

The SH Series is an annular-style thermoelectric module (TEM). The hot and cold side ceramics have a circular hole in the center to accommodate light protrusion for optics, mechanical fastening or temperature probe.

This product line is available in multiple configurations. Assembled with Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics, the SH Series is designed for higher current and larger heat-pumping applications.

FEATURES

- Center hole
- Precise temperature Control
- Reliable solid state operation
- No sound or vibration
- DC operation
- RoHS compliant

APPLICATIONS

- Analytical instrumentation
- Clinical diagnostics
- Photonics laser systems
- Industrial instrumentation
- Food & beverage cooling
- Consumer appliances

PERFORMANCE SPECIFICATIONS

| | | |
|---------------------------|------|------|
| Hot Side Temperature (°C) | 25 | 50 |
| Qmax (Watts) | 32.9 | 36.1 |
| Delta Tmax (°C) | 67 | 75 |
| I _{max} (Amps) | 3.9 | 3.9 |
| V _{max} (Volts) | 14.3 | 16.2 |
| Module Resistance (Ohms) | 3.39 | 3.82 |

| SUFFIX | THICKNESS (PRIOR TO TINNING) | FLATNESS & PARALLELISM | HOT FACE | COLD FACE | LEAD LENGTH |
|--------|------------------------------|------------------------|------------|------------|-------------|
| L | 0.185" ± 0.010" | 0.0015" / 0.0015" | Lapped | Lapped | 4.5" |
| L1 | 0.185" ± 0.001" | 0.001" / 0.001" | Lapped | Lapped | 4.5" |
| L2 | 0.185" ± 0.0005" | 0.0005" / 0.0005" | Lapped | Lapped | 4.5" |
| MM | 0.193" ± 0.010" | 0.002" / 0.002" | Metallized | Metallized | 4.5" |

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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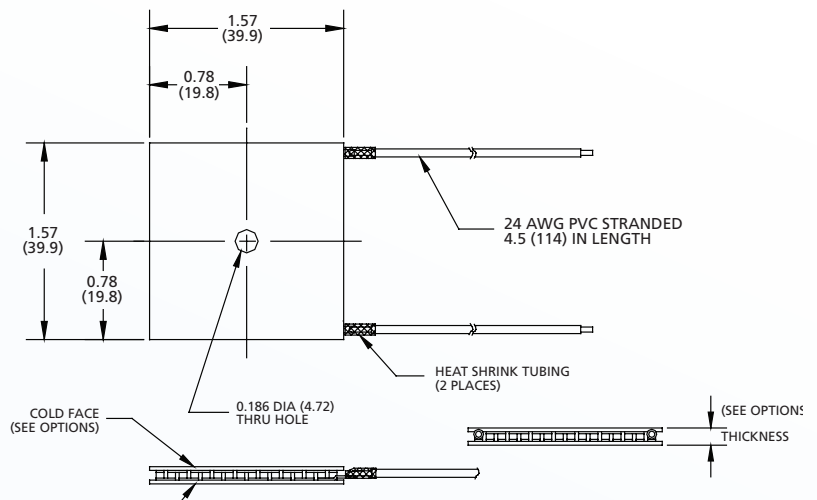
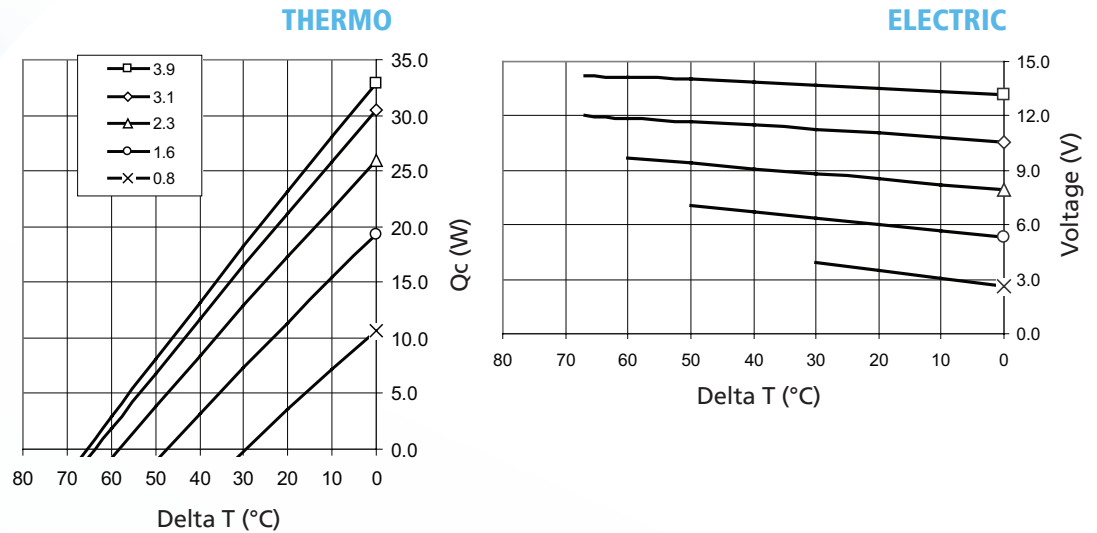
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Performance Curves at $T_h = 25^\circ\text{C}$



Ceramic Material: Alumina (Al_2O_3)
Solder Construction: 138°C, Bismuth Tin (BiSn)

OPERATING TIPS

- Max Operating Temperature: 80°C
- Do not exceed I_{max} or V_{max} when operating module
- Reference assembly guidelines for recommended installation
- Solder tinning also available on metallized ceramics

THR-DS-SH14,125,10 0509

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