

The OptoTECTMSeries is a miniature thermoelectric module (TEM). This product series is primarily used in applications to stabilize the temperature of sensitive optical components in telecom and photonics industries.

This product line is available in multiple configurations and surface finishing options. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics, the OptoTECTMSeries is designed for lower current and lower heat-pumping applications. Custom designs are available to accommodate metallization, pretinning, ceramic patterns, and solder posts, however MOQ applies.

#### Features

- Miniature geometric sizes
- Precise temperature control
- Reliable solid state operation
- No sound or vibration
- DC operation
- RoHS compliant

#### Applications

- Laser diodes
- CCD cameras
- Infrared (IR) sensors
- Pump lasers
- Crystal oscillators
- Optical transceivers

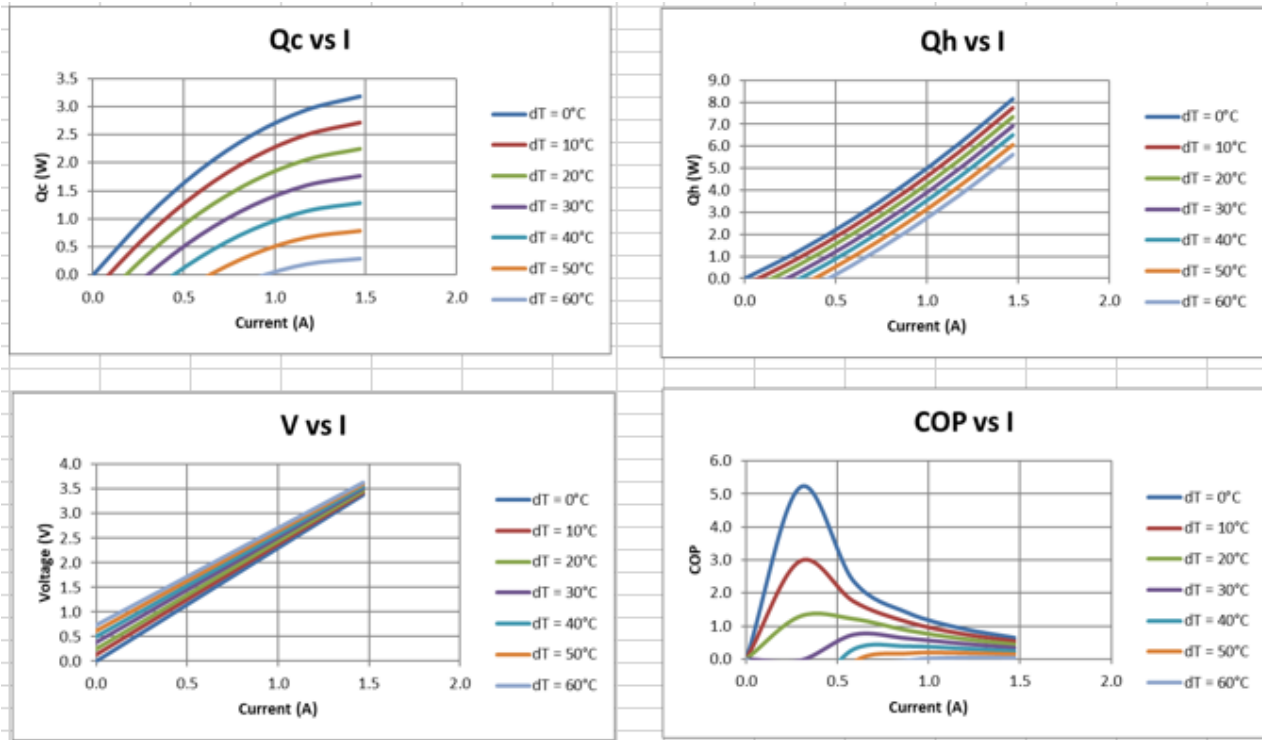
| TECHNICAL SPECIFICATIONS  |      |      |
|---------------------------|------|------|
| Hot Side Temperature (°C) | 25   | 50   |
| Qmax (W)                  | 3.3  | 3.6  |
| Delta Tmax (°C)           | 67   | 75   |
| I <sub>max</sub> (Amps)   | 1.5  | 1.5  |
| V <sub>max</sub> (Volts)  | 3.7  | 4.1  |
| Module Resistance (Ohms)  | 2.23 | 2.52 |

