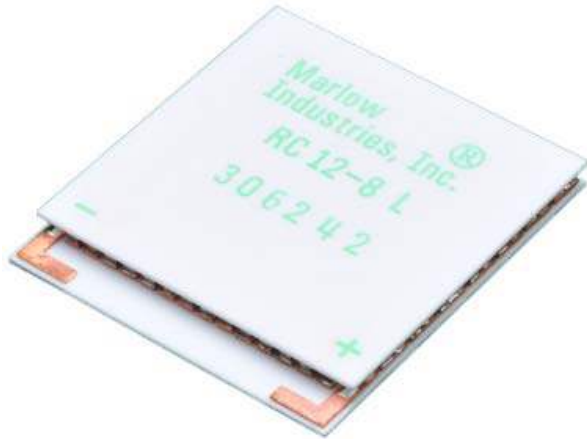




# Technical Data Sheet for RC12-8

## Single-Stage Thermoelectric Module



### NOMINAL PERFORMANCE IN NITROGEN

Hot Side Temperature (°C)	27	50
$\Delta T_{max}$ (°C):	66	74
Q <sub>max</sub> (watts):	71	78
I <sub>max</sub> (amps):	7.4	7.4
V <sub>max</sub> (vdc):	14.7	16.4
AC Resistance (ohms):	1.6	--
Device ZT	0.74	

### PRODUCT FEATURES

- RoHS EU Compliant
- Rated operating temperature of 130°C.
- Ceramic Material: Aluminum Oxide
- Porch configuration for high strength lead wire connection.
- Superior nickel diffusion barriers on elements.
- High strength for rugged environment.
- RTV sealing option available.
- Lapped option available for multiple module applications.

### ORDERING OPTIONS

Model Number	Description
RC12-8-01	Leadwires
RC12-8-01L	Leadwires, Lapped
RC12-8-01S	Leadwires, Sealed
RC12-8-01LS	Leadwires, Lapped, Sealed

### OPERATION CAUTIONS

For maximum reliability, storage and operation below 130°C in a non-condensing environment is recommended. To minimize thermal stress, use linear/proportional temperature control or a similar method rather than an ON/OFF method.

### INSTALLATION

Recommended mounting method: Clamp with uniform pressure to a flat surface with thermal interface material. For additional information, please refer to our TEM Installation Guide.

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II-VI Japan Inc.  
81 43 297 2693 (tel)  
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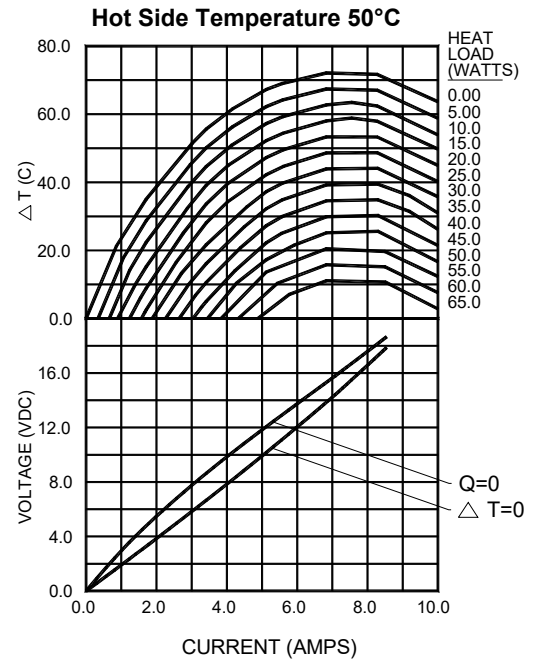
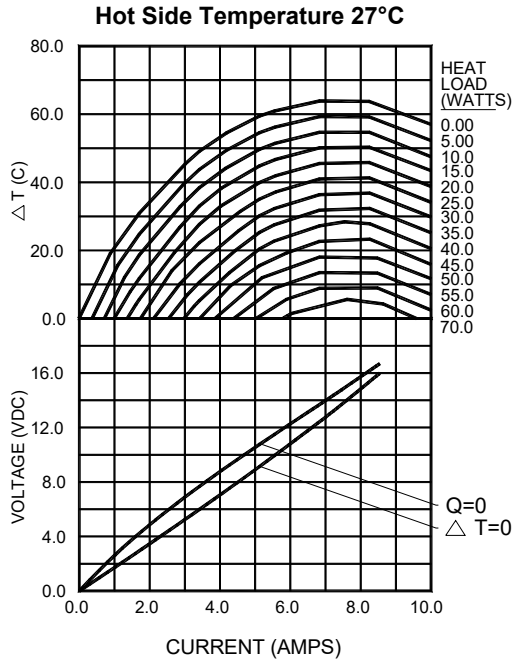
II-VI Singapore Pte., Ltd.  
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86-10-643 98226  
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## THERMOELECTRIC COOLING PERFORMANCE CURVES

