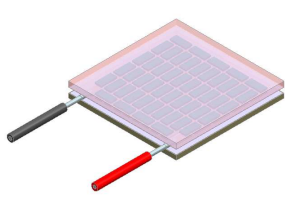


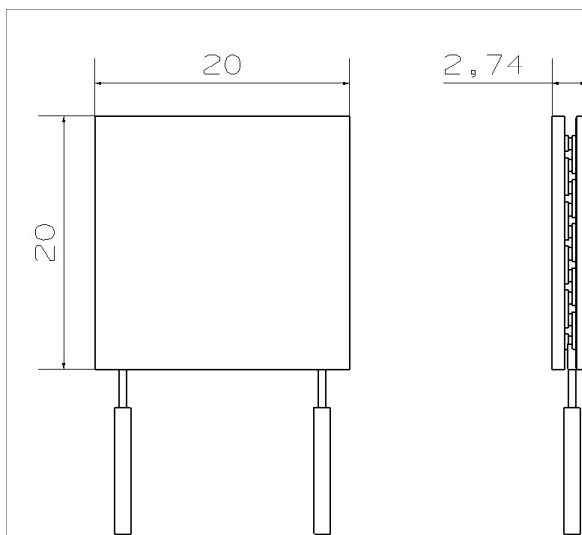
**Thermoelectric Cooler Electric and Thermal Performance**


| dTmax<br>°C | Qmax<br>W | I <sub>max</sub><br>A | U <sub>max</sub><br>V | ACR<br>Ohm | T <sub>h</sub><br>°C |
|-------------|-----------|-----------------------|-----------------------|------------|----------------------|
| 68.3        | 37.6      | 12.65                 | 5.5                   | 0.36       | 27°C                 |
| 77.6        | 41.0      | 12.15                 | 6.1                   | 0.41       | 50°C                 |
| 86.4        | 43.9      | 12.00                 | 6.8                   | 0.46       | 75°C                 |
| 89.1        | 44.8      | 12.10                 | 7.2                   | 0.48       | 85°C                 |

**Note**

The specified performance values of the thermoelectric cooler (TEC) are determined under **standardized laboratory test conditions**. These conditions assume that the **hot side temperature (T<sub>hot</sub>)** is precisely maintained at the **ambient reference temperature (T<sub>amb</sub>)** through adequate heat dissipation and minimal thermal resistance.

Any increase in T<sub>hot</sub> above T<sub>amb</sub>, resulting from insufficient heat sinking or elevated thermal interface resistance, will cause the actual performance to deviate from the specified ratings

**Technical Drawing**


Dimensions are in mm

 Ceramic Material : Al<sub>2</sub>O<sub>3</sub> 96%

Solder Construction : SnAg 240°C

Sheet "34.1CeR09-049-03-20" Work

**TEC DESCRIPTION**

- Cold Side and Hot Side : bare Al<sub>2</sub>O<sub>3</sub>
- Internal Assembly: Solder Sn-Sb (T<sub>melt</sub>=230°C)
- Cold Side Surface: blank
- Hot Side Surface: blank
- Terminal Contacts : AWG-24 Wires, silicon insulated color-coded (Red/Black), multi-strand
- Bi-Te Material : high-grade, SPS type
- Protective Coating: available by request
- Laser marking: available by request

**KEY FEATURES**

- Up to 219°C short time processing (for mounting)
- RoHS EU Compliant

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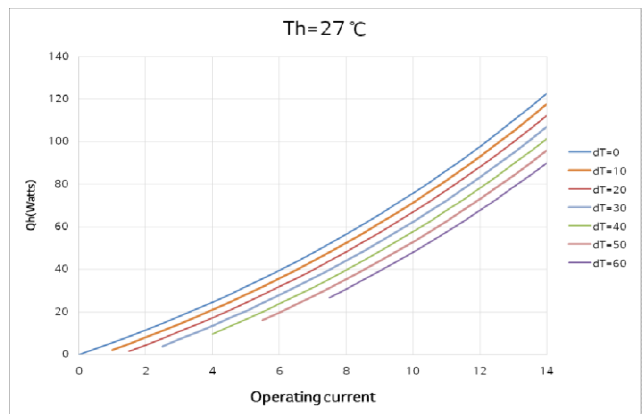
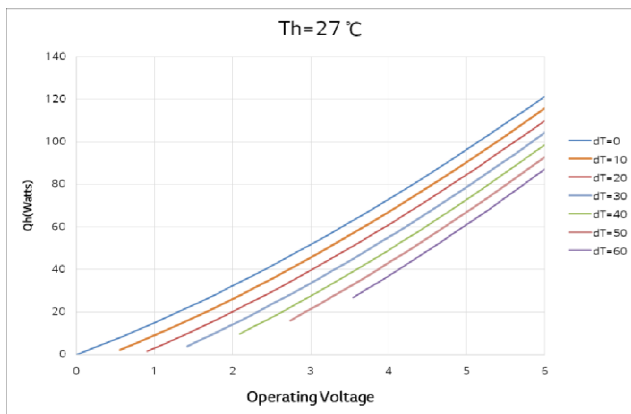
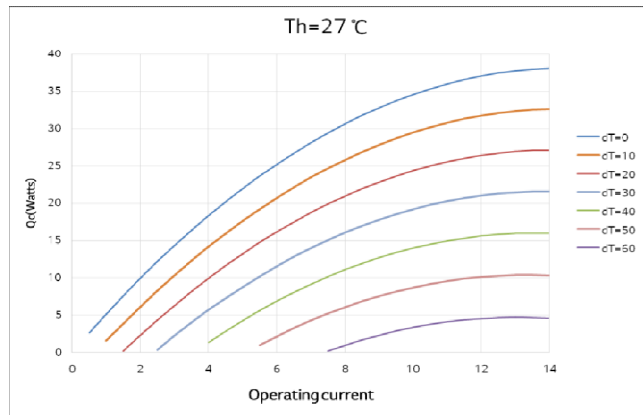
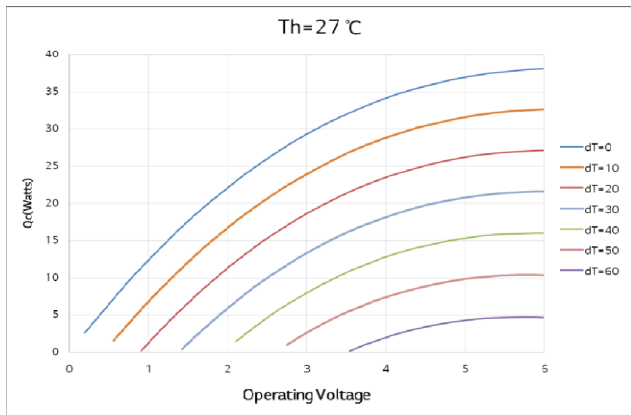
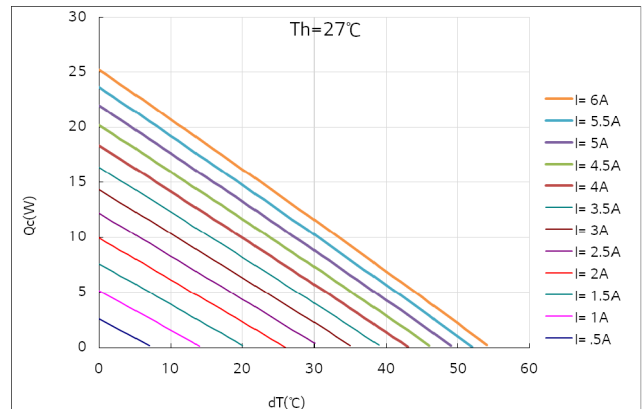
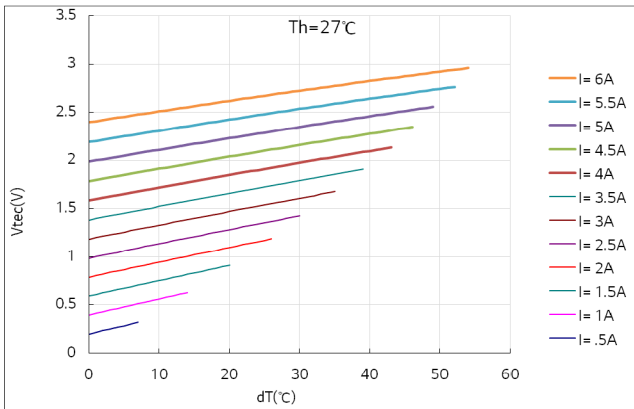
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## Electrical and Thermal Performance

### Installation and Orientation Guidelines

- For optimum thermal performance, ensure that the Cold Side of the Thermoelectric Cooler (TEC) is oriented toward the application requiring temperature control, while the Hot Side must be interfaced with a heat sink or other appropriate heat dissipation mechanism.
- The Cold Side of the TEC is always located opposite to the side with lead attachments.
- Lead attachment areas inherently contribute to passive heat loss. To minimize performance impact, these lead attachments should preferably be positioned on the side interfacing with the heat exchanger.



### Note

1. Max operating temperature: 80°C
2. Do not exceed  $I_{max}$  or  $V_{max}$  when operating module
3. Reference assembly guidelines for recommended installation

Electrical and Thermal Performance