| SUFFIX | THICKNESS (PRIOR TO THINNING) | FLATNESS & PARALLELISM | HOT FACE   | COLD FACE  | LEAD LENGTH |
|--------|-------------------------------|------------------------|------------|------------|-------------|
| L      | 0.096"±0.002"                 | 0.002"/0.002"          | Lapped     | Lapped     | 2.25"       |
| L1     | 0.096"±0.001"                 | 0.001"/0.001"          | Lapped     | Lapped     | 2.25"       |
| L2     | 0.096"±0.0005"                | 0.0005"/0.0005"        | Lapped     | Lapped     | 2.25"       |
| ML     | 0.103"±0.010"                 | 0.005"/0.005"          | Metallized | Lapped     | 2.25"       |
| LM     | 0.103"±0.010"                 | 0.005"/0.005"          | Lapped     | Metallized | 2.25"       |
| MM     | 0.110"±0.010"                 | 0.005"/0.005"          | Metallized | Metallized | 2.25"       |

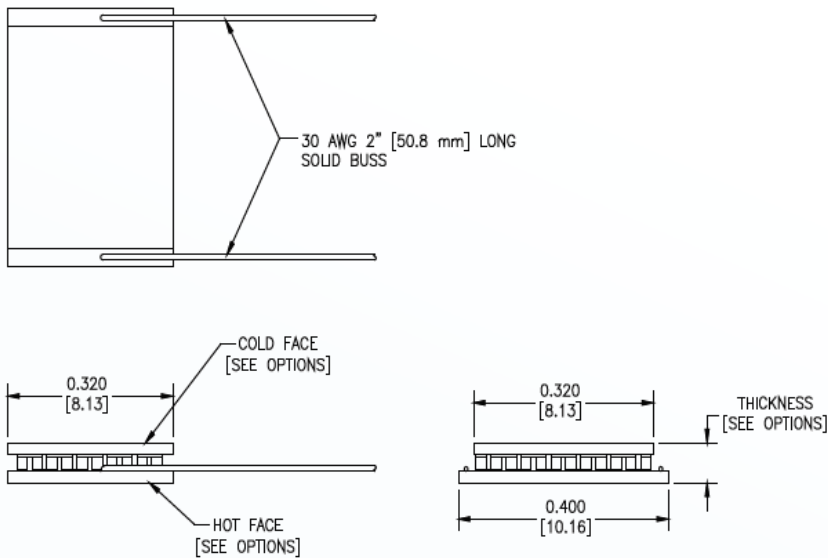
#### SEALING OPTIONS

| SUFFIX | SEALANT | COLOR | TEMPERATURE RANGE | DESCRIPTION                                  |
|--------|---------|-------|-------------------|--|
| RT     | RTV     | White | -60 to +204 °C    | Non-corrosive, silicone adhesive sealant     |
| EP     | Epoxy   | Black | -55 to +150 °C    | Low density syntactic foam epoxy encapsulant |

PERFORMANCE CURVES AT  $T_h = 25^\circ\text{C}$



MECHANICAL DRAWING



Ceramic Material 96% Alumina Ceramics  
Solder Construction:  $138^\circ\text{C}$  BiSn

## NOTES

1. Max operating temperature: 80°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
3. Please Consult Laird Thermal Systems for moisture and corrosion protection options

[www.lairdthermal.com](http://www.lairdthermal.com)

### ✓RoHS

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