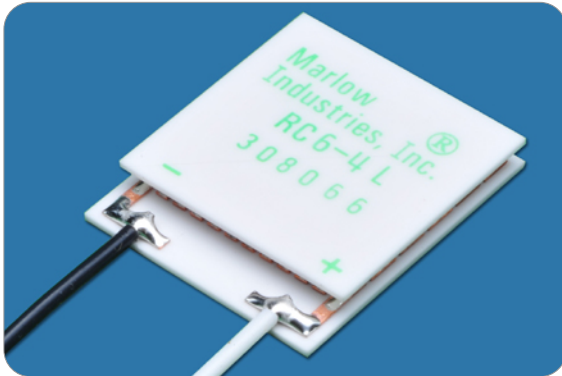


marlow industries, inc.®  
 Subsidiary of II-VI INCORPORATED



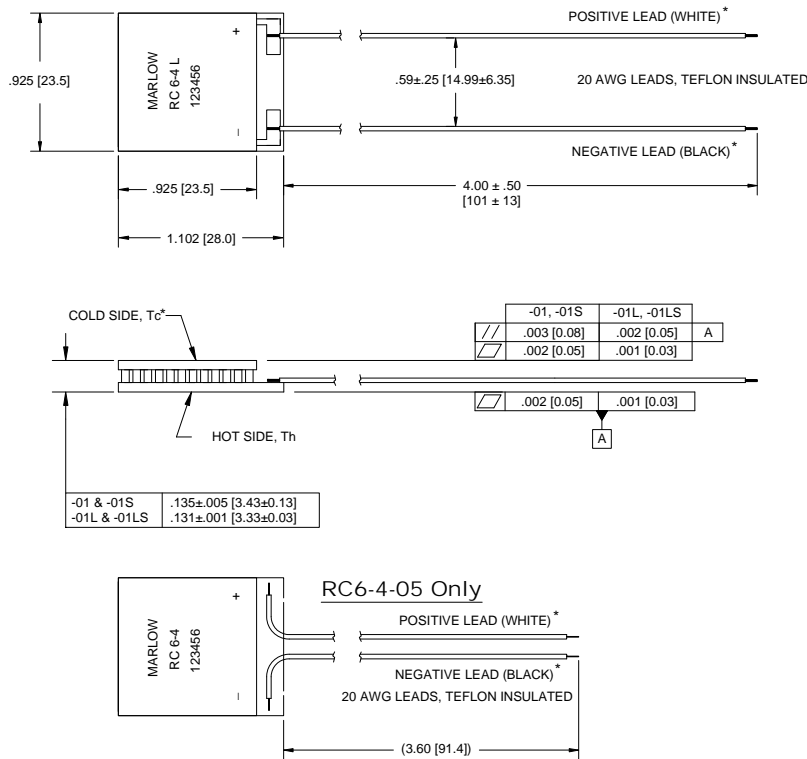
## RC6-4

Single-Stage Thermoelectric Module  
 RoHS EU Compliant

### TYPICAL PERFORMANCE VALUES

|                                  |      |      |
|----------------------------------|------|------|
| Hot Side Temperature (°C)        | 27°C | 50°C |
| Δ Tmax (°C-dry N <sub>2</sub> ): | 65   | 73   |
| Qmax (watts):                    | 20   | 22   |
| Imax (amps):                     | 3.7  | 3.7  |
| Vmax (vdc):                      | 8.2  | 9.2  |
| AC Resistance (ohms):            | 1.8  | --   |
| Device ZT                        | 0.74 | --   |

### MECHANICAL CHARACTERISTICS



Ceramic Material: Alumina (AC)      Dimensions in [ ] are millimeters  
 Dimensions in ( ) are references

**\*NOTE: Cold side and positive and negative leads are valid only for thermoelectric cooling. For power generation, refer to page 3.**

