**SERIES:** CP40  |  **DESCRIPTION:** PELTIER MODULE

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

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**MODEL** | **input voltage\(^1\) max (Vdc)** | **input current\(^2\) max (A)** | **internal resistance\(^3\) typ (Ω±10%)** | **output Q\(^4\)max\(\) \(W\)** | **output \(\Delta T\)\(^5\)max\(\) \(^2(W)\)** | **\(T_h=27°C\)** | **\(T_h=50°C\)** | **\(T_h=27°C\)** | **\(T_h=50°C\)**
---|---|---|---|---|---|---|---|---|---
CP40136 | 3.8 | 4.0 | 0.80 | 8.1 | 9.0 | 66 | 72
CP40236 | 8.6 | 4.0 | 2.0 | 18.7 | 21.8 | 66 | 72
CP40336 | 15.4 | 4.0 | 3.5 | 33.4 | 37.3 | 66 | 72
CP40147 | 2.1 | 4.0 | 0.42 | 4.2 | 4.6 | 68 | 72
CP40247 | 3.8 | 4.0 | 0.77 | 7.5 | 8.3 | 68 | 72
CP40301547 | 4.2 | 4.0 | 0.87 | 8.4 | 9.2 | 68 | 72
CP40347\(^6\) | 8.6 | 4.0 | 1.76 | 19.6 | 21.6 | 70 | 77
CP40439\(^6\) | 19.5 | 4.0 | 4.18 | 45.0 | 49.5 | 68 | 75
CP404046\(^6\) | 24.1 | 4.0 | 4.94 | 55.7 | 61.2 | 68 | 75
CP40447\(^6\) | 15.4 | 4.0 | 3.15 | 32.0 | 35.2 | 70 | 77
CP4055485\(^6\) | 29.8 | 4.0 | 5.97 | 63.0 | 69.0 | 70 | 77

**Notes:**
1. Maximum voltage at \(\Delta T\) max and \(T_h=27°C\)
2. Maximum current to achieve \(\Delta T\) max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at \(I_{\text{max}}, V_{\text{max}},\) and \(\Delta T=0°C\)
5. Maximum temperature difference occurs at \(I_{\text{max}}, V_{\text{max}},\) and \(Q=0W\) (\(\Delta T\) max measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure.

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SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>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</td>
<td>235</td>
<td>138</td>
<td></td>
<td>°C</td>
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<td>CP40347, CP40447, CP40147, CP40247, CP40301547, CP404046, CP40439, CP4055485</td>
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<td>all other models</td>
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MECHANICAL DRAWING

Units: mm

Notes: 1. Wire lead strip length on models CP40347, CP40447, CP40439, & CP4055485 is 10 ±3.0 mm.
CP40136 PERFORMANCE (Th=27°C)

ΔT=Th-Tc (°C)

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

CP40136 PERFORMANCE (Th=50°C)

ΔT=Th-Tc (°C)

Heat Pumped, Q (W) vs. Input Voltage (V)
CP40236 PERFORMANCE \((Th=27°C)\)

\[
\begin{array}{c|c|c|c|c|c}
\Delta T=Th-Tc (°C) & 0 & 10.0 & 20.0 & 4.0 & 8.0 \\
\hline
\text{Input Voltage (V)} & 3.9 A & 3.12 A & 2.34 A & 1.56 A & 0.78 A \\
\text{Heat Pumped, Q (W)} & 3.9 A & 3.12 A & 2.34 A & 1.56 A & 0.78 A \\
\end{array}
\]

CP40236 PERFORMANCE \((Th=50°C)\)

\[
\begin{array}{c|c|c|c|c|c}
\Delta T=Th-Tc (°C) & 0 & 10.0 & 20.0 & 4.0 & 8.0 \\
\hline
\text{Input Voltage (V)} & 3.9 A & 3.12 A & 2.34 A & 1.56 A & 0.78 A \\
\text{Heat Pumped, Q (W)} & 3.9 A & 3.12 A & 2.34 A & 1.56 A & 0.78 A \\
\end{array}
\]
CP40336 PERFORMANCE (Th=27°C)

Heat Pumped, Q (W) vs. Input Voltage (V) for different currents (A) at ΔT = Th - Tc (°C).

CP40336 PERFORMANCE (Th=50°C)

Heat Pumped, Q (W) vs. Input Voltage (V) for different currents (A) at ΔT = Th - Tc (°C).
CP40147 PERFORMANCE (Th=27°C)

CP40147 PERFORMANCE (Th=50°C)
CP40247 PERFORMANCE (Th=27°C)

![Graph showing performance of CP40247 at 27°C.](image)

CP40247 PERFORMANCE (Th=50°C)

![Graph showing performance of CP40247 at 50°C.](image)
CP40301547 PERFORMANCE (Th=27°C)

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

\[
\begin{array}{ccccccccc}
\text{Input Voltage (V)} & 20 & 15 & 10 & 5 & 0 & 5 & 10 & 15 & 20 \\
\text{Heat Pumped, } Q \text{ (W)} & 70 & 60 & 50 & 40 & 30 & 20 & 10 & 0 & 0
\end{array}
\]

\[\Delta T = T_h - T_c \text{ (°C)}\]

CP40347 PERFORMANCE (Th=50°C)

\[
\begin{array}{ccccccccc}
\text{Input Voltage (V)} & 20 & 15 & 10 & 5 & 0 & 5 & 10 & 15 & 20 \\
\text{Heat Pumped, } Q \text{ (W)} & 70 & 60 & 50 & 40 & 30 & 20 & 10 & 0 & 0
\end{array}
\]

\[\Delta T = T_h - T_c \text{ (°C)}\]
CP40439 PERFORMANCE (Th=27°C)

CP40439 PERFORMANCE (Th=50°C)
CP404046 PERFORMANCE (Th=27°C)

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

![Graph showing CP40447 performance at Th=27°C]

**CP40447 PERFORMANCE (Th=50°C)**

![Graph showing CP40447 performance at Th=50°C]
CP4055485 PERFORMANCE (Th=27°C)

CP4055485 PERFORMANCE (Th=50°C)
REVISION HISTORY

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<th>rev.</th>
<th>description</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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<td>1.02</td>
<td>added new models</td>
<td>09/08/2016</td>
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<td>1.03</td>
<td>changed models CP40347 &amp; CP40447 to arcTEC™ structure</td>
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<td>1.04</td>
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<td>1.05</td>
<td>added models CP40439, CP404046, CP4055485, brand update</td>
<td>10/18/2019</td>
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The revision history provided is for informational purposes only and is believed to be accurate.

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