiSn)

INCHES [MM]

ELECTRICAL AND THERMAL PERFORMANCE

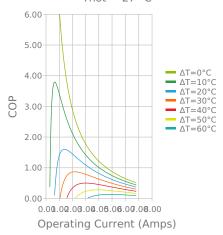




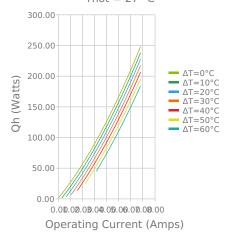




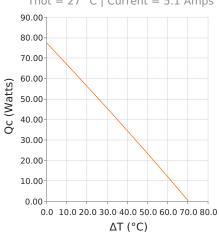




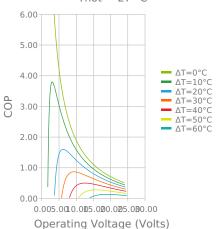
Total Heat Dissipated at Hot Side (Qh=Qc+Pin) Thot = 27 $^{\circ}$ C



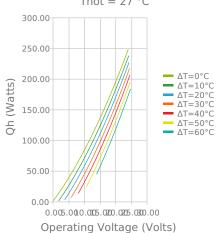
Heat Pumped at Cold Side (Qc)
Thot = 27 °C | Current = 5.1 Amps



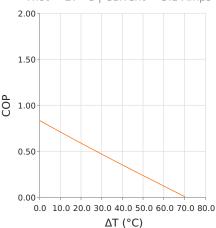
Coefficient of Performance (COP = Qc/Pin) Thot = $27 \, ^{\circ}\text{C}$



Total Heat Dissipated at Hot Side (Qh=Qc+Pin) Thot = 27 $^{\circ}$ C



Coefficient of Performance (COP = Qc/Pin) Thot = 27 °C | Current = 5.1 Amps





SPECIFICATIONS*

Hot Side Temperature

 $Qcmax (\Delta T = 0)$

 $\Delta T max (Qc = 0)$

Imax (I @ \Darkstrum \

Vmax (V @ Δ Tmax)

Module Resistance

Max Operating Temperature

Weight

27.0 °C	35.0 °C	50.0 °C
82.6 Watts	84.9 Watts	88.9 Watts
71.7°C	74.8°C	80.4°C
6.1 Amps	6.1 Amps	6.0 Amps
22.8 Volts	23.7 Volts	25.4 Volts
3.52 Ohms	3.67 Ohms	3.96 Ohms
80 °C		
29.0 gram(s)		

FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length	
TA $3.861 \pm 0.025 \text{ mm}$ $0.152 \pm 0.001 \text{ in}$		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
	None			No sealing specified

NOTES

- 1. Max operating temperature: 80°C
- 2. Do not exceed Imax or Vmax when operating module
- 3. Reference assembly guidelines for recommended installation
- 4. Recommended to be used with a liquid heat exchanger on the hot side

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^{*} Specifications reflect thermoelectric coefficients updated March 2020