

eTEC™ HV56 Thermoelectric Cooler

Preliminary Data Sheet

Description

Nextreme Thermal Solutions introduces the next product in its HV line of thin-film thermoelectric coolers to address applications with larger heat pumping requirements. The eTEC HV56 can pump 6W or 58W/cm² of cooling at 85°C in a footprint of 0.1cm². The eTEC HV56 is RoHS compliant and is designed to withstand AuSn assembly processes.



Part Number Options	
Part Number	Description
NCA-1004850-0304A-W	With insulated wires
NCA-1004850-0304A-A	Gold wirebond compatible pads

Features

- 6 watts maximum cooling
- 58W/cm² heat pumping capability
- Small 3.1mm X 3.3mm footprint
- Extremely thin 0.56mm profile
- Au surfaces on top and bottom headers
- RoHS compliant devices

Performance Values (typical)		
Hot Side Temperature	25°C	85°C
Q _{max} (Watts)	4.8	6.0
ΔT _{max} (°C)	50	60
I _{max} (Amps)	0.9	1.0
V _{max} (Volts)	8.8	10.8
R _{electrical} (Ω)	8.4	9.2
R _{thermal} (K/W)	13	13

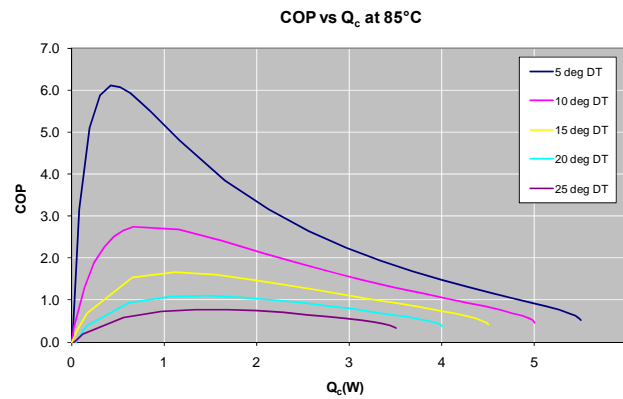
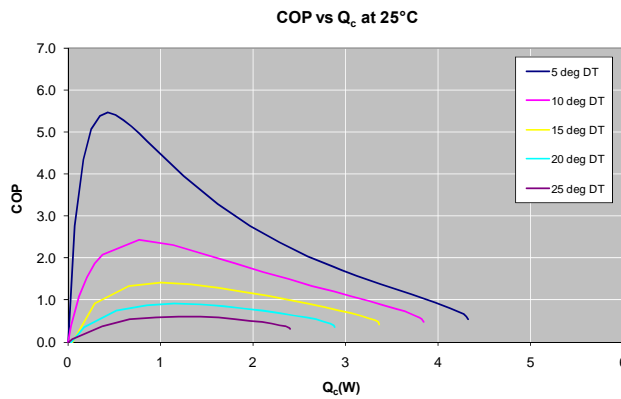
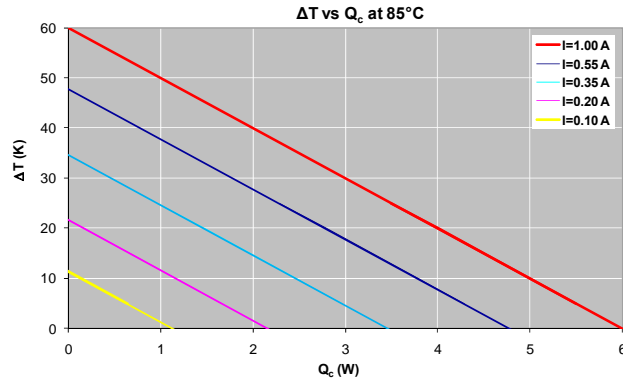
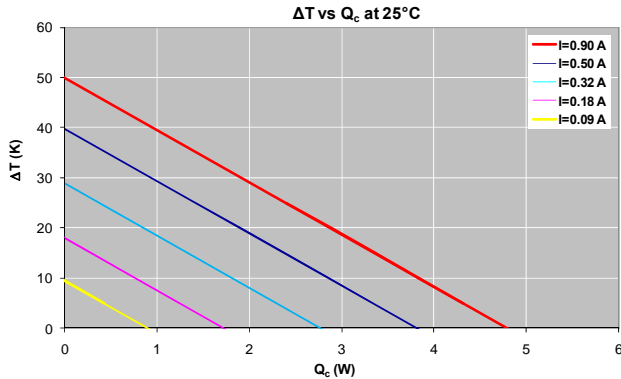
Assembly Conditions	
Time above 290°C	60 sec
Peak Assembly Temperature	325°C

Operating Conditions	
Maximum Operating Temp.	150°C

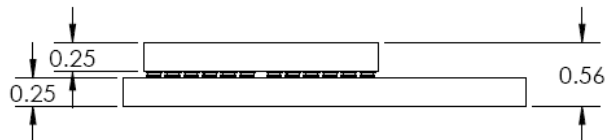
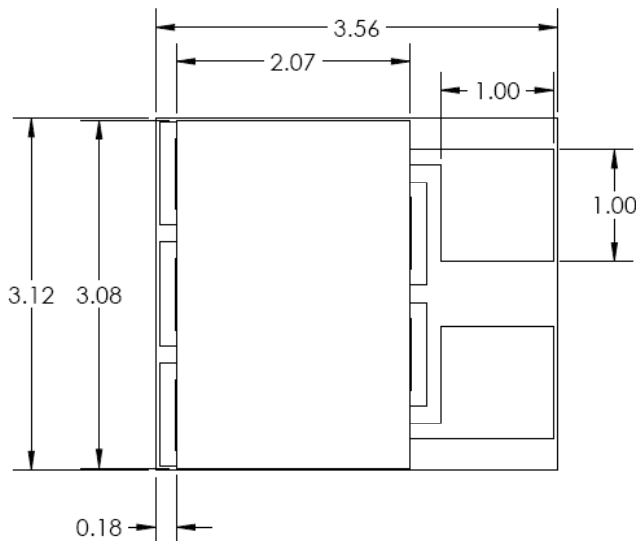
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Product Dimensions



Definitions

- Q_{max} The maximum amount of heat that the Peltier device can pump when operating at I_{max}
- Q_c The amount of heat that the Peltier device is pumping on the cold side of the device
- 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