



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Power-Cycling Series PC8,12,F1,4040,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)	72.0	81.5
Delta Tmax (°C)	67	75
I <sub>max</sub> (Amps)	8.5	8.5
V <sub>max</sub> (Volts)	14.5	16.4
Module Resistance (Ohms)	1.55	1.75

SUFFIX	THICKNESS	FLATNESS & PARALLELISM	HOT FACE	COLD FACE	LEAD LENGTH
TA	0.131"± 0.001"	0.001" / 0.001"	Lapped	Lapped	6"
TB	0.131"± 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: +1.919.597.7300

Europe: +46.31.420530

Asia: +86.755.2714.1166

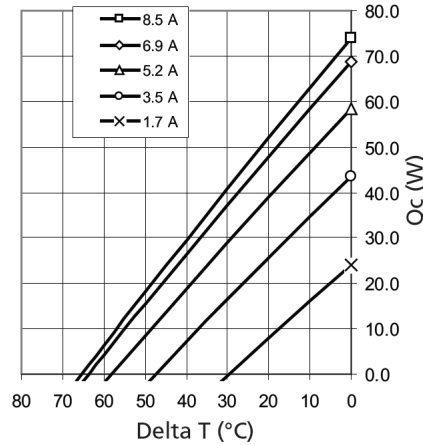
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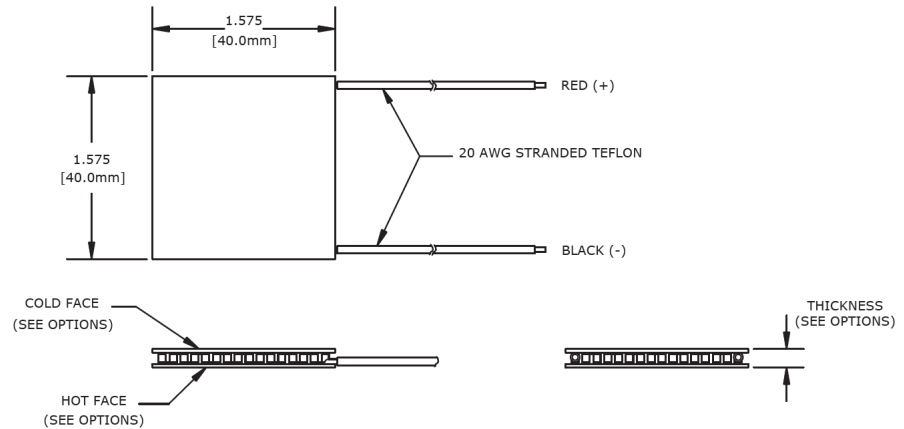
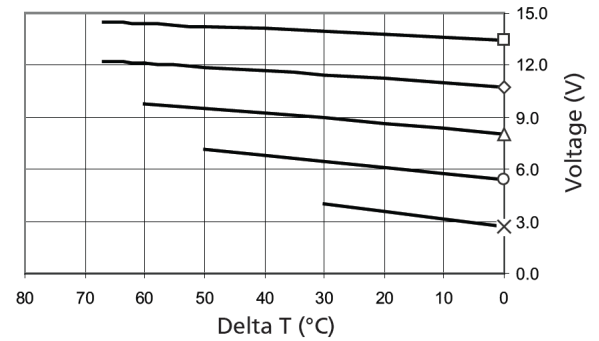
# Power-Cycling Series PC8,12,F1,4040,TA,W6 Thermal Cycling Module

## 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-PC8,12,F1,4040,TA,W6\_092215

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