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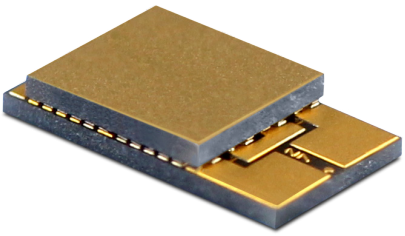
eTEC Series HV37,48,F2,0202,GG
Thin Film Thermoelectric Module



The eTEC Series is a thin film thermoelectric module (TEM) with high heat flux density. Due to its size, input power requirements and heat pumping capacity this device is suited for use in applications to stabilize the temperature of sensitive optical components in telecom and photonics industries.

The eTEC HV37 can produce 3.7 Watts of cooling capacity at 25°C ambient in a 9 mm^2 footprint. Assembled with thin film semiconductor material and thermally conductive Aluminum Nitride ceramics, the eTEC Series is designed for lower current applications with tight geometric space constraints. Custom designs are available to accommodate metallization, pretin solder and ceramic patterns, however MOQ applies.

FEATURES

- Micro Footprint
- High Heat Pumping Density
- Precise Temperature Control
- Reliable Solid State Operation
- <2 ms Response Time
- RoHS Compliant

APPLICATIONS

- Laser Diodes
- Photodiodes
- Infrared (IR) Sensors
- Pump Lasers
- Crystal Oscillators
- Optical Transceivers

PERFORMANCE SPECIFICATIONS		
Hot Side Temperature (°C)	25°C	50°C
Qmax (Watts)	3.7	3.7
Delta Tmax (°C)	45	45
Imax (Amps)	1.1	1.0
Vmax (Volts)	6.0	6.4
Qmax / area (W/cm^2)	66	66
Electrical Resistance (Ohms)	4.8	5.5
Thermal Resistance (K/W)	16.5	15.5

PACKAGE ASSEMBLY CONDITIONS	
Max Time Exposure > 290°C	60 sec
Peak Assembly Temperature	325°C

TEMPERATURE CONDITIONS	
Max Operating Temperature	150°C

OPERATING CONDITIONS	
Max rate of change of current	1.75 Amps/sec

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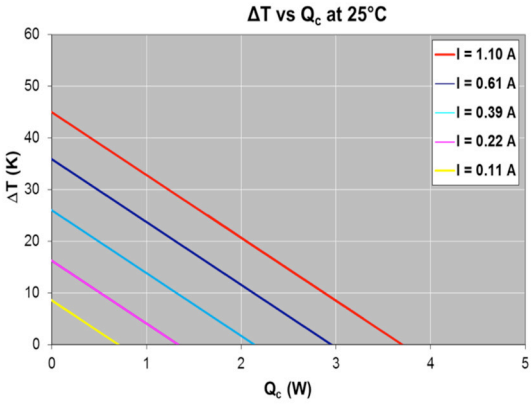
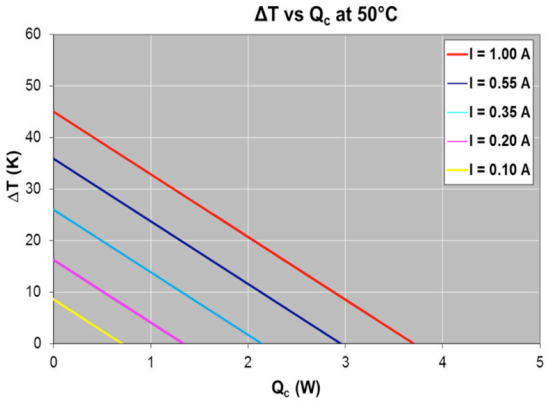
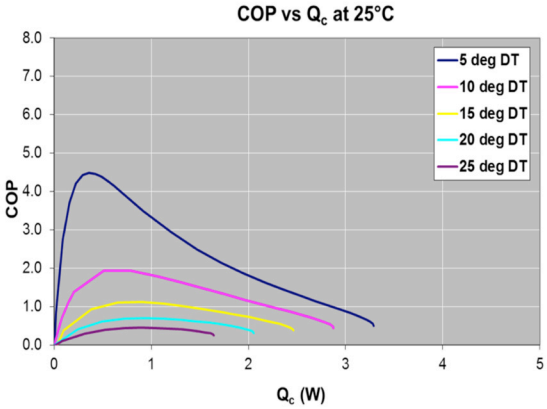
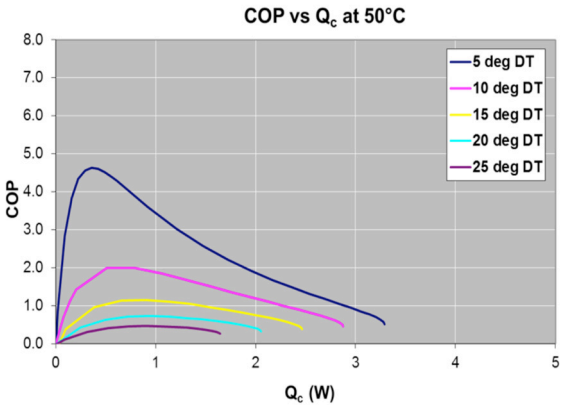
PERFORMANCE CURVES



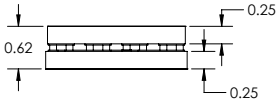


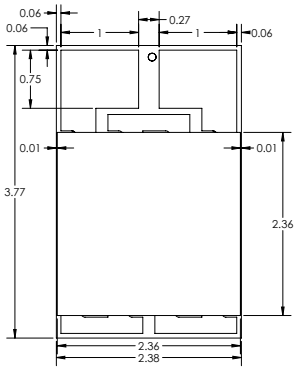
COEFFICIENT OF PERFORMANCE





ISOMETRIC DRAWING





Standard

Au metallization on exterior ceramic substrate surfaces

Au wire bondable pads on hot side ceramic for lead attachment

OPERATING TIPS

- Maintain good surface contact on heat dissipation mechanism prior to operation
- Do not exceed Vmax or Imax values to maintain peak performance