



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Technical Data Sheet for RC12-4

Single-Stage Thermoelectric Module



NOMINAL PERFORMANCE IN NITROGEN

Hot Side Temperature (°C)	27	50
ΔT_{max} (°C):	66	74
Q _{max} (watts):	36	39
I _{max} (amps):	3.7	3.7
V _{max} (vdc):	14.7	16.4
AC Resistance (ohms):	3.2	--
Device ZT	0.74	--

PRODUCT FEATURES

- RoHS 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.
- RTV sealing option available.
- Lapped option available for multiple module applications.

ORDERING OPTIONS

Model Number	Description
RC12-4-01	Base Model w/ leads
RC12-4-01L	Lapped Model
RC12-4-01S	Sealed Model
RC12-4-01LS	Lapped and Sealed Model

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 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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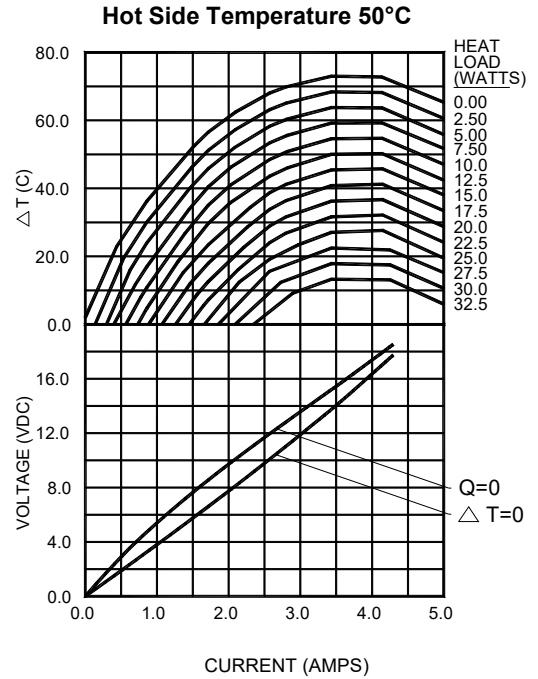
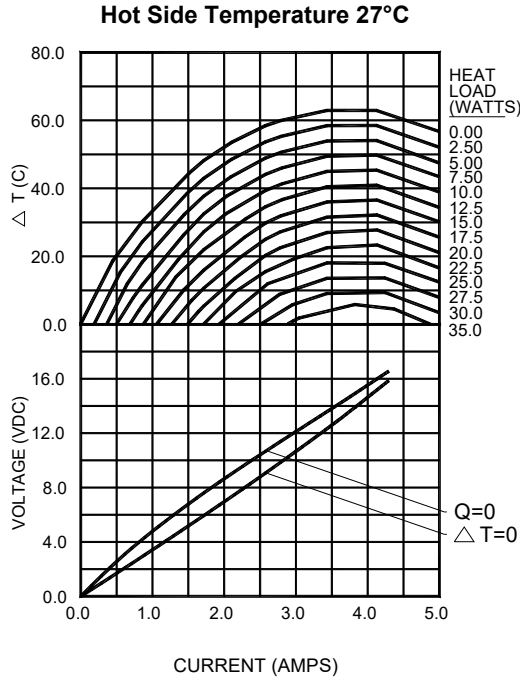
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THERMOELECTRIC COOLING PERFORMANCE CURVES

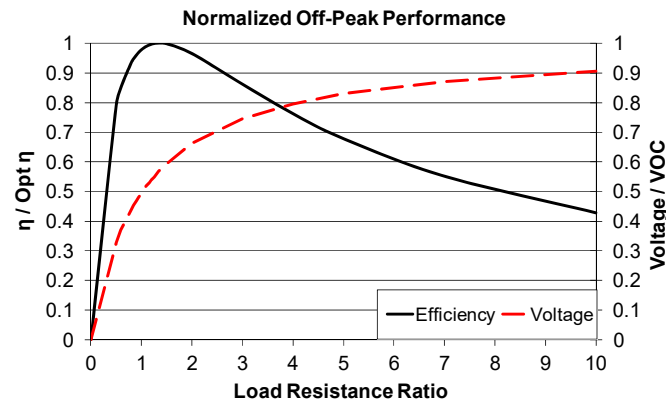
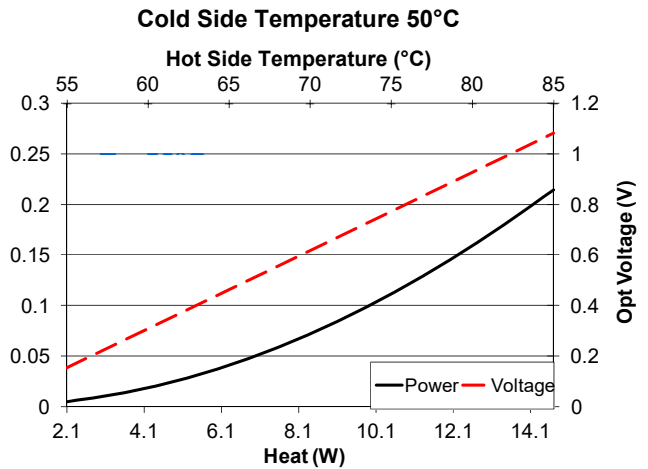
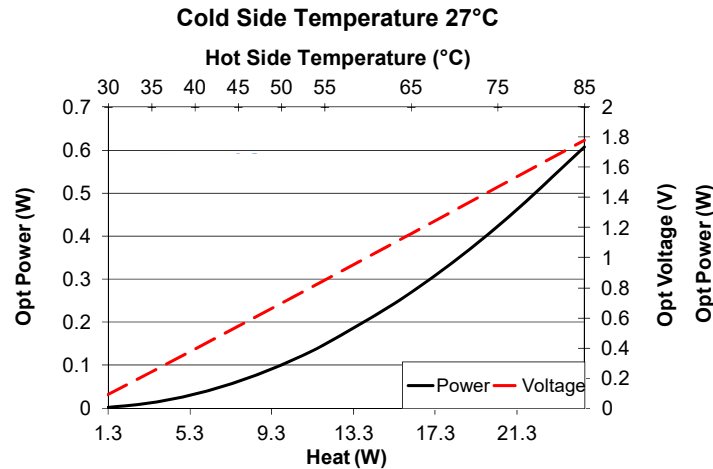
ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



