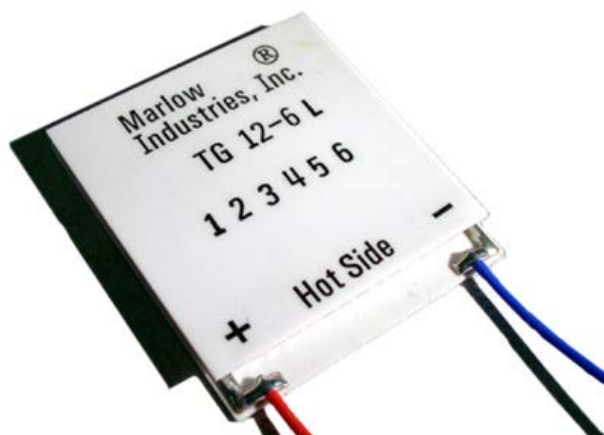




# Technical Data Sheet for TG12-6

## Thermoelectric Generator



### NOMINAL PERFORMANCE IN NITROGEN

T <sub>c</sub> (°C)	27 ± 2
ACR (Ω)	1.95 – 2.38
Device ZT	0.73

### PRODUCT FEATURES

- RoHS EU Compliant
- Rated operating temperature of 200°C.
- Ceramic Material: Aluminum Oxide
- Porch configuration for high strength leadwire 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
TG12-6-01	Leadwires
TG12-6-01L	Leadwires, Lapped
TG12-6-01S	Leadwires, Sealed
TG12-6-01LS	Leadwires, Lapped, Sealed
TG12-6-01LSG	Leadwires, Lapped, Sealed, Graphite Pads

### OPERATION CAUTIONS

For maximum reliability, continuous operation below 200°C (cold side and hot side) is recommended. Intermittent operation up to 230°C on the hot side of the TG is permissible.

### INSTALLATION

Recommended mounting methods: Clamp with uniform pressure to a flat surface with thermal interface material. Recommend 1.4 MPa (200 psi) with thermal grease or flexible graphite pads. For additional information, please contact an applications engineer.

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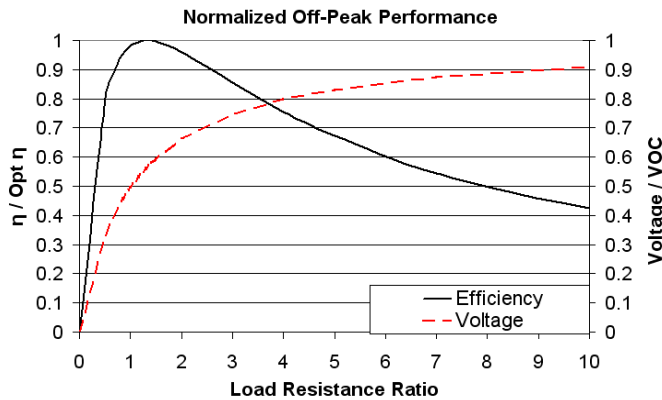
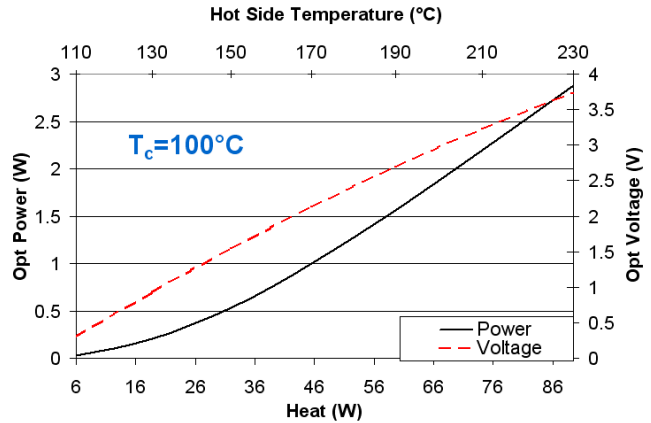
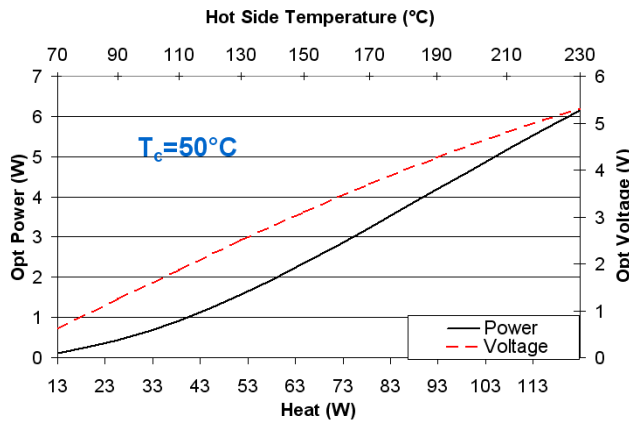
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## TYPICAL PERFORMANCE CURVES

