

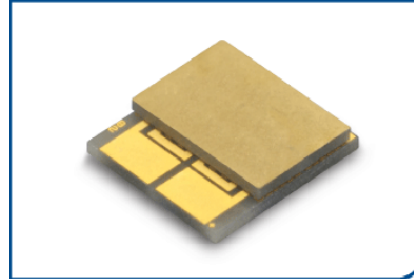
eTEC™ HV56 Thermoelectric Cooler

Data Sheet

Description

The Nextreme eTEC HV Thermoelectric Cooler family introduces a new class of RoHS compliant thermoelectric coolers to address applications with high heat flux requirements. The eTEC HV56 cooler can produce 4.8 watts or 75 W/cm² of cooling at 25°C. At 85°C, these values increase to 6.0 watts and 95 W/cm², respectively. The size, input power requirements, heat pumping capability, and speed of this device make ideal for thermal management of sensors, photonics, LED's, and PCR applications

eTEC HV56



eTEC™ HV56 Data Sheet
Thermoelectric Cooler

Part Number Options

Part Number	Description
NCA-1004850-0304A-W	Soldered with Ni Plate Cu wires
NCA-1004850-0304A-A	Au Wire Bondable pads

Features

- 6 watts maximum cooling @ 85C
- 75 W/cm² heat pumping capability
- Small 3.1mm X 3.3mm footprint
- Extremely thin 0.56 mm profile
- <2ms response time
- 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	16

Assembly Conditions

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

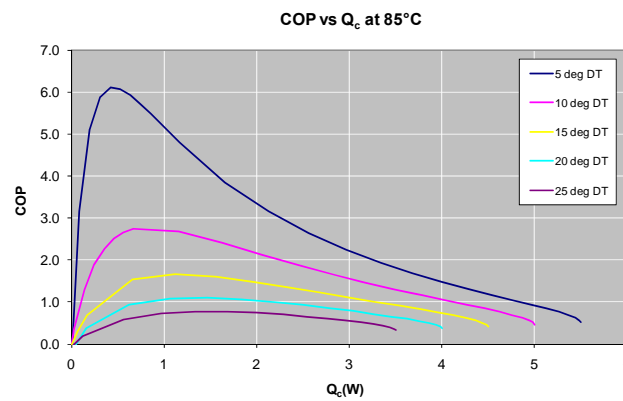
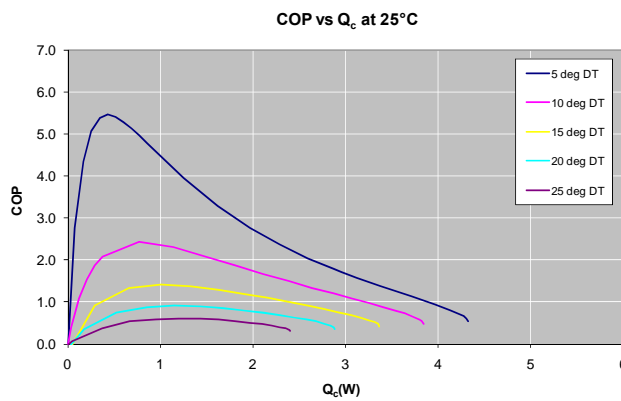
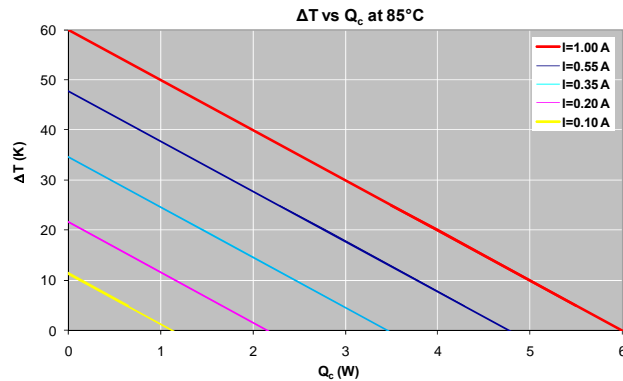
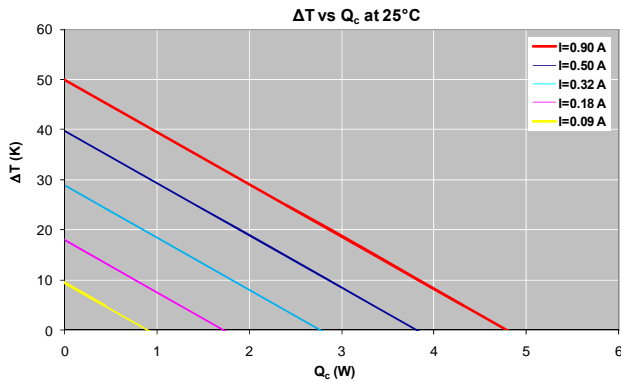
Operating Conditions

Maximum Operating Temp.	150°C
-------------------------	-------

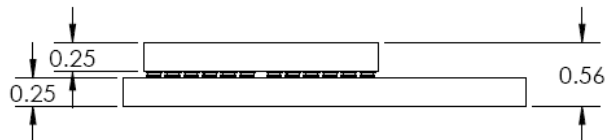
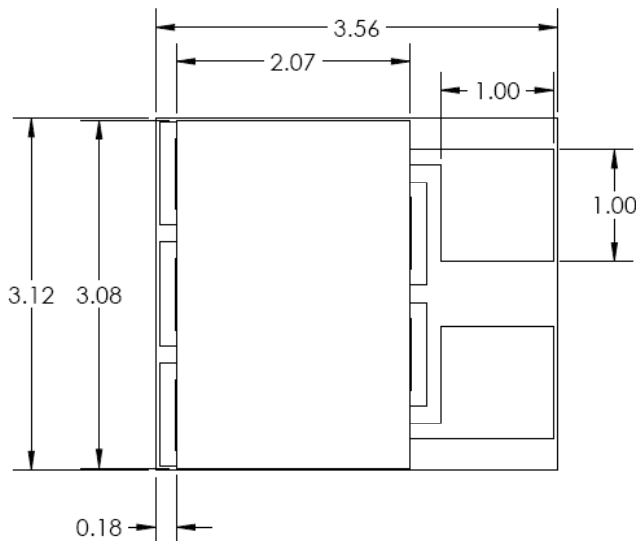
eTEC™ HV56 Thermoelectric Cooler

Data Sheet

eTEC™ HV56 Data Sheet
Thermoelectric Cooler



Product Dimensions (mm)



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