

OptoCooler™ HV14

Part #: NCA-1101443-0202B_A

Preliminary Data Sheet

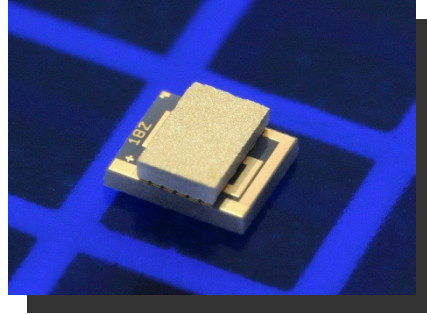
OptoCooler HV14
Thermoelectric Cooler

Description:

Nextreme has developed a new class of RoHS compliant thermoelectric coolers to address applications with high heat flux requirements.

The OptoCooler HV14 can produce 1.4 watts of cooling at 25°C in an active footprint of 0.0148 cm². Equivalently, the modules can pump 95 W/cm². At 85°C, these values increase to 1.7 watts and 116 W/cm², respectively.

The size, input power requirements and heat pumping capability of this device make it particularly well suited for photonics and optoelectronics applications.



Features:

- 1.7 watts maximum cooling
- 115 W/cm² heat pumping capability
- Super small 1.52mm X 1.79mm footprint
- Extremely thin 0.57 mm profile
- <2 ms response time
- RoHS compliant devices

Performance Values (typical):

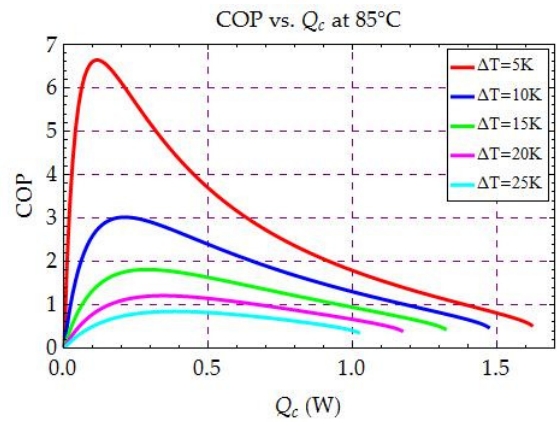
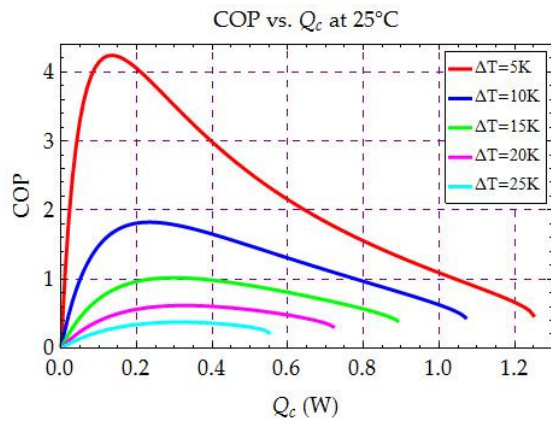
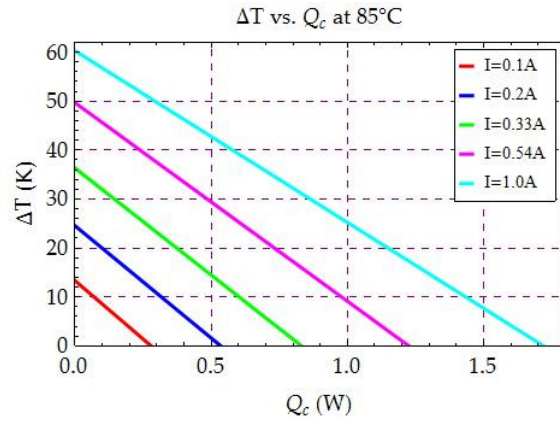
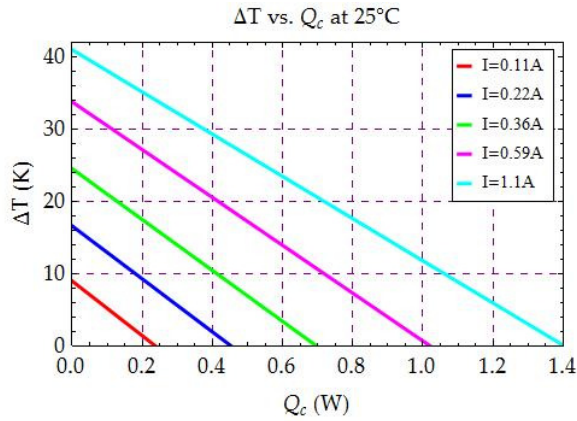
Hot Side Temperature	25°C	85°C
Q _{max} (Watts)	1.4	1.7
ΔT _{max} (°C)	41	60
I _{max} (Amps)	1.09	1.01
V _{max} (Volts)	2.2	2.9
Q _{max} / area (W/cm ²)	95	115
R _{electrical} (Ω)	1.7	2.3
R _{thermal} (K/W)	41	52

Assembly Conditions	
Time above 290°C	60 sec
Peak Assembly Temperature	325°C

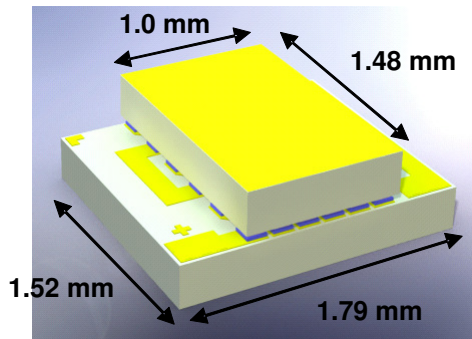
Operating Conditions	
Maximum Operating Temp.	150°C

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Product Dimensions



Ordering Information

1. Standard: Au on the top and back surfaces.
2. Standard: Au wire bondable pads on the lead pads.

Definitions:

- Q_{max} The maximum amount of heat that the Peltier device can pump when operating at I_{max}
- ΔT_{max} The maximum temperature difference the Peltier device can produce
- I_{max} The current which produces ΔT_{max}
- V_{max} The voltage which produces ΔT_{max}
- COP Coefficient of Performance (Heat Pumped / Input Power)
- $R_{thermal}$ Thermal resistance
- $R_{electrical}$ Electrical resistance

Power and Ground wire bond pads are 0.28mm X 0.18mm