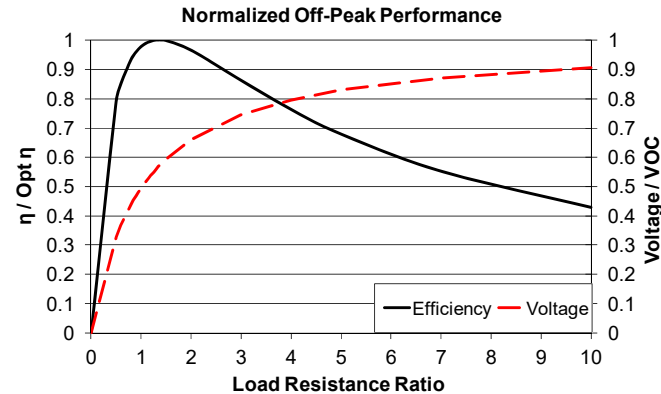
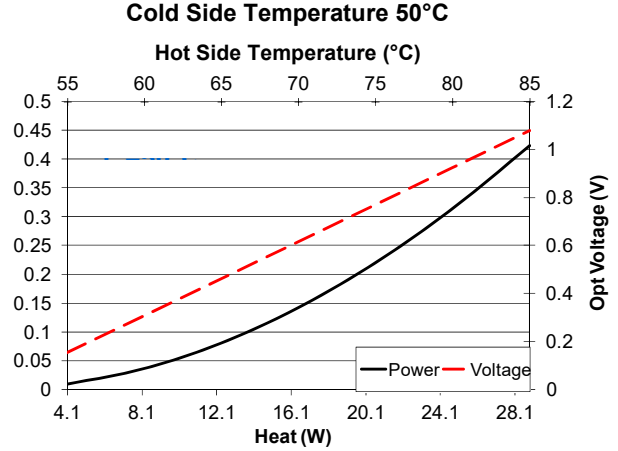
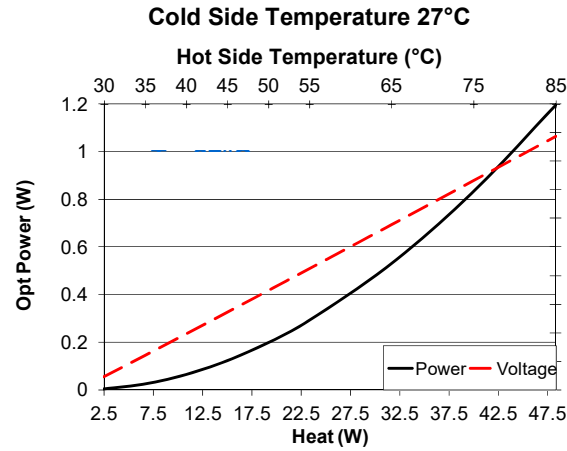
ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



For performance information in a vacuum or with hot side temperatures other than 27°C or 50°C, contact one of our Applications Engineers at 877-627-5691.

