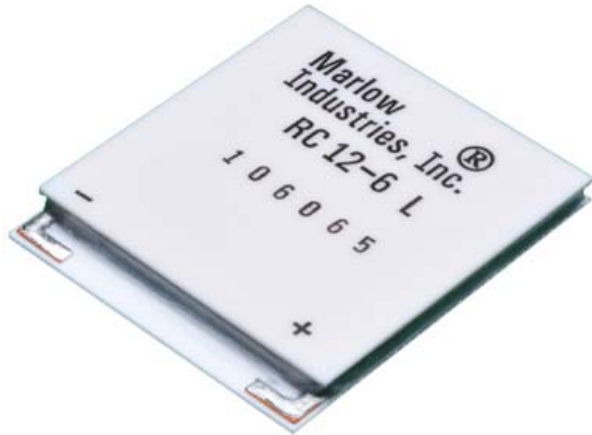




# Technical Data Sheet for RC12-6

## 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):	54	60
I <sub>max</sub> (amps):	5.6	5.6
V <sub>max</sub> (vdc):	14.7	16.4
AC Resistance (ohms):	2.2	---
Device ZT	0.76	---

### PRODUCT FEATURES

- RoHS EU Compliant
- REACH EU Compliant
- Rated operating temperature of 130°C.
- Ceramic Material: Aluminum Oxide
- Porched configuration for enhanced leadwire strength.
- Superior nickel diffusion barriers on elements.
- High strength for rugged environment.
- Lapped option available for multiple module applications.

### ORDERING OPTIONS

Model Number	Description
RC12-6-01	102mm Leadwires
RC12-6-01L	102mm Leadwires, Lapped
RC12-6-01S	102mm Leadwires, Sealed
RC12-6-01LS	102mm Leadwires, Lapped, Sealed
RC12-6-06LS	368mm Leadwires, Lapped, Sealed
RC12-6-09S	305mm Leadwires, Sealed
RC12-6-11LS	150mm 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 when operating in cooling mode, use linear/proportional temperature control or a similar method rather than an ON/OFF method.

### INSTALLATION

Recommended mounting methods: Clamp under uniform pressure with thermal grease or suitable flexible thermal interface. For additional information, please refer to our TEM Installation Guide.

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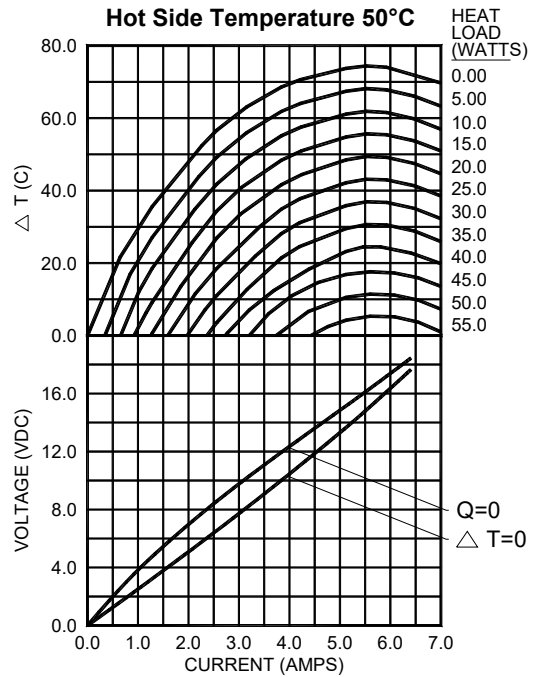
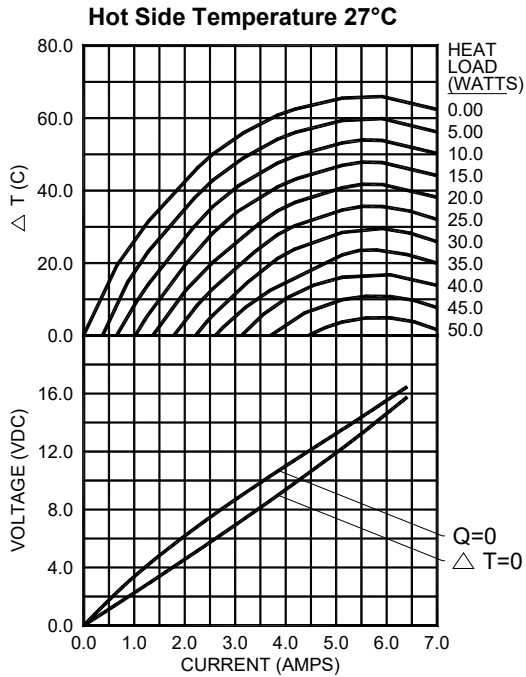
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## THERMOELECTRIC COOLING PERFORMANCE CURVES

