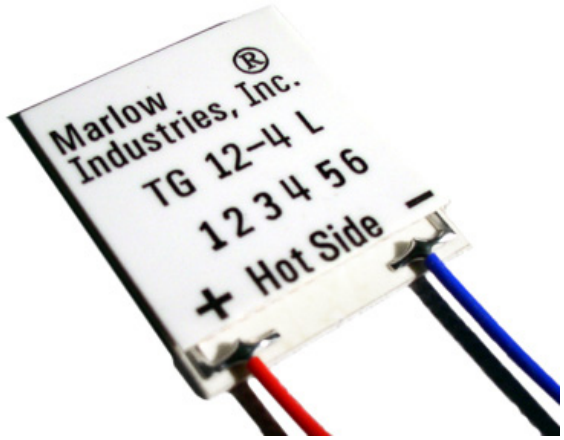
Technical Data Sheet for TG12-4

Single-Stage Thermoelectric Generator



NOMINAL PERFORMANCE IN NITROGEN

Cold Side Temperature (°C)	27±2
AC Resistance (ohms):	2.76 – 3.41
Device ZT	0.71

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
TG12-4-01	Leadwires
TG12-4-01L	Leadwires, Lapped
TG12-4-01S	Leadwires, Sealed
TG12-4-01DG	Leadwires, Diced, Graphite Pads
TG12-4-01LS	Leadwires, Lapped, Sealed
TG12-4-01LSG	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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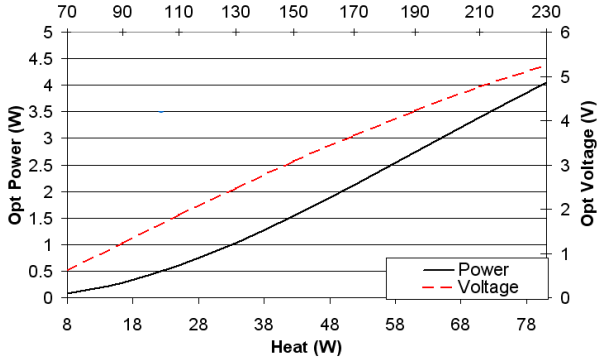
TYPICAL PERFORMANCE CURVES

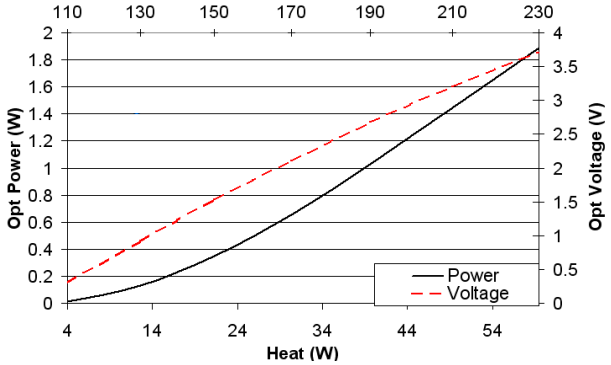
POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN

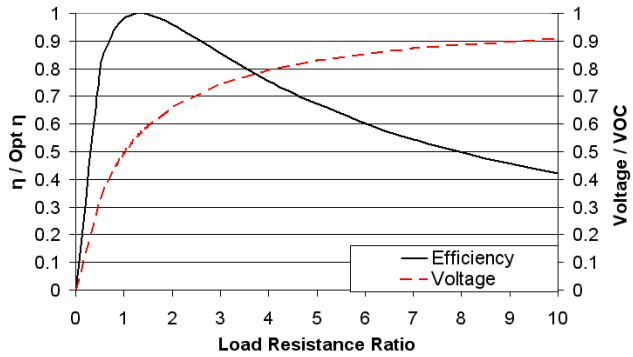
Cold Side Temperature 50°C



Cold Side Temperature 100°C



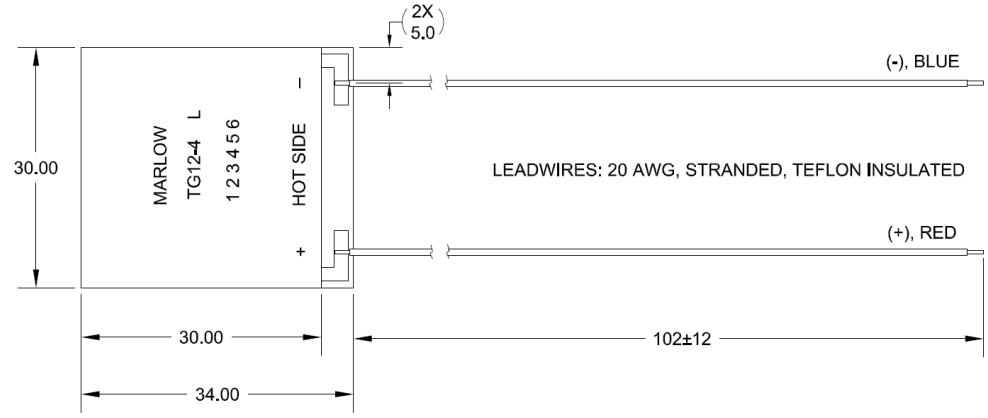
Normalized Off-Peak Performance

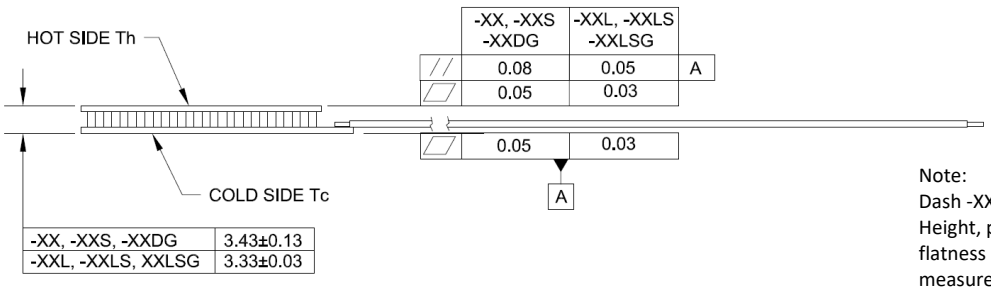


Hot Side Temperature (°C)	230	170	110
Cold Side Temperature (°C)	50	50	50
Optimum Efficiency, η (%)	4.97	4.08	2.39
Optimum Power (W)	4.05	2.12	0.61
Optimum Voltage (V)	5.26	3.66	1.86
Load Resistance for Opt η (Ω)	6.83	6.32	5.72
Open Circuit Voltage, VOC (V)	9.45	6.50	3.28
Closed Circuit Current (A)	1.71	1.32	0.75
Thermal Resistance (°C/W)	2.21	2.31	2.37

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

MECHANICAL CHARACTERISTICS





	-XX, -XXS -XXDG	-XXL, -XXLS -XXLSG	
//	0.08	0.05	A
▱	0.05	0.03	
▱	0.05	0.03	

-XX, -XXS, -XXDG	3.43±0.13
-XXL, -XXLS, XXLSG	3.33±0.03

Note:
Dash -XXDG and -XXLSG: Height, parallelism, and flatness dimensions are measured before adding graphite pads.

All units are in millimeters unless otherwise stated.

For customer support or general questions please contact a local office or visit our website at www.marlow.com.
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