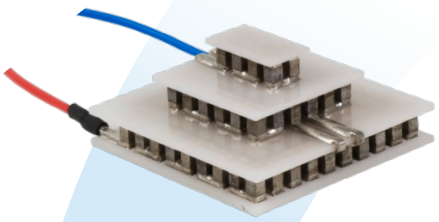
Laird TECHNOLOGIES

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

Multistage Series MS5,257,10,15
Thermoelectric Modules



The MS Series of thermoelectric modules (TEMs) are designed to reach cool down temperatures that are not achievable with single stage TEMs.

This product line is available in numerous heat pumping capacities, geometric shapes and temperature differentials. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics, the MS Series is designed for higher current and lower heat-pumping applications.

FEATURES RoHS

- High temperature differential
- Precise temperature control
- Reliable solid state operation
- Environmentally friendly
- DC operation
- RoHS compliant

APPLICATIONS

- CCD cameras
- Electron microscope
- Calibration equipment
- Photonics laser systems
- Gas analyzers
- infrared (IR) Sensors
- Guidance Systems

PERFORMANCE SPECIFICATIONS	
Hot Side Temperature (°C)	25
Qmax (Watts)	2.0
Delta Tmax (°C)	123
Imax (Amps)	1.6
Vmax (Volts)	14.5

SUFFIX	THICKNESS (PRIOR TO TINNING)	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
00	0.614″ ± 0.008″	0.001″ / 0.004″	Metallized	Metallized	7.87″
11	0.606″ ± 0.008″	0.001″ / 0.002″	Lapped	Lapped	7.87″
22	0.614″ ± 0.008″	0.001″ / 0.004″	Pre-tinned	Pre-tinned	7.87″

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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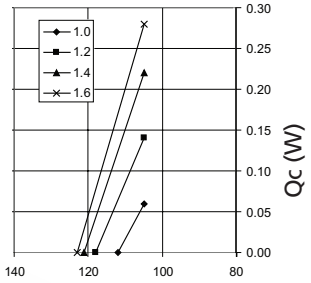
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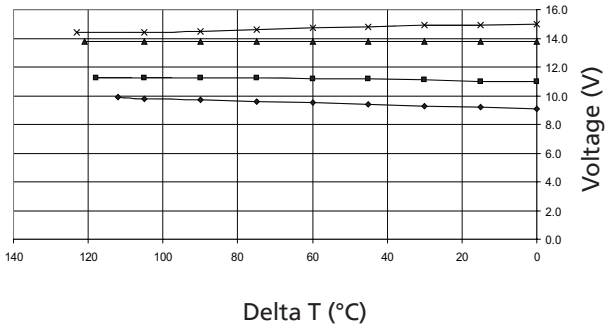
Multistage Series MS5,257,10,15
Thermoelectric Modules

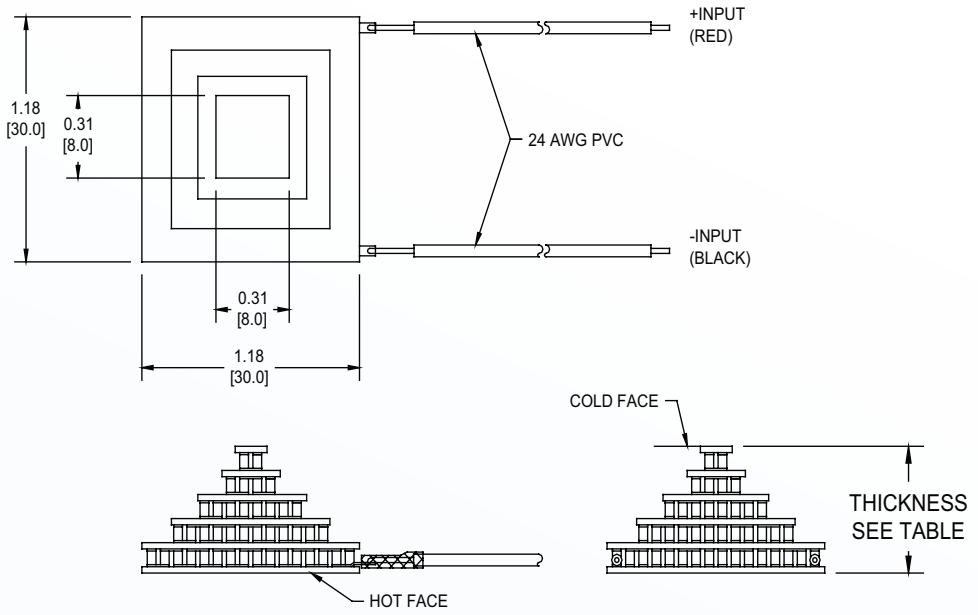
Performance Curves at Th = 25°C

THERMO



ELECTRIC





Ceramic Material: **100% Alumina Ceramics**
Solder Construction: 138°C, Bismuth Tin (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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