



Technical Data Sheet for RC3-4

Single-Stage Thermoelectric Module



NOMINAL PERFORMANCE IN NITROGEN

Hot Side Temperature (°C)	27	50
ΔT_{max} (°C):	65	73
Q _{max} (watts):	9	10
I _{max} (amps):	3.7	3.7
V _{max} (vdc):	3.6	4.1
AC Resistance (ohms):	0.8	--
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
RC3-4-01	20 AWG 101mm Leadwires
RC3-4-01L	20 AWG 101mm Leadwires, Lapped
RC3-4-01S	20 AWG 101mm Leadwires, Sealed
RC3-4-01LS	20 AWG 101mm Leadwires, Lapped, Sealed
RC3-4-03LS	24 AWG 165mm 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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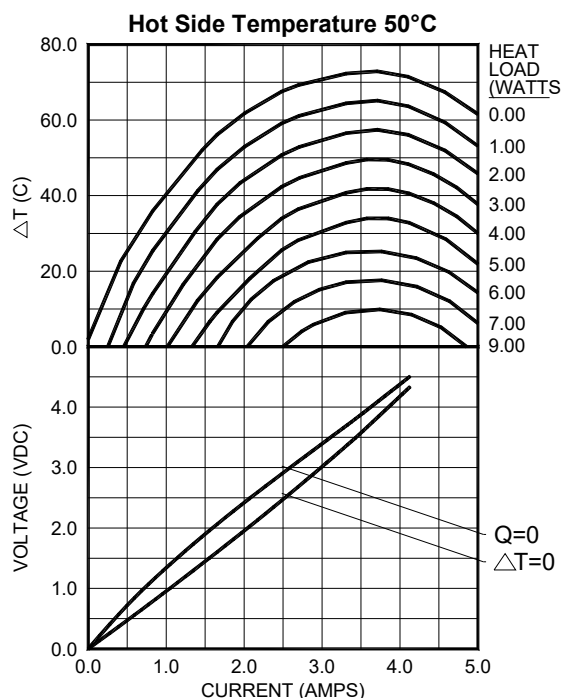
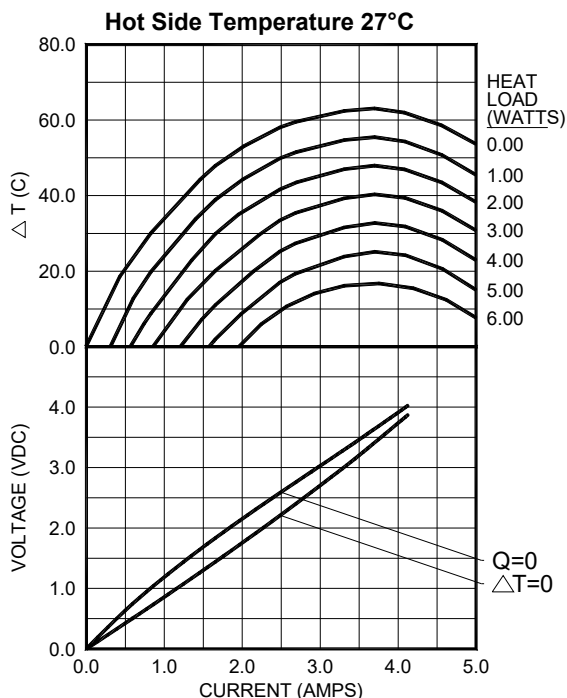
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ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN

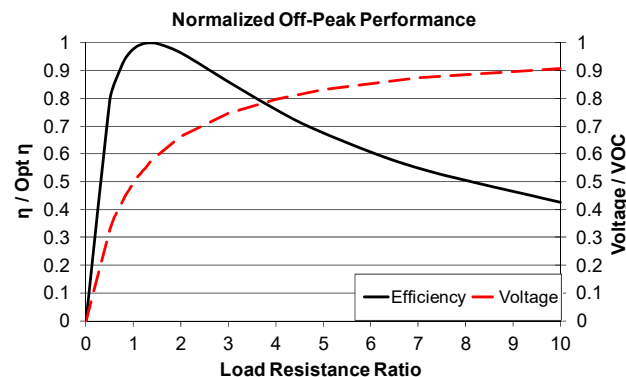
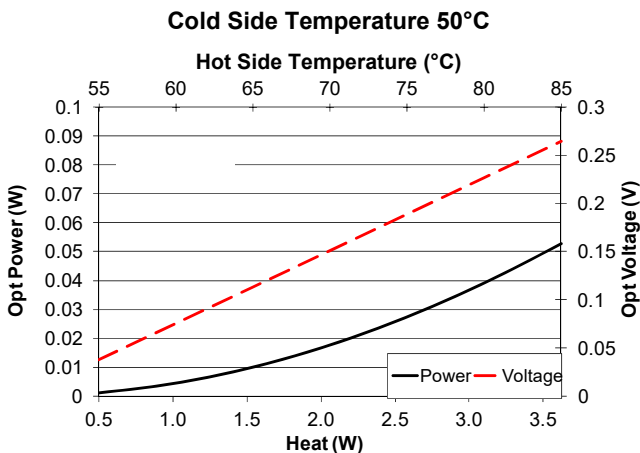
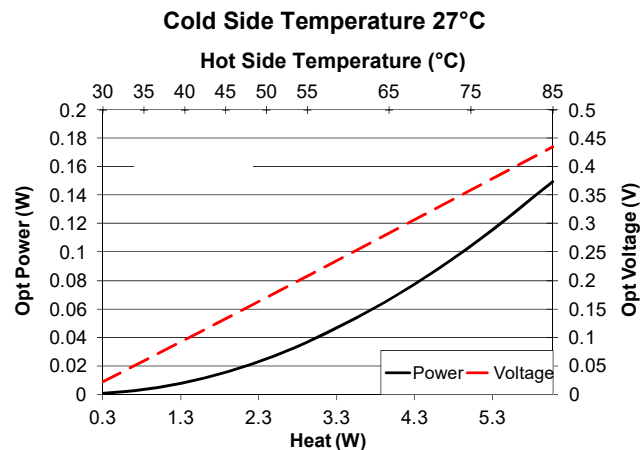
ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