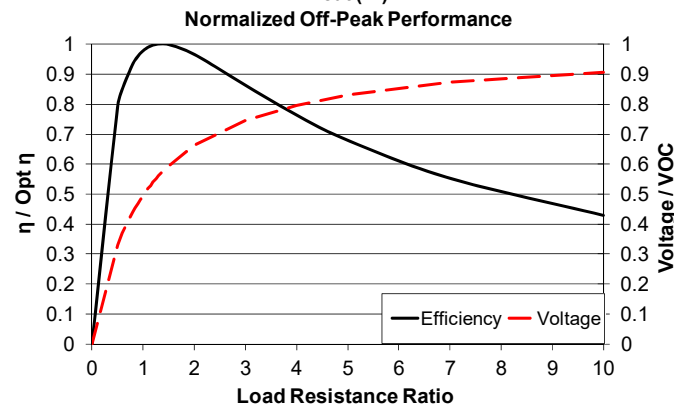
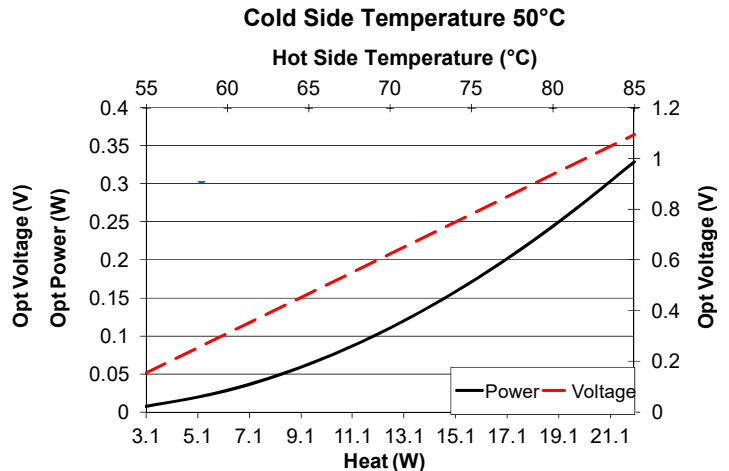
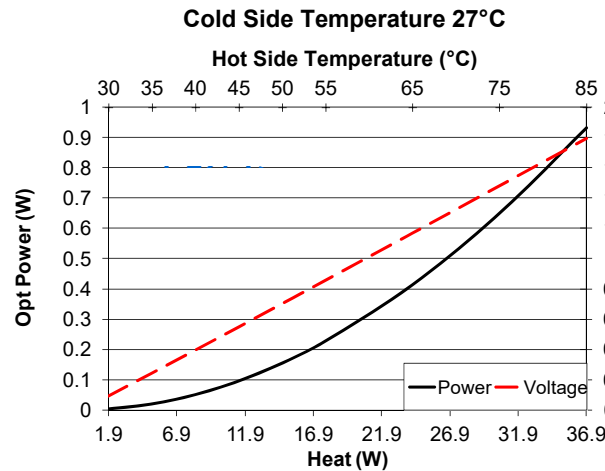
ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



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.

