

The ET Series of Thermoelectric Modules (TEMs) are designed to operate in high temperature environments.

This product line is available in multiple configurations and is ideal for applications that operate in temperatures above 80°C. Assembled with Bismuth Telluride semiconductor material, thermally conductive Aluminum Oxide ceramics and high temp solder construction, the ET Series is designed for higher current and larger heat-pumping applications.

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### FEATURES

- High temperature operation
- Reliable solid-state
- No sound or vibration
- Environmentally friendly
- RoHS compliant

### APPLICATIONS

- Automotive Cooling
- Telecom Cooling
- Outdoor Environments
- Medical Heating/Cooling

### SPECIFICATIONS

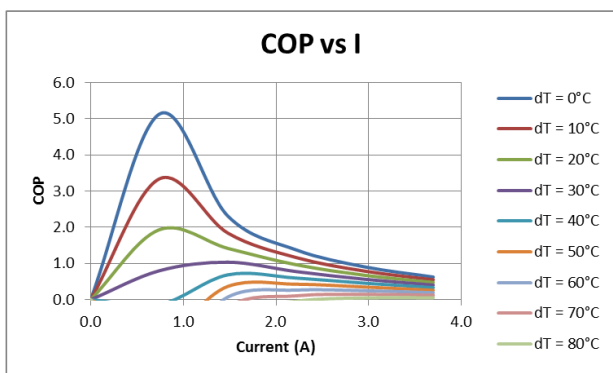
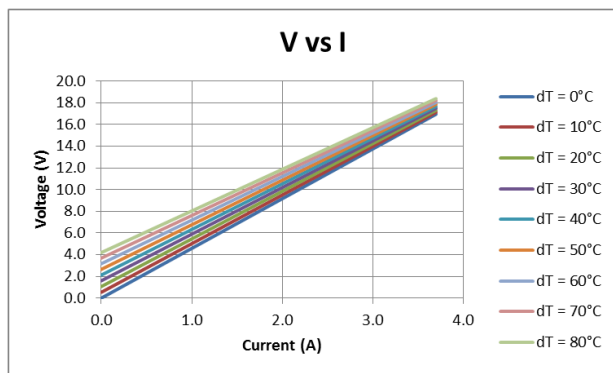
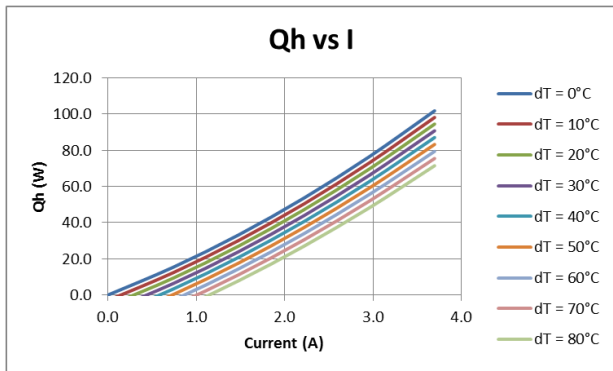
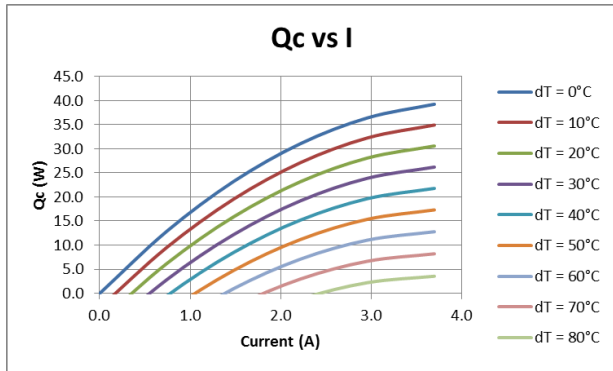
TECHNICAL		
Hot Side Temperature (°C)	85°C	110°C
Qmax (Watts)	39.2W	40.2W
Delta Tmax (°C)	87°C	94°C
I <sub>max</sub> (Amps)	3.9A	3.9A
V <sub>max</sub> (Volts)	16.9V	18.2V
Module Resistance (Ohms)	4.59 Ohms	5.08 Ohms

SUFFIX	THICKNESS (PRIOR TO TINNING)	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
TA	0.163"±0.010"	0.001"/0.001"	Lapped	Lapped	6"
TB	0.163"±0.0005"	0.0005"/0.0005"	Lapped	Lapped	6"

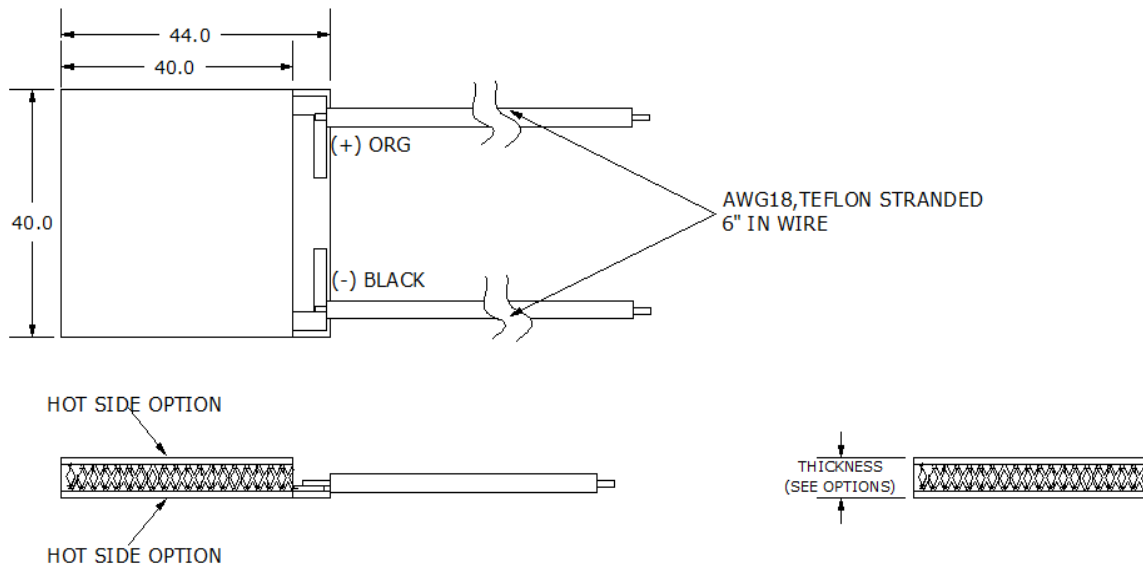
### SEALING OPTIONS

SUFFIX	SEALANT	COLOR	TEMP RANGE	DESCRIPTION
RT	RTV	Clear	-60 to 204 °C	Non-corrosive, silicone adhesive
EP	Epoxy	Black	-55 to 150 °C	Low density syntactic foam epoxy encapsulant
RL	RTV	Clear	-45 to 200°C	silicone adhesive ,Low outgassing application

Performance Curves at  $T_h = 85^\circ\text{C}$



Mechanical Drawing



Ceramic Material: Alumina( $\text{Al}_2\text{O}_3$ )  
Solder Construction:  $232^\circ\text{C}$  SbSn

## NOTES

1. Max Operating Temperature: 150°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation

LAIRD-ETS-ET4,12,F2,4040 DATA-SHEET-101416

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