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.

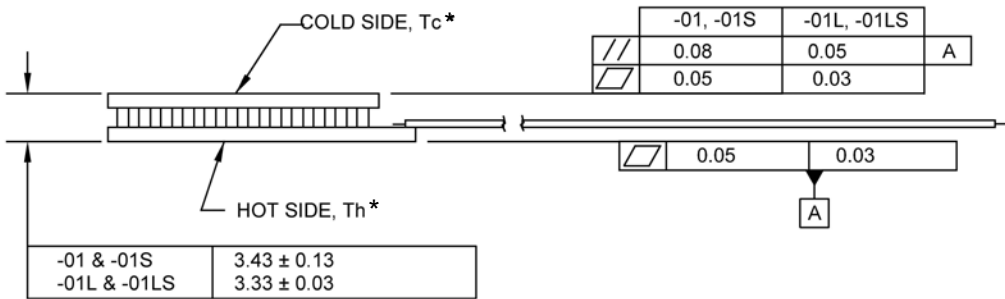
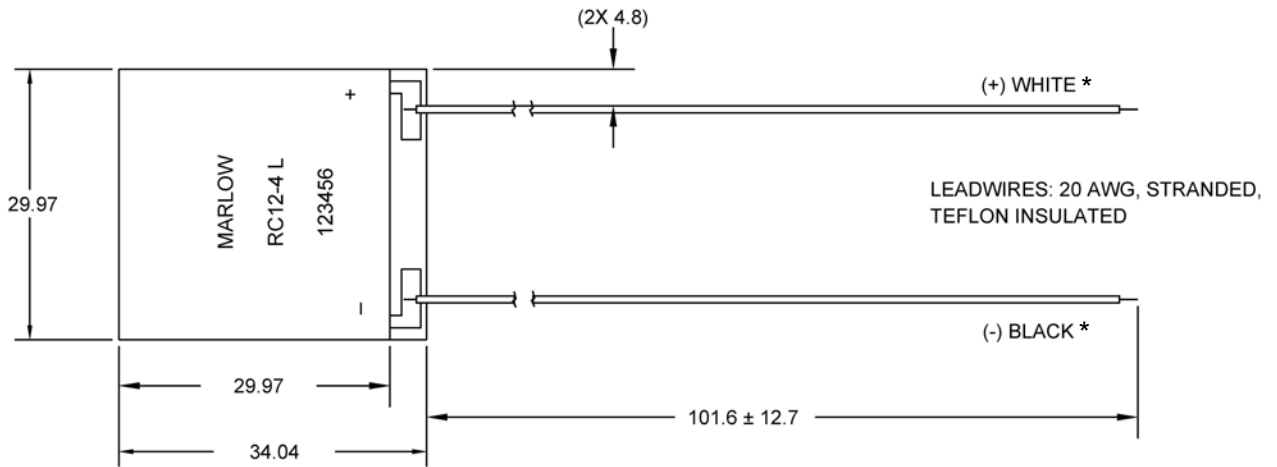
POWER GENERATION PERFORMANCE CURVES

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



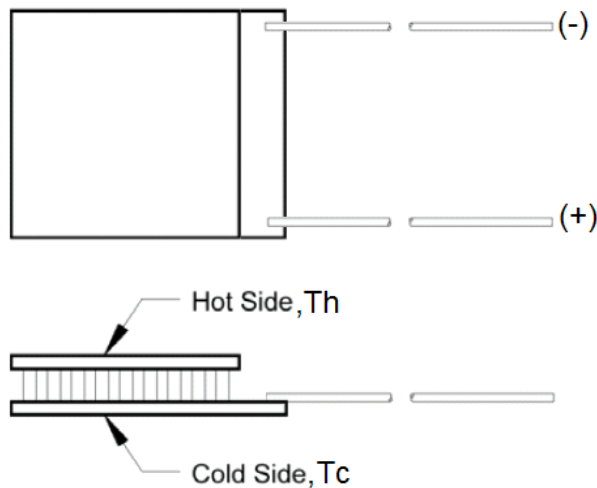
Hot Side Temperature (°C)	85	55	35
Cold Side Temperature (°C)	27	27	27
Optimum Efficiency, η (%)	2.47	1.25	0.36
Optimum Power (W)	0.608	0.148	0.012
Optimum Voltage (V)	1.778	0.848	0.239
Load Resistance for Opt η (Ω)	5.21	4.86	4.63
Open Circuit Voltage, VOC (V)	3.13	1.50	0.42
Short Circuit Current (A)	0.79	0.40	0.12
Thermal Resistance (°C/W)	2.36	2.36	2.35

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. Marlow reserves the right to make product changes without notice.