



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

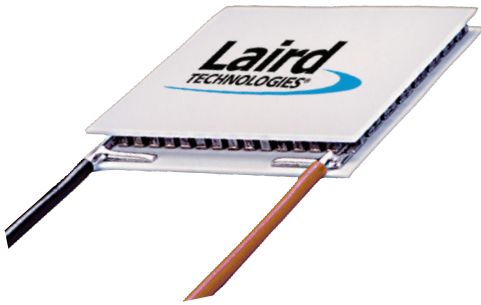
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# ThermaTEC™ Series HT6,12,F2,4040 Thermoelectric Modules



The ThermoTEC™ Series of thermoelectric modules (TEMs) are designed to operate under cycling conditions or high temperature applications.

This product line is available in multiple configurations and is ideal for applications that require both heating and cooling mode (reverse polarity) or power generation. Assembled with proprietary solder construction, Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics, the ThermoTEC™ Series is designed for higher current and larger heat-pumping applications.

## FEATURES

- Thermal Cycling Durability
- Power Cycling Reliability
- Precise Temperature Control
- Strong Lead Attachment
- RoHS Compliant
- Continuous Operation at High Temperatures

## APPLICATIONS

- Analytical Instrumentation
- PCR Cyclers
- Thermal Test Sockets
- Electronic Enclosure Cooling
- Chillers (Liquid Cooling)
- Power Generation

## PERFORMANCE SPECIFICATIONS

|                           |      |      |
|---------------------------|------|------|
| Hot Side Temperature (°C) | 25°C | 50°C |
| Qmax (Watts)              | 51.6 | 56.7 |
| Delta Tmax (°C)           | 63   | 75   |
| I <sub>max</sub> (Amps)   | 6.0  | 6.0  |
| V <sub>max</sub> (Volts)  | 14.5 | 16.4 |
| Module Resistance (Ohms)  | 2.12 | 2.38 |

| SUFFIX | THICKNESS (PRIOR TO TINNING) | FLATNESS & PARALLELISM | HOT FACE | COLD FACE | Lead Length |
|--------|------------------------------|------------------------|----------|-----------|-------------|
| 11     | 0.143" ± 0.005"              | 0.002" / 0.0035"       | Lapped   | Lapped    | 6.0         |
| TA     | 0.143" ± 0.001"              | 0.001" / 0.001"        | Lapped   | Lapped    | 6.0"        |
| TB     | 0.143" ± 0.0005"             | 0.0005" / 0.0005"      | Lapped   | Lapped    | 6.0"        |

## SEALING OPTION

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

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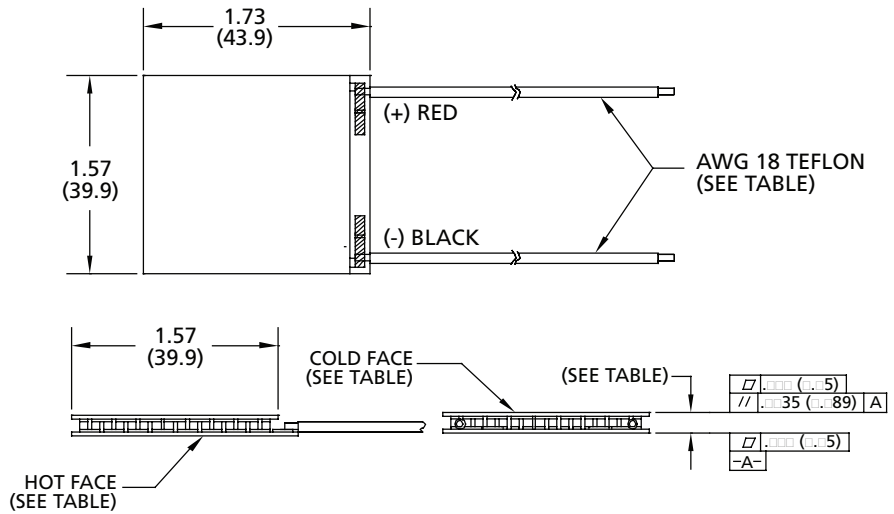
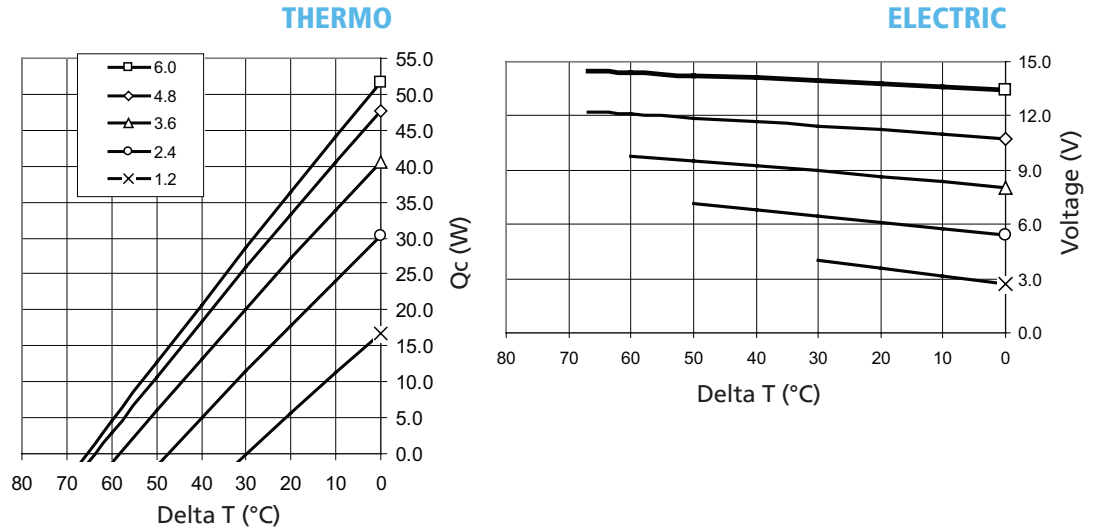
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# ThermaTEC™ Series HT6,12,F2,4040 Thermoelectric Modules

Performance Curves at Th = 25°C



Ceramic Material: Alumina (Al<sub>2</sub>O<sub>3</sub>)  
Solder Construction: 271°C, Proprietary

### OPERATING TIPS

- Max Operating Temperature: 175°C
- Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
- Reference assembly guidelines for recommended installation

THR-DS-HT6,12,F2,4040 1013

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