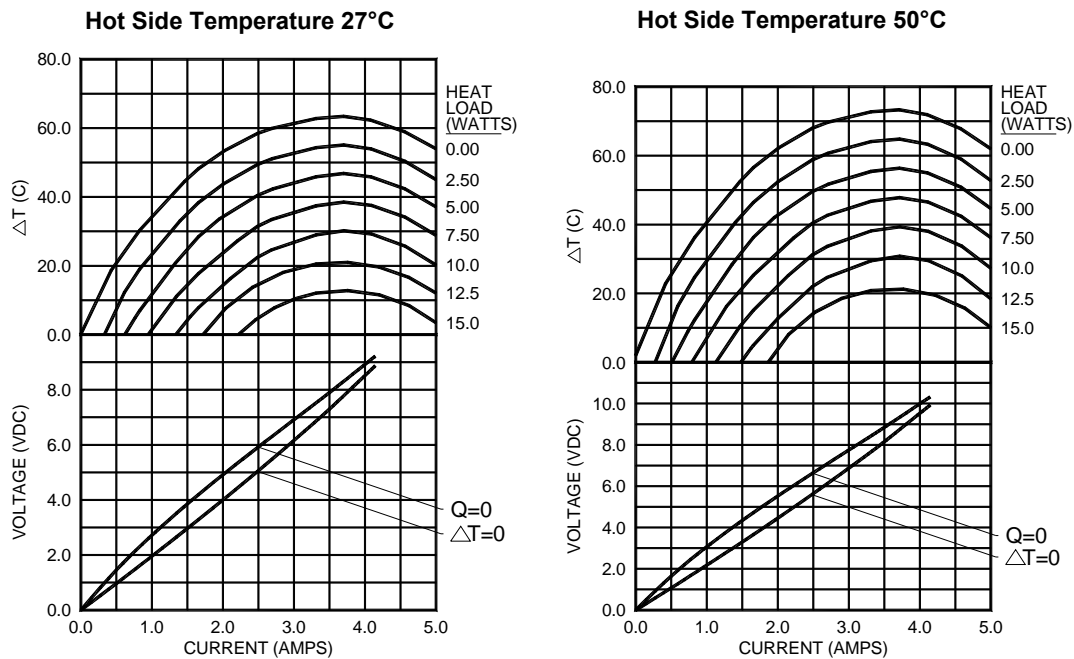
### ORDERING OPTIONS

| Model Number | Description              |
|--------------|--------------------------|
| RC6-4-01     | Base Model w/ leads      |
| RC6-4-01L    | Lapped Model             |
| RC6-4-01S    | Sealed Model             |
| RC6-4-01LS   | Lapped and Sealed Model  |
| RC6-4-05     | Base Model w/ bent-leads |

### AVAILABLE MODIFICATIONS

Solid-state reliability.  
 Built with high temperature solder with the ability to withstand higher assembly processing temperatures for short periods of time (<160°C).  
 Superior nickel diffusion barriers on elements.  
 High strength for rugged environment.  
 Porched configuration for enhanced leadwire strength.  
 RTV sealing available (Optional).  
 Lapped option available for multiple module applications.

ENVIRONMENT: ONE ATMOSPHERE DRY NITROGEN



For performance information in a vacuum or with hot side temperatures other than 27°C or 50°C, consult one of our Applications Engineers.

**Installation**

Recommended mounting methods: Bonding with thermal epoxy or soldering with metallized ceramics. For additional information, please refer to our TEC Installation Guide.

**Operation Cautions**

For maximum reliability, storage and operation below 85°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.

**CONTACT US:**

For customer support or general questions please contact a local office below or consult our website for distributor information.

