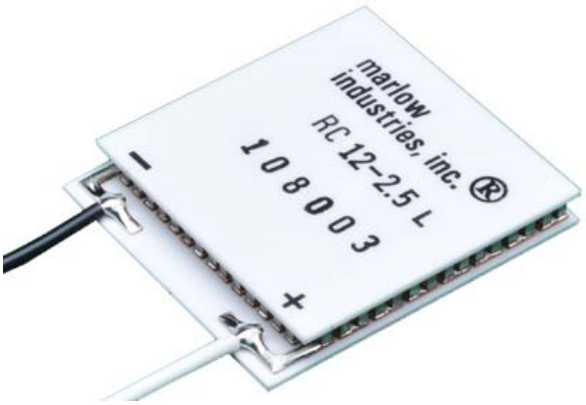
Technical Data Sheet for RC12-2.5

Single-Stage Thermoelectric Module



NOMINAL PERFORMANCE IN NITROGEN

Hot Side Temperature (°C)	27	50
Δ Tmax (°C):	66	74
Qmax (watts):	23	26
Imax (amps):	2.5	2.5
Vmax (vdc):	14.7	16.4
AC Resistance (ohms):	4.9	--
Device ZT	0.77	--

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
- -11S: Leadwire solder joints and pads are sealed with RTV.

ORDERING OPTIONS

Model Number	Description
RC12-2.5-01	Leadwires
RC12-2.5-01L	Leadwires, Lapped
RC12-2.5-01S	Leadwires, Sealed
RC12-2.5-01LS	Leadwires, Lapped, Sealed
RC12-2.5-02LS	111mm [4.4”] Leadwires, Lapped, Sealed
RC12-2.5-11S	165mm [6.5”] Leadwires, 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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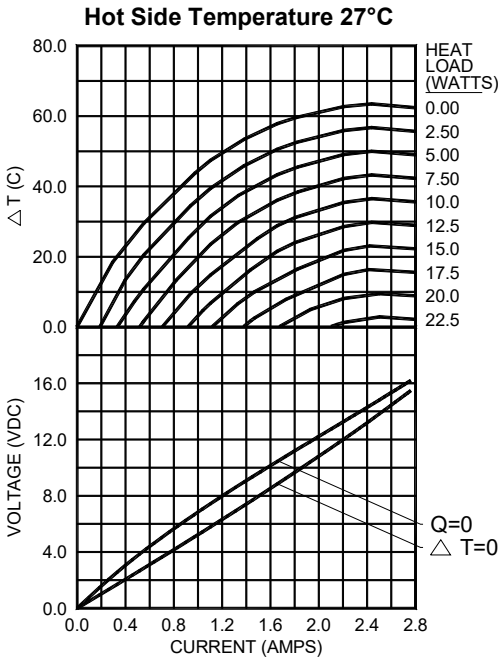
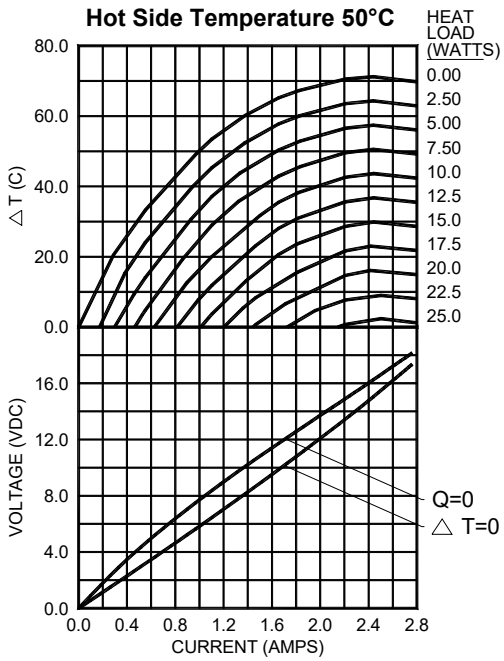
TYPICAL PERFORMANCE CURVES

