SERIES: CP40 | DESCRIPTION: PELTIER MODULE

FEATURES
- arcTEC™ structure on select models
- solid state device
- precise temperature control
- quiet operation

MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>input voltage&lt;sup&gt;1&lt;/sup&gt;</th>
<th>input current&lt;sup&gt;2&lt;/sup&gt;</th>
<th>internal resistance&lt;sup&gt;3&lt;/sup&gt;</th>
<th>output Q&lt;sub&gt;max&lt;/sub&gt;</th>
<th>output ΔT&lt;sub&gt;max&lt;/sub&gt;&lt;sup&gt;5&lt;/sup&gt;</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;r=27°C&lt;/sub&gt; (W)</td>
<td>T&lt;sub&gt;r=50°C&lt;/sub&gt; (W)</td>
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<tr>
<td>CP40136</td>
<td>3.8</td>
<td>4.0</td>
<td>0.80</td>
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<td>9.0</td>
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<td>CP40236</td>
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<td>2.0</td>
<td>18.7</td>
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<td>4.0</td>
<td>3.5</td>
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<td>CP40247</td>
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<td>0.77</td>
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<td>CP402533&lt;sup&gt;8&lt;/sup&gt;</td>
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<td>CP40301547</td>
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<td>CP40347&lt;sup&gt;7&lt;/sup&gt;</td>
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<td>CP40439&lt;sup&gt;8&lt;/sup&gt;</td>
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<td>CP40446&lt;sup&gt;9&lt;/sup&gt;</td>
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<td>55.7</td>
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<td>3.15</td>
<td>32.0</td>
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<td>CP4055485&lt;sup&gt;8&lt;/sup&gt;</td>
<td>28.8</td>
<td>4.0</td>
<td>5.97</td>
<td>63.0</td>
<td>69.0</td>
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</table>

Notes:  
1. Maximum voltage at ΔT<sub>max</sub> and T<sub>r=27°C</sub>  
2. Maximum current to achieve ΔT<sub>max</sub>  
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 0=0W (ΔT<sub>max</sub> measured in a vacuum at 1.3 Pa)  
6. Designed with arcTEC™ structure.
SPECIFICATIONS

<table>
<thead>
<tr>
<th>parameter</th>
<th>conditions/description</th>
<th>min</th>
<th>typ</th>
<th>max</th>
<th>units</th>
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<tbody>
<tr>
<td>solder melting temperature</td>
<td>connection between thermoelectric pairs CP40347, CP40447, CP40147, CP40247, CP402533 CP40301547, CP404046, CP40439, CP4055485 all other models</td>
<td>235</td>
<td>138</td>
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<td>°C</td>
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<td>assembly compression</td>
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<td>MPa</td>
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<td>RoHS</td>
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</table>

MECHANICAL DRAWING

Units: mm

Notes:
1. Wire lead strip length on models CP40347, CP40447, CP40439, CP402533, & CP4055485 is ±3.0 mm.
CP40136 PERFORMANCE (Th=27°C)

![Graph showing performance data for CP40136 at Th=27°C]

CP40136 PERFORMANCE (Th=50°C)

![Graph showing performance data for CP40136 at Th=50°C]
CP40236 PERFORMANCE (Th=27°C)

![Graph showing performance with Th=27°C]

CP40236 PERFORMANCE (Th=50°C)

![Graph showing performance with Th=50°C]
CP40336 PERFORMANCE (Th=27°C)

CP40336 PERFORMANCE (Th=50°C)
CP40147 PERFORMANCE (Th=27°C)

Input Voltage (V) vs Heat Pumped, Q (W) graph for different currents.

CP40147 PERFORMANCE (Th=50°C)

Input Voltage (V) vs Heat Pumped, Q (W) graph for different currents.
CP40247 PERFORMANCE (Th=27°C)

[Graph showing performance data for CP40247 Peltier module with Th=27°C]

CP40247 PERFORMANCE (Th=50°C)

[Graph showing performance data for CP40247 Peltier module with Th=50°C]
CP402533 PERFORMANCE (Th=27°C)

CP402533 PERFORMANCE (Th=50°C)
CP40301547 PERFORMANCE (Th=27°C)

CP40301547 PERFORMANCE (Th=50°C)
CP40347 PERFORMANCE (Th=27°C)

CP40347 PERFORMANCE (Th=50°C)
CP40439 PERFORMANCE (Th=27°C)

\[ \Delta T = T_h - T_c \, (^\circ C) \]

Input Voltage (V) vs. Heat Pumped, Q (W)

CP40439 PERFORMANCE (Th=50°C)

\[ \Delta T = T_h - T_c \, (^\circ C) \]

Input Voltage (V) vs. Heat Pumped, Q (W)
CP404046 PERFORMANCE (Th=27°C)

CP404046 PERFORMANCE (Th=50°C)
CP40447 PERFORMANCE (Th=27°C)

![Graph showing performance data for CP40447 at 27°C.]

CP40447 PERFORMANCE (Th=50°C)

![Graph showing performance data for CP40447 at 50°C.]

Additional Resources:  
- Product Page  
- 3D Model
CP4055485 PERFORMANCE (Th=27°C)

Input Voltage (V) vs. Heat Pumped, Q (W)

ΔT=Th-Tc (°C)

CP4055485 PERFORMANCE (Th=50°C)

Input Voltage (V) vs. Heat Pumped, Q (W)

ΔT=Th-Tc (°C)
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### REVISION HISTORY

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<tr>
<th>rev.</th>
<th>description</th>
<th>date</th>
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<tr>
<td>1.0</td>
<td>initial release</td>
<td>09/03/2009</td>
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<tr>
<td>1.01</td>
<td>applied new template</td>
<td>05/08/2012</td>
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<tr>
<td>1.02</td>
<td>added new models</td>
<td>09/08/2016</td>
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<tr>
<td>1.03</td>
<td>changed models CP40347 &amp; CP40447 to arcTEC™ structure</td>
<td>12/01/2017</td>
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<td>1.04</td>
<td>changed thickness of CP40147, CP40247, CP40301547 models</td>
<td>09/19/2018</td>
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<td>1.05</td>
<td>added models CP40439, CP404046, CP40555485, brand update</td>
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<td>1.06</td>
<td>added model CP402533</td>
<td>11/17/2020</td>
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<tr>
<td>1.07</td>
<td>logo, datasheet style update</td>
<td>08/05/2022</td>
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The revision history provided is for informational purposes only and is believed to be accurate.