

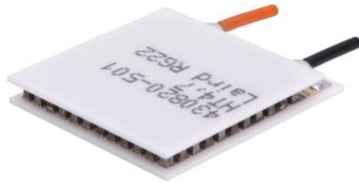
**Note: This product is not recommended for new designs.**

This product series has been replaced with the HiTemp ETX Series.

The recommended replacement is:

MFG Part Number: 387004929

Description: ETX4-7-F2-3030-TA-RT-W6



The ThermaTEC™ 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 ThermaTEC Series is designed for higher current and larger heat-pumping applications.

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

## 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)              | 18.4 | 20.2 |
| Delta Tmax (°C)           | 64   | 75   |
| I <sub>max</sub> (Amps)   | 3.8  | 3.8  |
| V <sub>max</sub> (Volts)  | 8.1  | 9.2  |
| Module Resistance (Ohms)  | 1.95 | 2.20 |

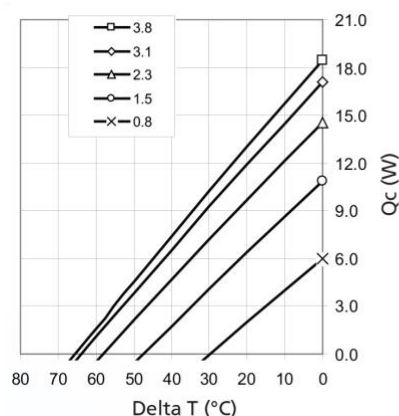
| SUFFIX | THICKNESS<br>(PRIOR TO TINNING) | FLATNESS &<br>PARALLELISM | HOT<br>FACE | COLD<br>FACE | LEAD<br>LENGTH |
|--------|---------------------------------|---------------------------|-------------|--------------|----------------|
| 11     | 0.161" ± 0.005"                 | 0.002" / 0.0035"          | Lapped      | Lapped       | 6.0"           |
| TA     | 0.161" ± 0.001"                 | 0.001" / 0.001"           | Lapped      | Lapped       | 6.0"           |
| TB     | 0.161" ± 0.0005"                | 0.0005" / 0.0005"         | Lapped      | Lapped       | 6.0"           |

## SEALING OPTION

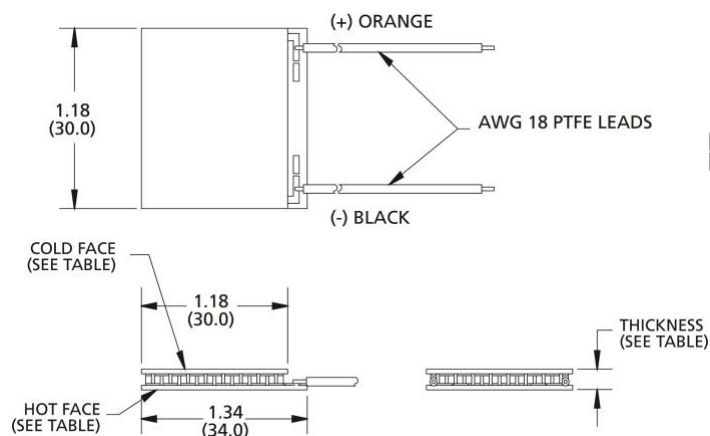
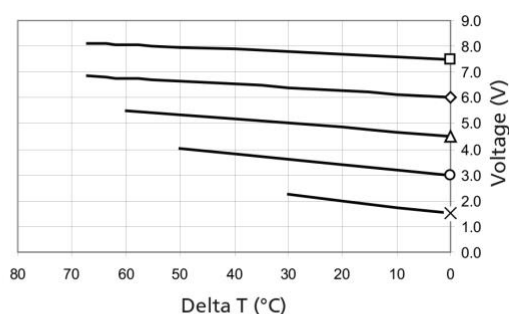
| SUFFIX | SEALANT | COLOR | TEMP RANGE   | DESCRIPTION                                  |
|--------|---------|-------|--------------|--|
| R      | RTV     | White | -60 to 204°C | Non-corrosive, silicone adhesive sealant     |
| E      | Epoxy   | Black | -55 to 150°C | Low density syntactic foam epoxy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

# Performance Curves at Th = 25°C

## THERMO



## ELECTRIC



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

LAIRD-ETS-HT4-7-F2-3030-DATA-SHEET-101016

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