THERMOELECTRIC COOLING PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN

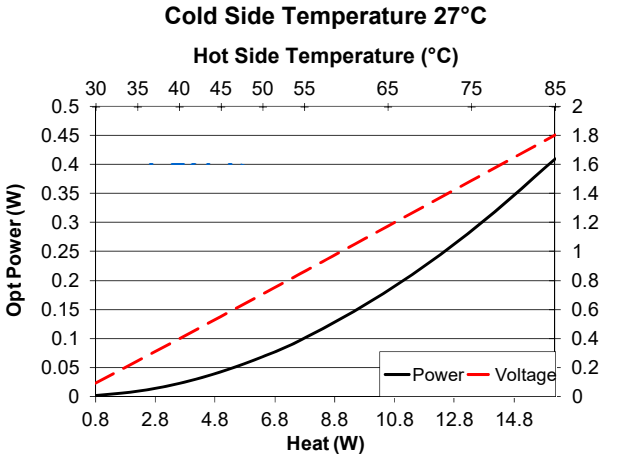


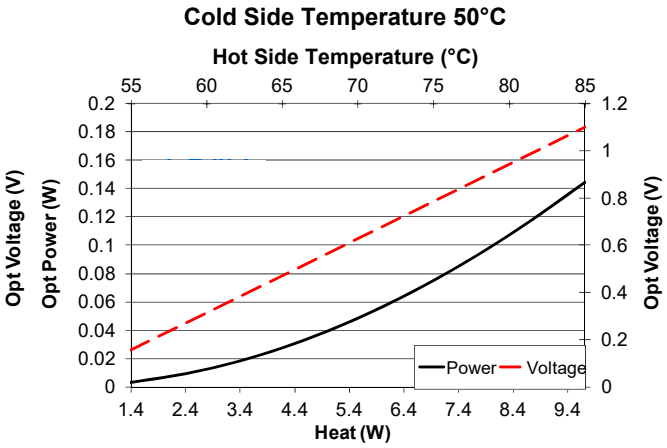


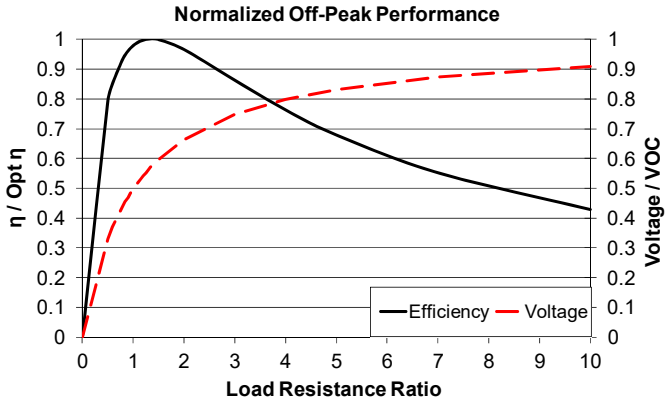
For performance information in a vacuum or with hot side temperatures other than 27°C or 50°C, contact one of our Applications Engineers at 877-627-5691.

POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



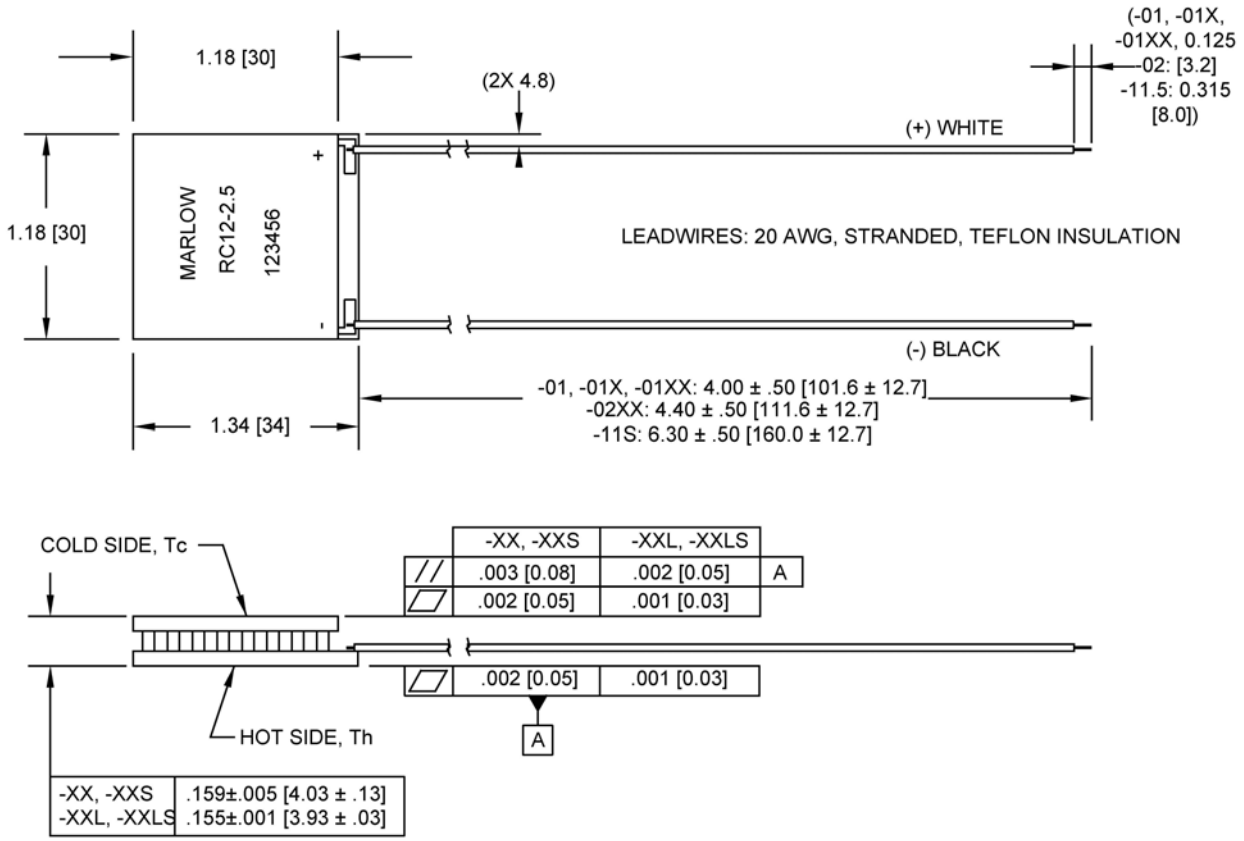




Hot Side Temperature (°C)	85	55	35
Cold Side Temperature (°C)	27	27	27
Optimum Efficiency, η (%)	2.53	1.28	0.37
Optimum Power (W)	0.410	0.100	0.008
Optimum Voltage (V)	1.805	0.861	0.243
Load Resistance for Opt η (Ω)	7.95	7.42	7.05
Open Circuit Voltage, VOC (V)	3.16	1.51	0.43
Short Circuit Current (A)	0.53	0.27	0.08
Thermal Resistance (°C/W)	3.58	3.58	3.57

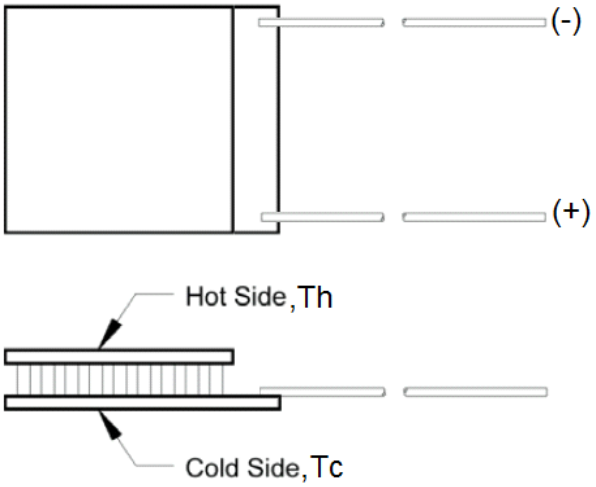
For performance information with hot side temperatures other than 27°C or 50°C, contact one of our Applications Engineers at 877-627-5691.

MECHANICAL CHARACTERISTICS



All units are in inches and units in [ ] are 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.
Marlow reserves the right to make product changes without notice.