Crystal LTD
S-065-05-15 specification

Crystal LTD TM SPEC Form  www.cystaltherm.com

Customer

PO#  PO date

Thermoelectric module (TM) specification

<table>
<thead>
<tr>
<th>PO position #</th>
<th>TM</th>
<th>Internal Solder Melting Temp, ºC</th>
<th>Max operating temperature, ºC</th>
<th>Parameters in vacuum at hot side temperature 25 ºC</th>
<th>Rac at 25 ºC</th>
<th>Ceramic size, mm</th>
<th>TM Height</th>
<th>Wire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>short time</td>
<td>long time</td>
<td>Imax, A</td>
<td>Umax, V</td>
<td>Qmax, W</td>
<td>dTmax, K</td>
<td>Rac, Ohm</td>
</tr>
<tr>
<td>1</td>
<td>S-065-05-15</td>
<td>138</td>
<td>130</td>
<td>115</td>
<td>0.7</td>
<td>8.3</td>
<td>3.7</td>
<td>74.5</td>
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Clamping force: 2.0 - 3.9 kg

www.cystaltherm.com
Max $dT$ is reduced by 2-3K for silicon sealed and 1-2K for epoxy sealed versions.

Q($dT$) at $Thot=298K$

- $Q(dT)$ vs $dT$, K
- $Q_{max}$ (W)
- $0.1*Imax$ (0.1 A)
- $0.25*Imax$ (0.2 A)
- $0.5*Imax$ (0.4 A)
- $0.75*Imax$ (0.5 A)
- $1*Imax$ (0.7 A)
U(dT) at Thot=298K

- 0.1*Imax (0.1 A)
- 0.25*Imax (0.2 A)
- 0.5*Imax (0.4 A)
- 0.75*Imax (0.5 A)
- 1*Imax (0.7 A)
The diagram illustrates the COP (Coefficient of Performance) as a function of the temperature difference, dT, for different currents relative to the maximum current, Imax. The currents considered are 0.1*Imax, 0.25*Imax, 0.5*Imax, 0.75*Imax, and 1*Imax.

- **0.1*Imax (0.1 A)**: Represented by a blue line.
- **0.25*Imax (0.2 A)**: Represented by a pink line.
- **0.5*Imax (0.4 A)**: Represented by a green line.
- **0.75*Imax (0.5 A)**: Represented by a brown line.
- **1*Imax (0.7 A)**: Represented by a purple line.

The COP values decrease with an increase in dT for all current levels, indicating a decrease in efficiency as the temperature difference increases.