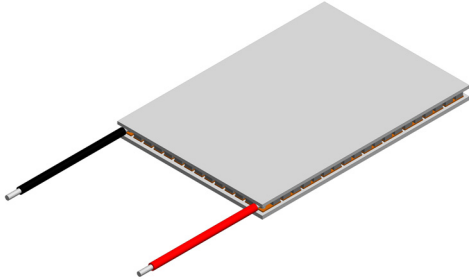


# Power-Cycling Series PC12,139,F1,3550,TA,W6 Thermal Cycling Module



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)	117.1	128.7
Delta Tmax (°C)	67	75
I <sub>max</sub> (Amps)	12.3	12.3
V <sub>max</sub> (Volts)	15.5	17.6
Module Resistance (Ohms)	1.17	1.32

SUFFIX	THICKNESS	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
TA	0.118" ± 0.001"	0.001" / 0.001"	Lapped	Lapped	6"
TB	0.118" ± 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

Americas: +1 888.246.9050

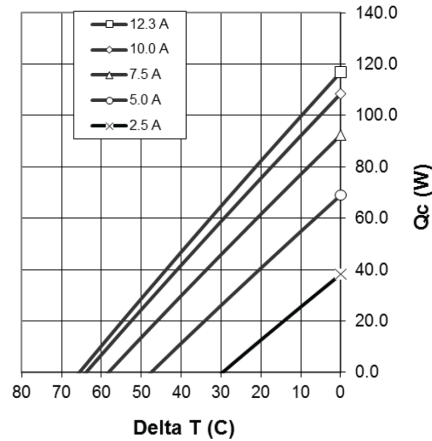
Europe: +46.31.704.67.57

Asia: +86.755.2714.1166

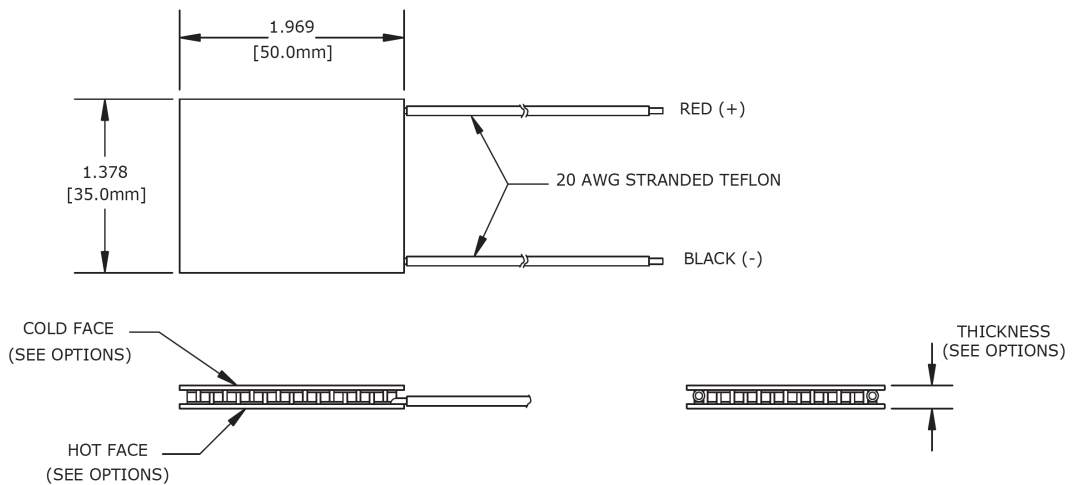
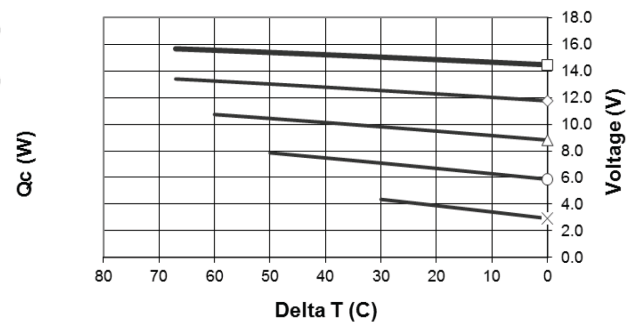
# Power-Cycling Series PC12,139,F1,3550,TA,W6 Thermal Cycling Module

## Performance Curves at Th = 25°C

### Electric



### Thermo



Ceramic Material: Alumina (Al<sub>2</sub>O<sub>3</sub>)  
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

THR-DS-PC12,139,F1,3550,TA,W6\_052615

Any information furnished by Laird and its agents is believed to be accurate and reliable. All specifications are subject to change without notice. Responsibility for the use and application of Laird materials rests with the end user, since Laird and its agents cannot be aware of all potential uses. Laird makes no warranties as to the fitness, merchantability or suitability of any Laird materials or products for any specific or general uses. Laird, Laird Technologies, Inc or any of its affiliates or agents shall not be liable for incidental or consequential damages of any kind. All Laird products are sold pursuant to the Laird Technologies' Terms and Conditions of sale in effect from time to time, a copy of which will be furnished upon request. © Copyright 2015 Laird Technologies, Inc. All Rights Reserved. Laird, Laird Technologies, the Laird Logo, and other marks are trademarks or registered trademarks of Laird Technologies, Inc. or an affiliate company thereof. Other product or service names may be the property of third parties. Nothing herein provides a license under any Laird or any third party intellectual property rights.