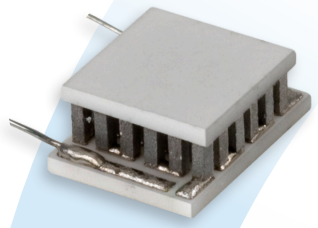
Laird TECHNOLOGIES

Innovative **Technology** for a **Connected** World

OptoTEC™ Series OT12,66,F0,1211

Thermoelectric Module



The OptoTEC™ Series 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 OptoTEC™ Series 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 ✓RoHS

- 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

PERFORMANCE SPECIFICATIONS		
Hot side temperature (°C)	25	50
Qmax (watts)	5.4	5.9
Delta Tmax (°C)	67	77
Imax (amps)	1.2	1.2
Vmax (volts)	7.5	8.5
Module resistance (ohms)	5.74	6.47

SUFFIX	THICKNESS (PRIOR TO TINNING)	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
11	0.106″ +/- 0.002″	0.002″ / 0.002″	Lapped	Lapped	2.0″
TB	0.106″ +/- 0.0005″	0.0005″ / 0.0005″	Lapped	Lapped	2.0″
00	0.120″ +/- 0.005″	NA / NA	Metallized	Metallized	2.0″
22	0.120″ +/- 0.005″	NA / NA	Pre-tinned	Pre-tinned	2.0″
GG	0.120″ +/- 0.005″	NA / NA	Au Plated	Au Plated	2.0″

SEALING OPTION

SUFFIX	SEALANT	COLOR	TEMP 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

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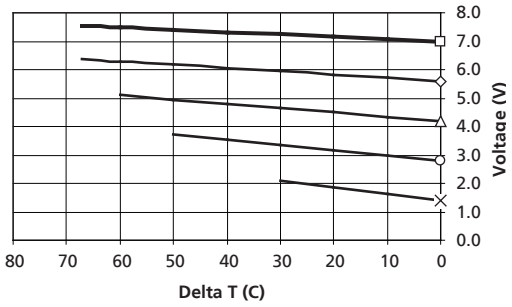
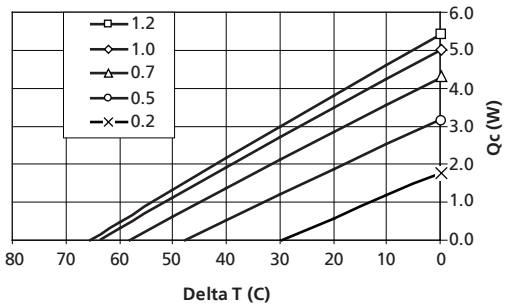
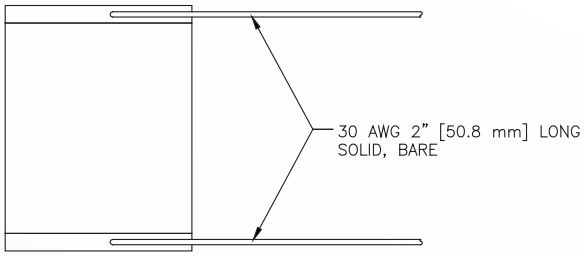
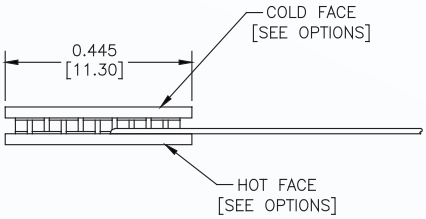
PERFORMANCE CURVES

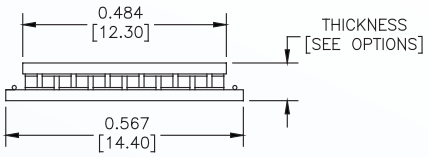




MECHANICAL DRAWING







Ceramic Material 96% Alumina Ceramics
Solder Construction: 138% BiSn

OPERATING TIPS

- Max operating temperature: 80°C
- Do not exceed Imax or Vmax when operating module
- Reference assembly guidelines for recommended installation
- Solder tinning also available on metallized ceramics

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