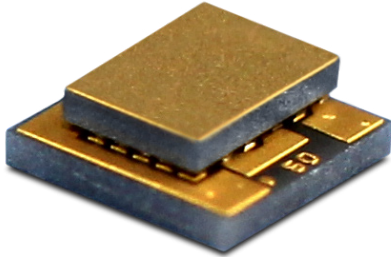


# eTEC Series HV14,18,F0,0102,GG Thin Film Thermoelectric Module



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 HV14 can produce 1.3 Watts of cooling capacity at 25°C ambient in a 4 mm<sup>2</sup> 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)	1.3	1.3
Delta Tmax (°C)	45	45
Imax (Amps)	1.0	0.9
Vmax (Volts)	2.3	2.5
Qmax / area (W/cm <sup>2</sup> )	64	64
Electrical Resistance (Ohms)	2.0	2.3
Thermal Resistance (K/W)	46	46

### PACKAGE ASSEMBLY CONDITIONS

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

### TEMPERATURE CONDITIONS

Max Operating Temperature	150°C
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### OPERATING CONDITIONS

Max rate of change of current	1.75 Amps/sec
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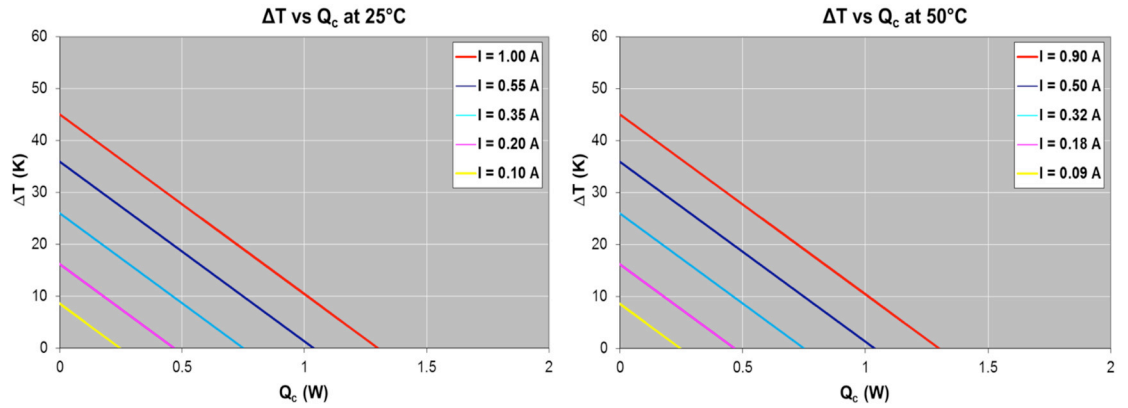
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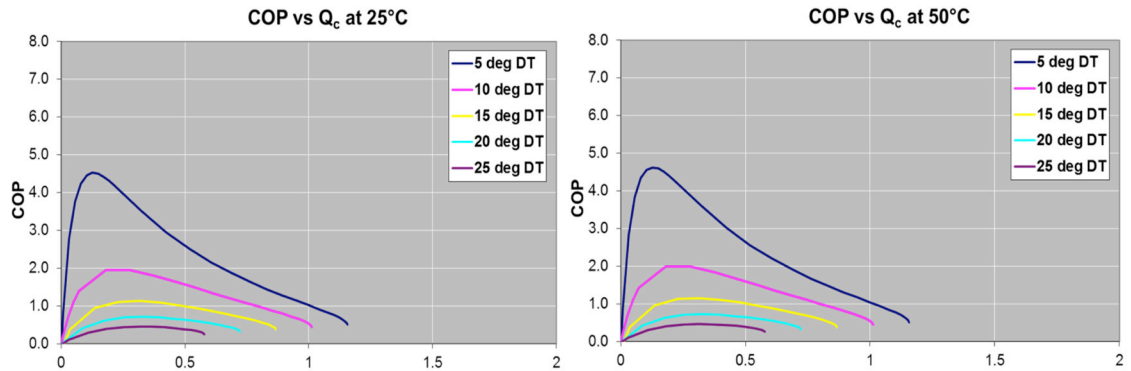
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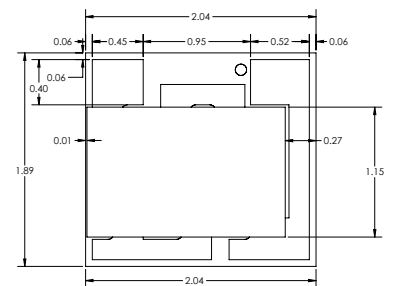
## PERFORMANCE CURVES



## 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 V<sub>max</sub> or I<sub>max</sub> values to maintain peak performance

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