SERIES: CP140 | DESCRIPTION: PELTIER MODULE

FEATURES
- arcTEC™ structure
- enhanced reliability for high thermal cycling
- superior thermal performance
- silicon sealed
- wide ΔT max
- precise temperature control
- solid state construction

MODEL

<table>
<thead>
<tr>
<th></th>
<th>input voltage²</th>
<th>input current²</th>
<th>internal resistance²</th>
<th>output Qmax²</th>
<th>output ΔTmax⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max (Vdc)</td>
<td>max (A)</td>
<td>typ (Ω±10%)</td>
<td>T&lt;sub&gt;h=27°C&lt;/sub&gt; (W)</td>
<td>T&lt;sub&gt;h=50°C&lt;/sub&gt; (W)</td>
</tr>
<tr>
<td>CP144044</td>
<td>8.6</td>
<td>14</td>
<td>0.49</td>
<td>67</td>
<td>73</td>
</tr>
<tr>
<td>CP144745325</td>
<td>19.5</td>
<td>14</td>
<td>1.08</td>
<td>157</td>
<td>172</td>
</tr>
</tbody>
</table>

Notes:
1. Maximum voltage at ΔT max and T<sub>h=27°C</sub>
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at I<sub>max</sub>, V<sub>max</sub>, and ΔT=0°C
5. Maximum temperature difference occurs at I<sub>max</sub>, V<sub>max</sub>, and Q=0W (ΔT max measured in a vacuum at 1.3 Pa)
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>parameter</th>
<th>conditions/description</th>
<th>min</th>
<th>typ</th>
<th>max</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>solder melting temperature</td>
<td>connection between thermoelectric pairs</td>
<td>235</td>
<td></td>
<td></td>
<td>°C</td>
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<tr>
<td>assembly compression</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>MPa</td>
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<tr>
<td>RoHS</td>
<td>yes</td>
<td></td>
<td></td>
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</tbody>
</table>

**MECHANICAL DRAWING**

| units: mm |

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**MATERIAL**

- ceramic plate: 96% $\text{Al}_2\text{O}_3$
- wire leads: 18 AWG tin
- sealer: silicon rubber 703 RTV (between cold and hot side plates)
- joint cover: silicon rubber 703 RTV
- marking: P/N & S/N printed on cold side surface

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**MODEL NO.**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>HOT SIDE LENGTH (mm)</th>
<th>COLD SIDE LENGTH (mm)</th>
<th>WIDTH (mm)</th>
<th>THICKNESS (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP144044</td>
<td>40 ±0.3</td>
<td>40 ±0.3</td>
<td>40 ±0.3</td>
<td>4.4 ±0.1</td>
</tr>
<tr>
<td>CP144745325</td>
<td>47 ±0.5</td>
<td>44.8 ±0.5</td>
<td>44.8 ±0.3</td>
<td>3.25 ±0.025</td>
</tr>
</tbody>
</table>
CP144044 PERFORMANCE (Th=27°C)

[Graph showing performance parameters for Th=27°C]

CP144044 PERFORMANCE (Th=50°C)

[Graph showing performance parameters for Th=50°C]
CP144745325 PERFORMANCE (Th=27°C)

CP144745325 PERFORMANCE (Th=50°C)
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