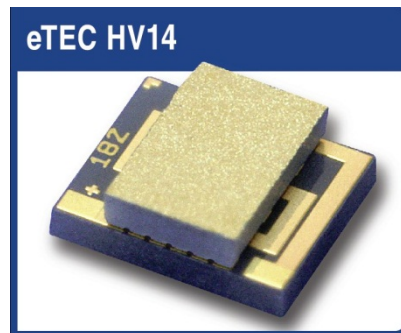


eTEC™ HV14 Thin-Film Thermoelectric Cooler

Data Sheet

Description

The Nextreme eTEC family is a new class of RoHS compliant thermoelectric coolers to address applications with high heat flux requirements. The eTEC HV14 can produce 1.4 watts of cooling at 25°C pumping 90 W/cm². At 85°C, these values increase to 1.7 watts and 110 W/cm², respectively. The size, input power requirements, heat pumping capability, and speed of this device make it ideal for thermal management of sensors, photonics, and optoelectronics applications.



eTEC™ HV14 Data Sheet

Features

- 1.7 watts maximum cooling @ 85°C
- 110 W/cm² heat pumping capability
- Small 1.52mm X 1.79mm footprint
- Extremely thin 0.62mm profile
- <2 ms response time
- RoHS compliant devices

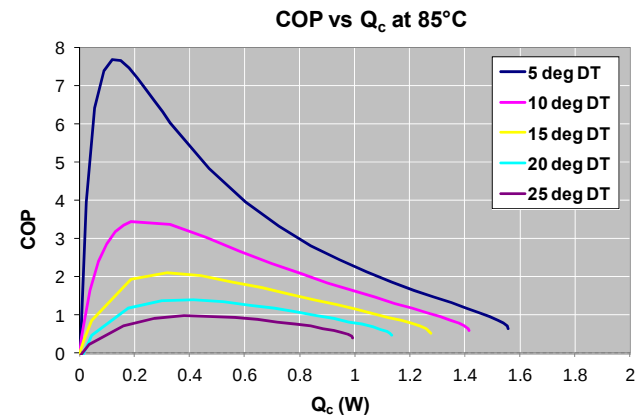
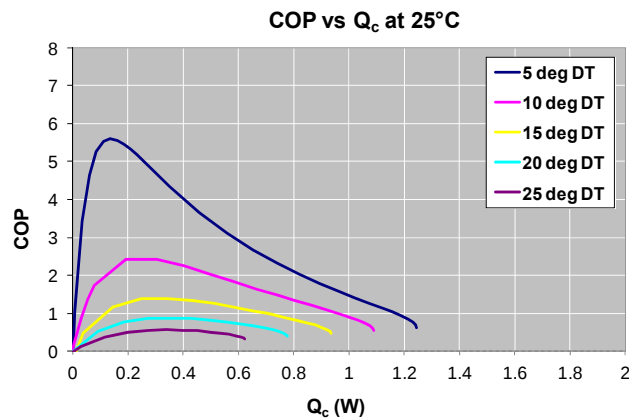
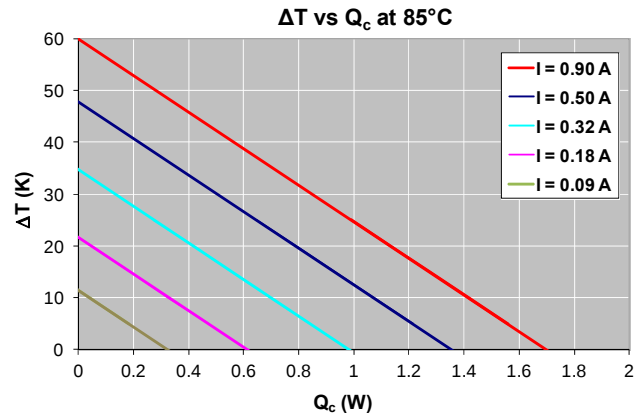
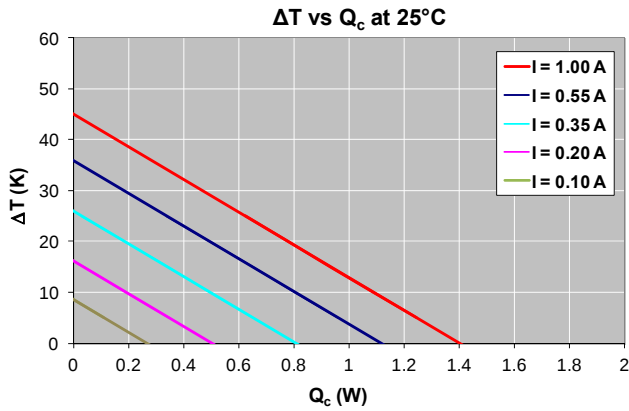
Part Number	Description
HV2001	Au Wire Bondable Pads

Performance Values (Typical)		
Hot Side Temperature	25°C	85°C
Q _{max} (Watts)	1.4	1.7
ΔT _{max} (°C)	45	60
I _{max} (Amps)	1.0	0.9
V _{max} (Volts)	2.0	2.7
Q _{max} /Area (W/cm ²)	90	110
R _{electrical} (Ω)	1.7	2.3
R _{thermal} (K/W)	50	54

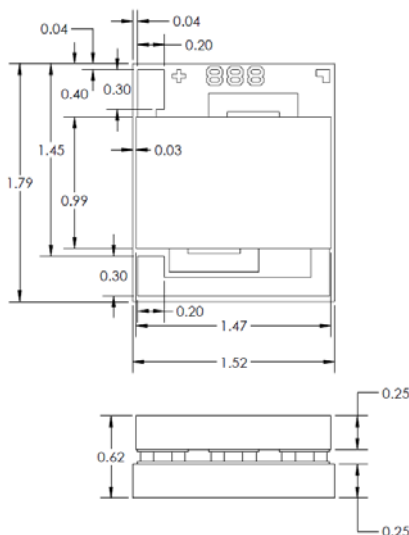
Assembly Conditions	
Time above 290°C	60 sec
Peak Assembly Temperature	325°C

Operating Conditions	
Maximum Operating Temp.	150°C

eTEC™ HV14 Thin-Film Thermoelectric Cooler Data Sheet



Product Dimensions (mm)



General Information

- Au on the top and back surfaces
- Au wire bondable pads.
- Positive terminal marked as shown

Definitions

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

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