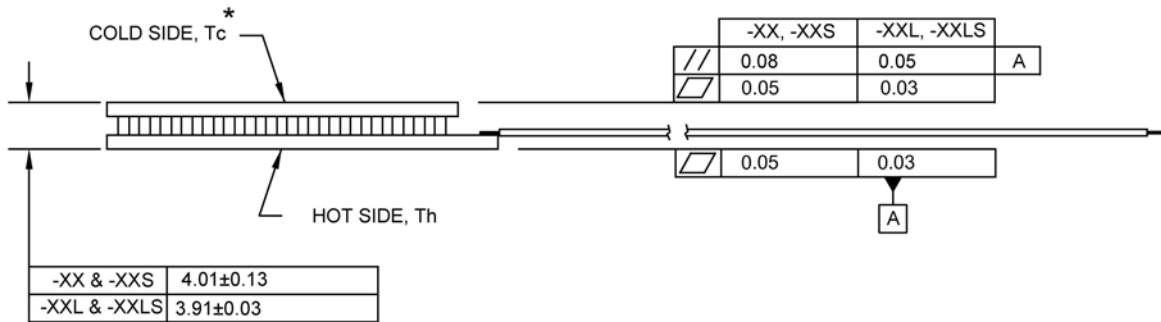
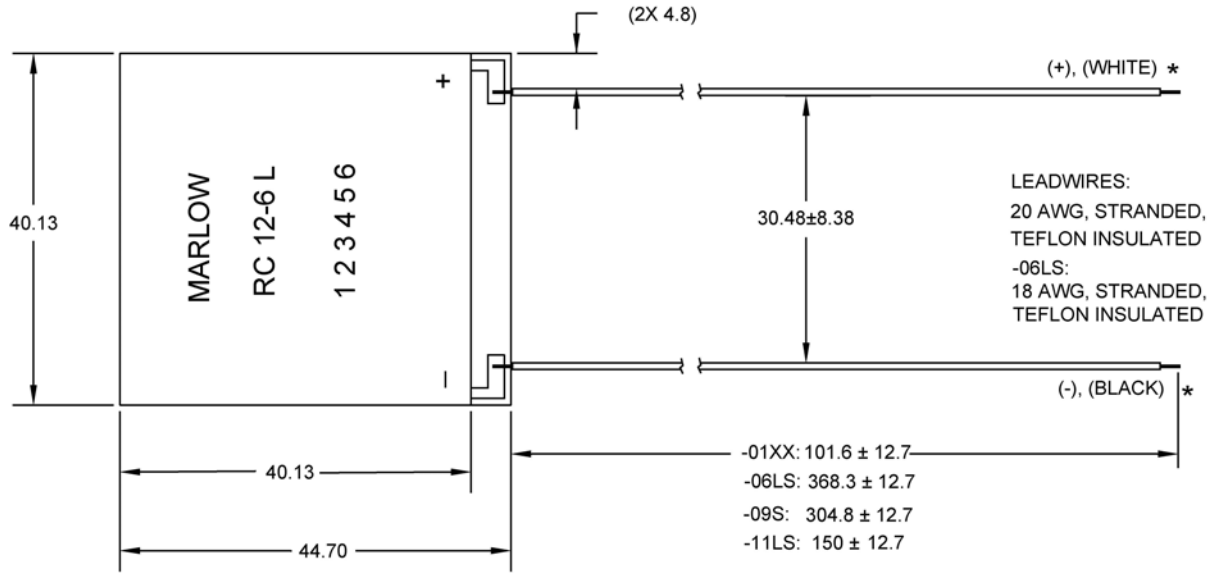
## POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



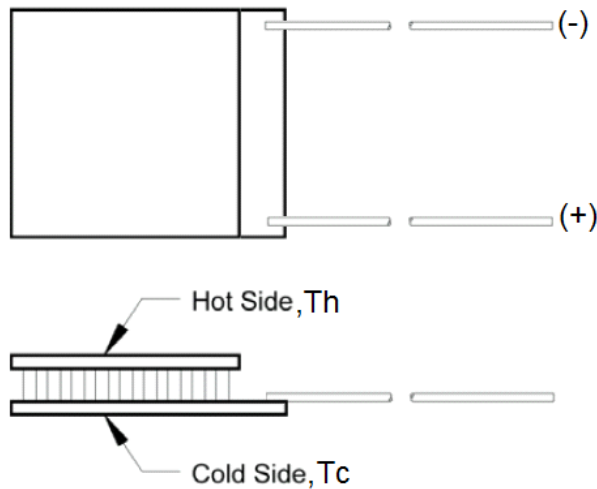
Hot Side Temperature (°C)	85	55	35
Cold Side Temperature (°C)	27	27	27
Optimum Efficiency, $\eta$ (%)	2.52	1.27	0.37
Optimum Power (W)	0.931	0.227	0.019
Optimum Voltage (V)	1.795	0.856	0.242
Load Resistance for Opt $\eta$ ( $\Omega$ )	3.46	3.23	3.07
Open Circuit Voltage, VOC (V)	3.15	1.50	0.43
Short Circuit Current (A)	1.20	0.62	0.18
Thermal Resistance (°C/W)	1.57	1.57	1.57

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.