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10451 Vista Park Road  
Dallas Texas 75238-1645  
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www.marlow.com

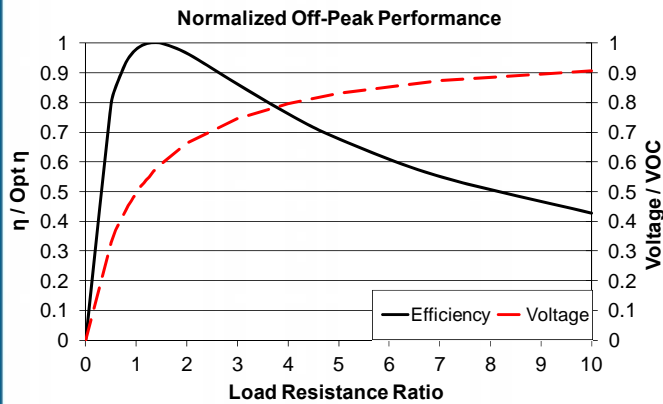
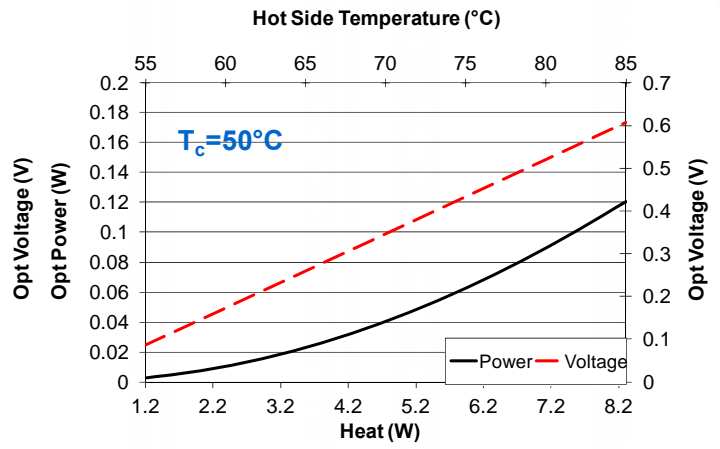
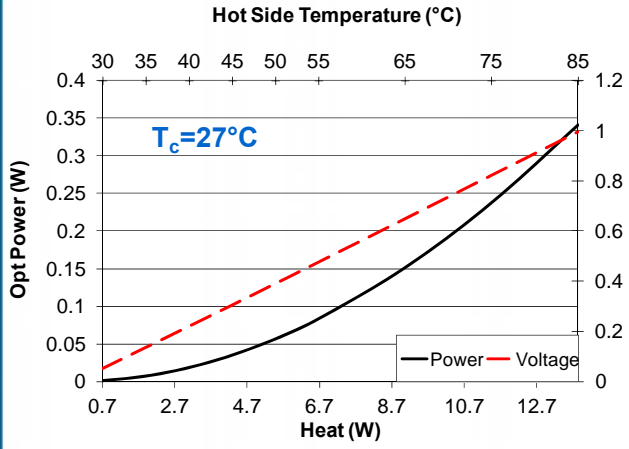
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POWER GENERATION PERFORMANCE CURVES



|   |       |       |       |
|---|-------|-------|-------|
| Hot Side Temperature (°C)                   | 85    | 55    | 35    |
| Cold Side Temperature (°C)                  | 27    | 27    | 27    |
| Optimum Efficiency, $\eta$ (%)              | 2.46  | 1.24  | 0.36  |
| Optimum Power (W)                           | 0.341 | 0.083 | 0.007 |
| Optimum Voltage (V)                         | 0.996 | 0.475 | 0.134 |
| Load Resistance for Opt $\eta$ ( $\Omega$ ) | 2.90  | 2.71  | 2.58  |
| Open Circuit Voltage, VOC (V)               | 1.75  | 0.84  | 0.24  |
| Short Circuit Current (A)                   | 0.79  | 0.40  | 0.12  |
| Thermal Resistance (°C/W)                   | 4.18  | 4.19  | 4.18  |

Power Generation performance information is given in a nitrogen environment and cold side temperatures of 27°C and 50°C. Module temperature does not include thermal resistance of heat sinks. For performance information in vacuum, other cold side temperatures, or specific heat sinks, consult one of our applications engineers.

### TYPICAL POWER GENERATION CONFIGURATION

EXAMPLE:

