

## Specification of Thermoelectric Module

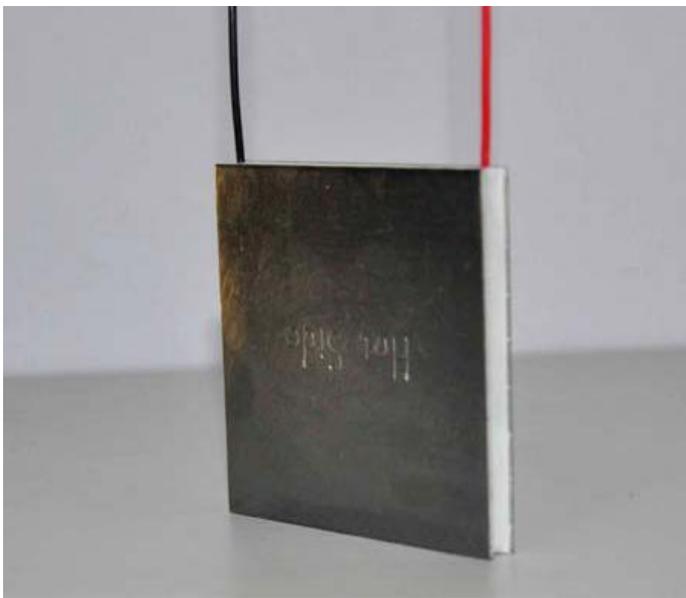
### TEP1-12662-0.45Tc250

#### Description

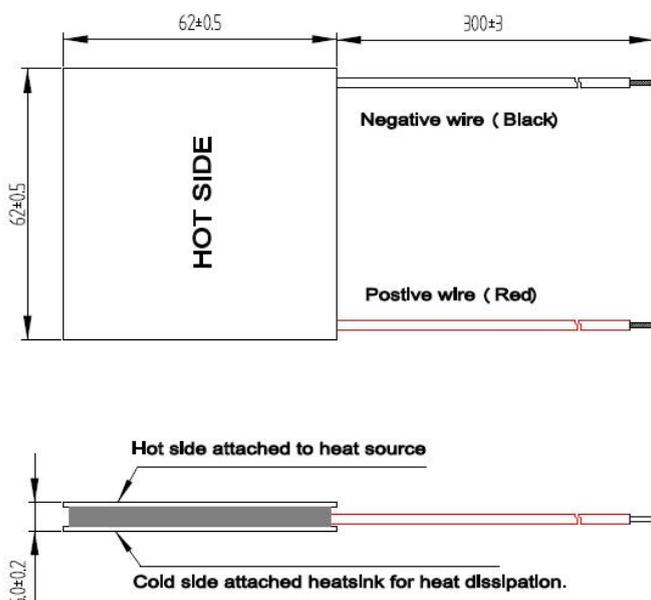
The power module is designed and manufactured by our unique technology for converting heat source directly into electricity. The module is Bi-Te based thermoelectric module that can work at the temperature of as high as 310 °C (606 °F) heat source continuously and up to 380 °C (732 °F) for a short while. The thermoelectric module will generate DC electricity as long as there is a temperature difference across the module. The more power will be generated when the temperature difference across the module becomes larger, and the efficiency of converting heat energy into electricity will increase therefore. The module is stuck with the high thermal conductivity graphite sheet on its both sides of the ceramic plates to provide low contact thermal resistance, hence you do not need to apply thermal grease or other heat transfer compound when you install the module. The graphite sheet can work well in extremely high temperature.

#### Performance Specification Sheet

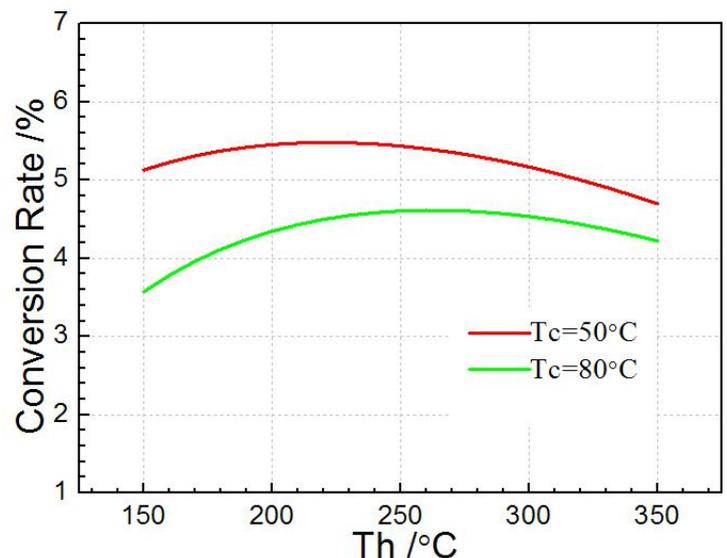
|   |                 |
|---|-----------------|
| <b>Hot Side Temperature (°C)</b>                            | <b>300</b>      |
| <b>Cold Side Temperature (°C)</b>                           | <b>50</b>       |
| <b>Open Circuit Voltage (V)</b>                             | <b>9.0</b>      |
| <b>Matched Load Resistance (ohms)</b>                       | <b>0.95</b>     |
| <b>Matched load output voltage (V)</b>                      | <b>4.5</b>      |
| <b>Matched load output current (A)</b>                      | <b>4.65</b>     |
| <b>Matched load output power (W)</b>                        | <b>20.9</b>     |
| <b>AC Resistance (ohms) Measured under 27 °C at 1000 Hz</b> | <b>0.4~ 0.6</b> |
| <b>Tolerance (For thermal and electricity parameters)</b>   | <b>± 10%</b>    |



#### Geometric Characteristics Dimensions in millimeter



#### Conversion Rate of the modules Vs Th under various Tc

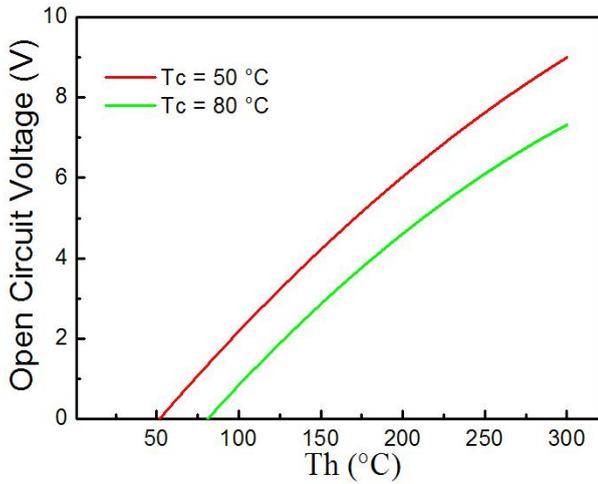


**Noted:** Conversion rate = Matched load output power/Heat flow through the module

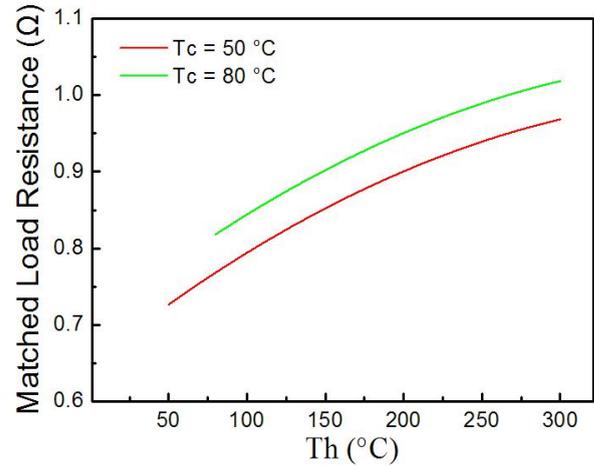
**Note: The module clamping force should be in 450~550kgs.**

## Performance Curves of the Module

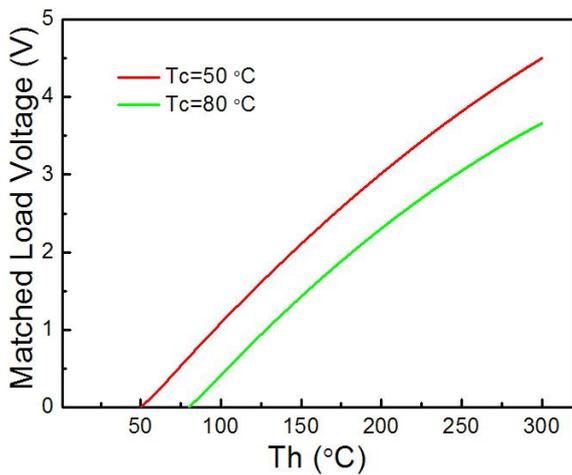
### TEP1-12662-0.45 Tc250



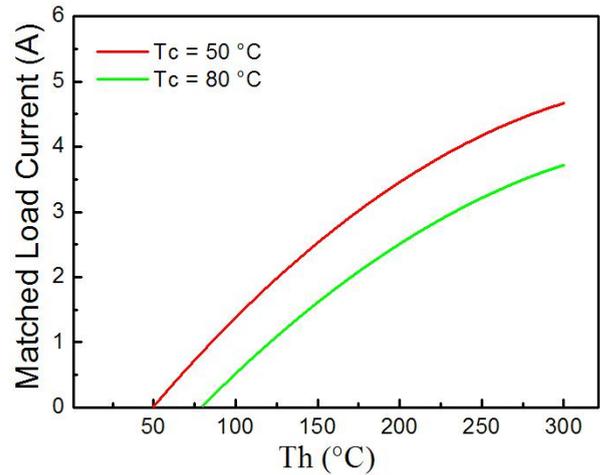
The chart for open circuit voltage Vs Th under various Tc



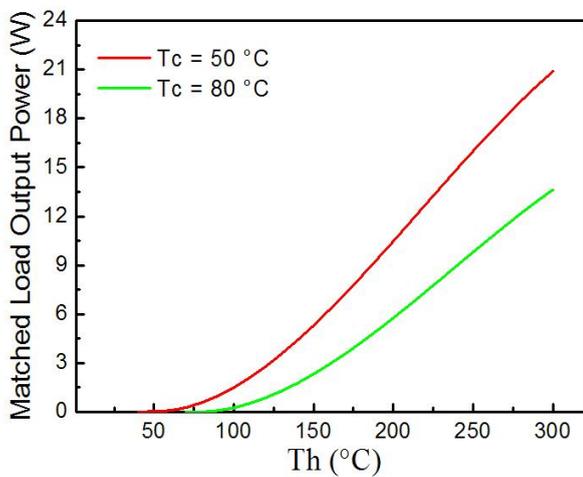
The chart for matched load resistance Vs Th under various Tc



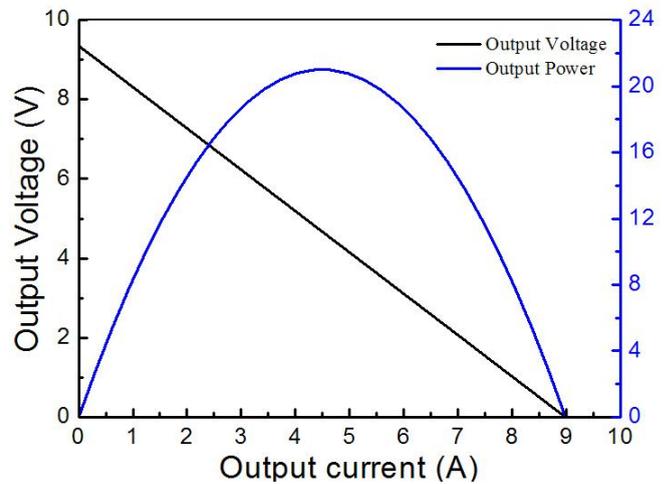
The chart for matched load voltage Vs Th under various Tc



The chart for matched load current Vs Th under various Tc



The chart for matched load output power Vs Th under various Tc



The chart for output voltage and output power Vs output current under Th=300 °C and Tc=50 °C