### POWER GENERATION PERFORMANCE CURVES

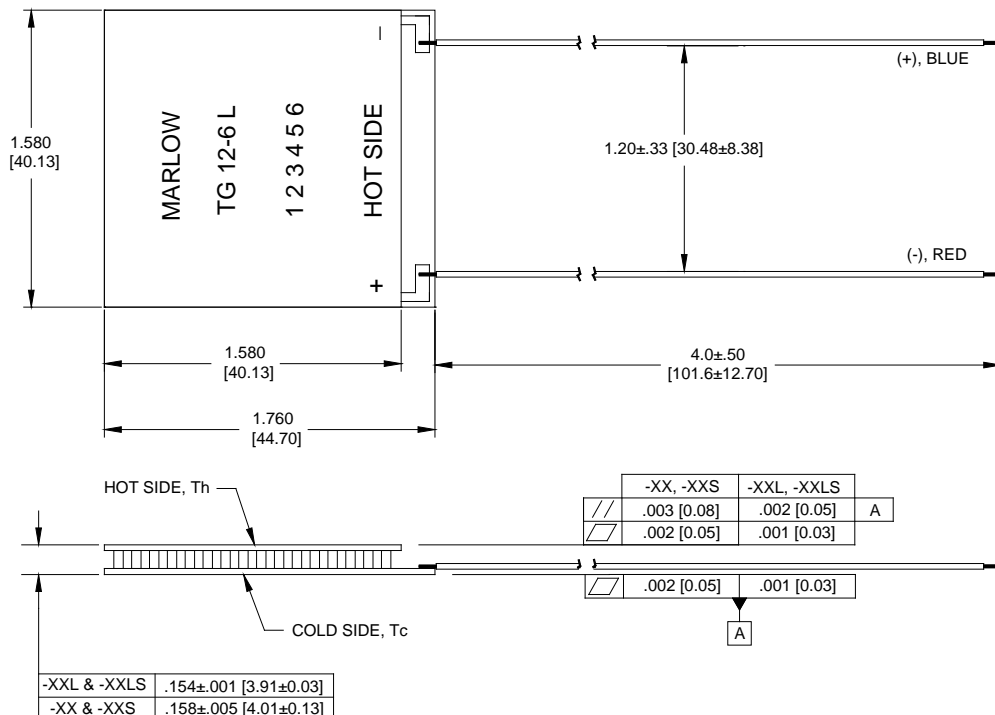
ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



Hot Side Temperature (°C)	230	170	110
Cold Side Temperature (°C)	50	50	50
Optimum Efficiency, $\eta$ (%)	5.03	4.14	2.42
Optimum Power (W)	6.16	3.23	0.92
Optimum Voltage (V)	5.30	3.69	1.88
Load Resistance for Opt $\eta$ ( $\Omega$ )	4.56	4.22	3.82
Open Circuit Voltage, VOC (V)	9.51	6.53	3.29
Short Circuit Current, ISC (A)	2.59	2.00	1.14
Thermal Resistance (°C/W)	1.47	1.54	1.58

For performance information in a vacuum or with hot side temperatures other than 50°C or 100°C, contact one of our Applications Engineers at 877-627-5691.

## MECHANICAL CHARACTERISTICS



For customer support or general questions please contact a local office or visit our website at [www.marlow.com](http://www.marlow.com).

Performance information is given in a nitrogen environment and cold side temperatures of 50°C and 100°C. TG device temperature does not include thermal resistance of heat sinks, Thermal Interface Materials (TIM) such as graphite pads or thermal greases, and various clamping techniques. Hot side and cold side temperatures represent the temperatures of the hot and cold ceramics on the module. For performance information in vacuum, other cold side temperatures, or specific heat sinks and TIM materials, consult one of our applications engineers.

## TYPICAL POWER GENERATION CONFIGURATION

EXAMPLE:

