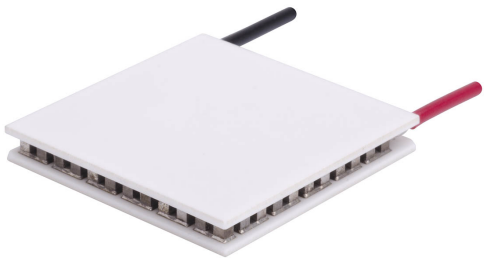
Laird
Smart Technology. Delivered.™

Power-Cycling Series
PC4,12,F1,3030,TA,W6
Thermal Cycling Module



The PowerCycling Series is a thermoelectric module (TEM) designed for thermal cycling between multiple temperature set points and is ideal for applications in healthcare [and others] where fast temperature changes are required. The module is specially constructed to reduce the amount of stress induced on the TE elements during operation. This product line has been tested to withstand 500K cycles without degradation in performance. The TEMs are assembled using Bismuth Telluride semiconductor material and thermally conductive Aluminum Oxide ceramics.

FEATURES
- High thermal cycling capability
- Precise temperature control
- Reliable solid state operation
- No sound or vibration
- RoHS Compliant

APPLICATIONS
- Molecular Diagnostics
- Clinical Diagnostics
- Analytical Instrumentation
- Electronic Enclosure Cooling
- Chillers (Liquid Cooling)

PERFORMANCE SPECIFICATIONS		
Hot Side Temperature (°C)	25°C	50°C
Qmax (Watts)	33.4	36.7
Delta Tmax (°C)	67	75
Imax (Amps)	3.9	3.9
Vmax (Volts)	14.4	16.4
Module Resistance (Ohms)	3.36	3.78

SUFFIX	THICKNESS	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
TA	0.126”± 0.001”	0.001” / 0.001”	Lapped	Lapped	6”
TB	0.126”± 0.0005”	0.0005” / 0.0005”	Lapped	Lapped	6”

SEALING OPTION

SUFFIX	SEALANT	COLOR	TEMP RANGE	DESCRIPTION
RT	RTV	White	-60 to 204 °C	Non-corrosive, silicone adhesive sealant

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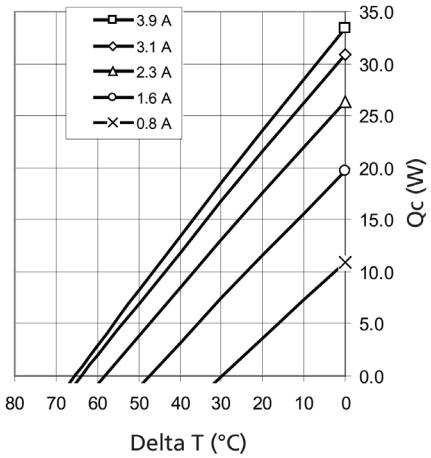
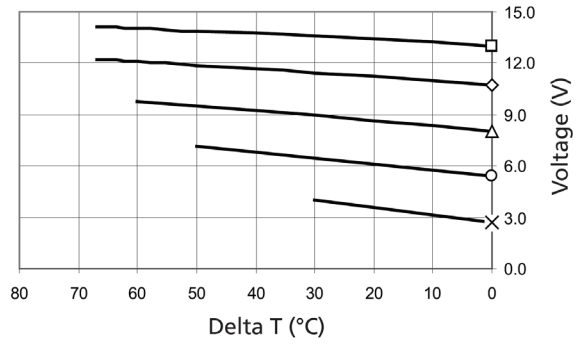
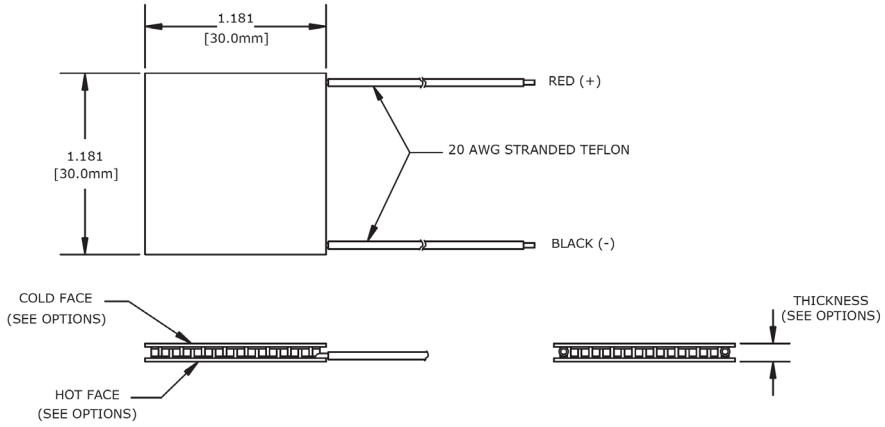
Performance Curves at Th = 25°C

Electric



Thermo





Ceramic Material: Alumina (Al_2O_3)
Solder Construction: 232°C, Tin Antimony (SnSb)

OPERATING TIPS

- Max Operating Temperature: 120°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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