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

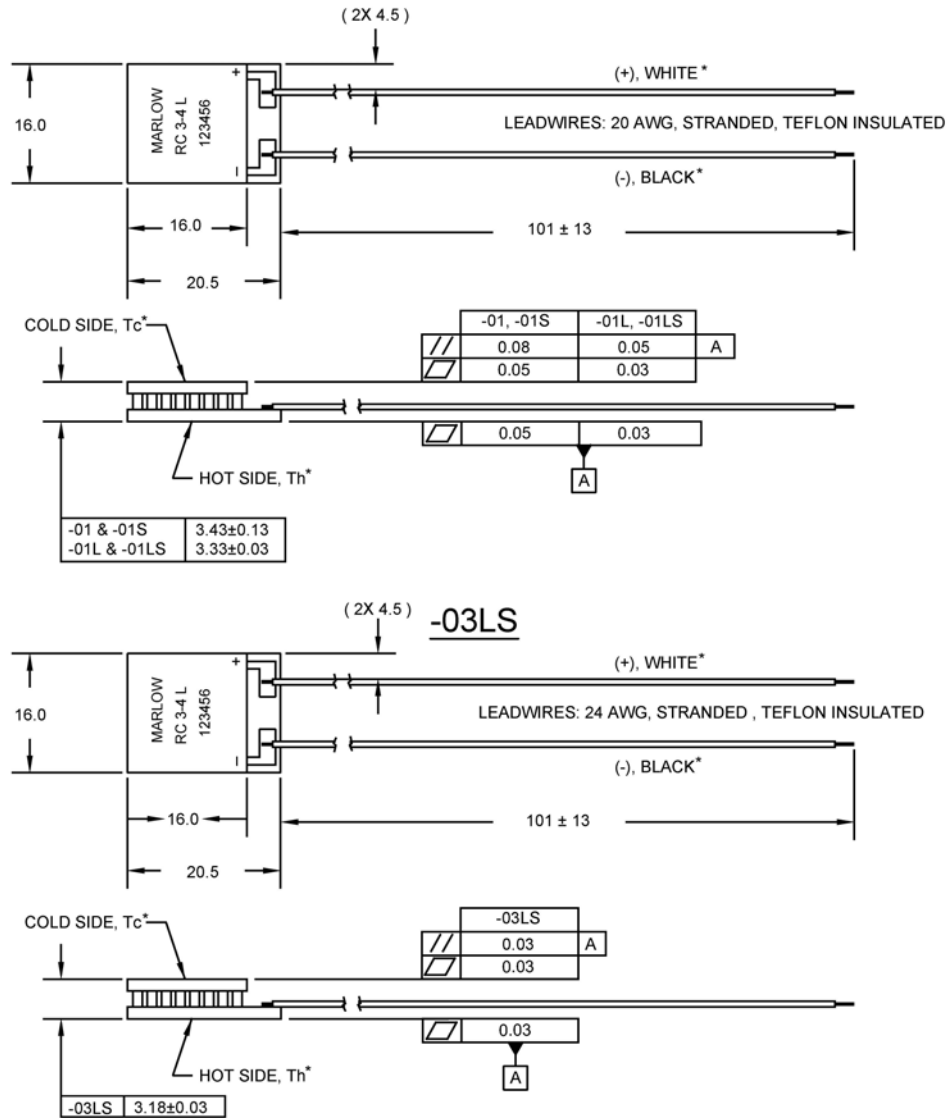
POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



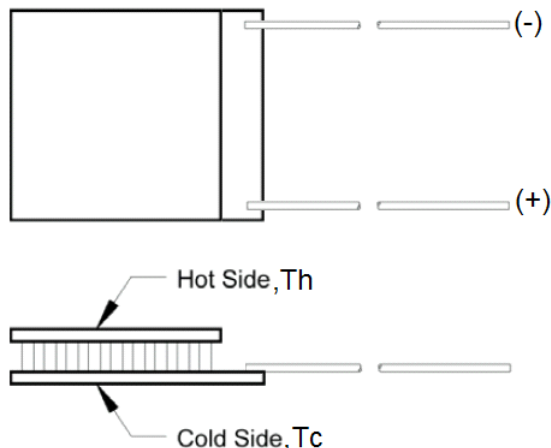
Hot Side Temperature (°C)	85	55	35
Cold Side Temperature (°C)	27	27	27
Optimum Efficiency, η (%)	2.45	1.24	0.36
Optimum Power (W)	0.149	0.036	0.003
Optimum Voltage (V)	0.435	0.208	0.059
Load Resistance for Opt η (Ω)	1.27	1.18	1.13
Open Circuit Voltage, V_{OC} (V)	0.77	0.37	0.10
Short Circuit Current (A)	0.79	0.41	0.12
Thermal Resistance (°C/W)	9.53	9.54	9.52

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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:



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