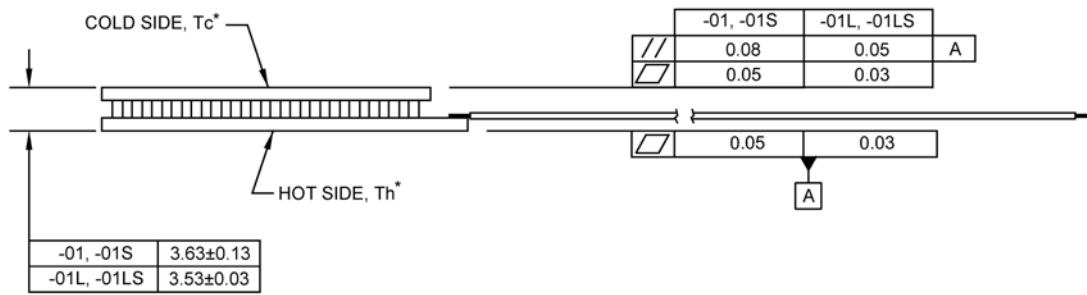
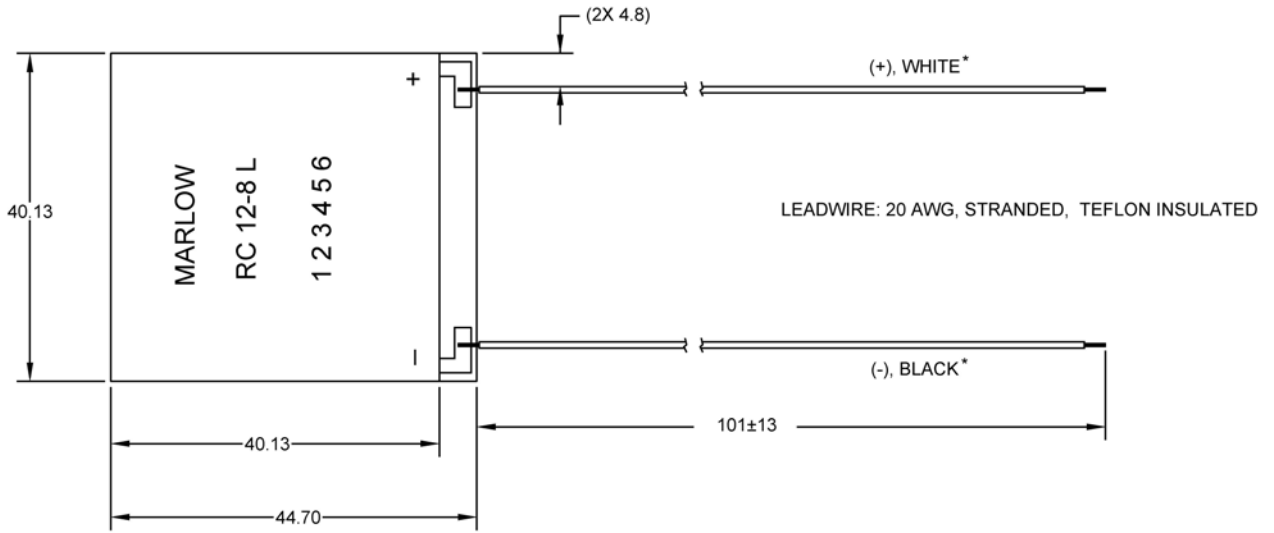
## POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



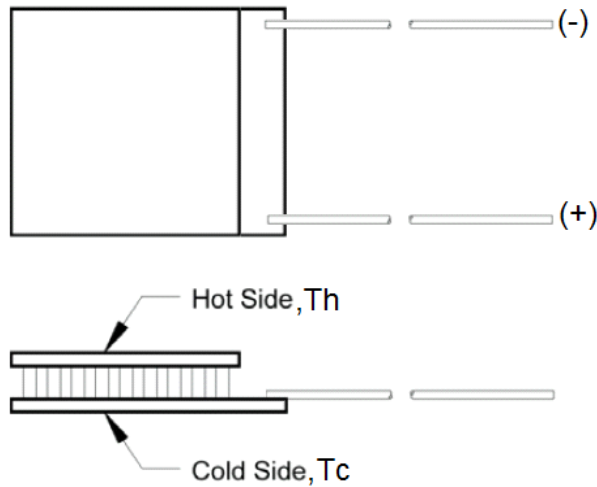
Hot Side Temperature (°C)	85	55	35
Cold Side Temperature (°C)	27	27	27
Optimum Efficiency, $\eta$ (%)	2.48	1.25	0.37
Optimum Power (W)	1.198	0.292	0.024
Optimum Voltage (V)	1.774	0.846	0.239
Load Resistance for Opt $\eta$ ( $\Omega$ )	2.63	2.46	2.34
Open Circuit Voltage, VOC (V)	3.12	1.49	0.42
Short Circuit Current (A)	1.56	0.80	0.24
Thermal Resistance (°C/W)	1.20	1.20	1.20

For performance information with hot side temperatures other than 27°C or 50°C, contact one of our Applications Engineers at 877-627-5691.



All units are in millimeters unless otherwise stated.

**\*NOTE: Cold side, hot side, positive lead, and negative lead are valid only for thermoelectric cooling. For power generation, refer to figure below:**



For customer support or general questions please contact a local office or visit our website at [www.marlow.com](http://www.marlow.com). Marlow reserves the right to make product changes without notice.