**SERIES: CP60H | DESCRIPTION: PELTIER MODULE**

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

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**MODEL**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>input voltage(^1)</th>
<th>input current(^2)</th>
<th>internal resistance(^2)</th>
<th>output Qmax(^4)</th>
<th>output ΔTmax(^5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max (Vdc)</td>
<td>max (A)</td>
<td>typ (Ω±10%)</td>
<td>T(_h=27°C) (W)</td>
<td>T(_h=50°C) (W)</td>
</tr>
<tr>
<td>CP60131H</td>
<td>3.8</td>
<td>6.0</td>
<td>0.45</td>
<td>13</td>
<td>14.3</td>
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<tr>
<td>CP60139H</td>
<td>2.1</td>
<td>6.0</td>
<td>0.30</td>
<td>7.4</td>
<td>8.2</td>
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<td>CP60231H</td>
<td>8.8</td>
<td>6.0</td>
<td>1.05</td>
<td>29.7</td>
<td>32.7</td>
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<tr>
<td>CP60239H</td>
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<td>6.0</td>
<td>0.55</td>
<td>13.6</td>
<td>14.9</td>
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<tr>
<td>CP602040395H(^6)</td>
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<td>6.0</td>
<td>1.09</td>
<td>27.5</td>
<td>30.2</td>
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<tr>
<td>CP60301233H</td>
<td>5.0</td>
<td>6.0</td>
<td>0.76</td>
<td>19.7</td>
<td>21.7</td>
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<td>CP60301531H</td>
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<td>6.0</td>
<td>0.93</td>
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<td>CP60302031H</td>
<td>13.0</td>
<td>6.0</td>
<td>1.51</td>
<td>49.5</td>
<td>54.5</td>
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<td>CP603315H(^6)</td>
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<td>6.0</td>
<td>1.65</td>
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<td>1.25</td>
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<tr>
<td>CP604020395H(^6)</td>
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<td>6.0</td>
<td>1.09</td>
<td>27.5</td>
<td>30.2</td>
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<tr>
<td>CP60433H(^6)</td>
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<td>6.0</td>
<td>2.54</td>
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<tr>
<td>CP604395H(^6)</td>
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<tr>
<td>CP60440(^6)</td>
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<td>CP60555354(^6)</td>
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<td>138</td>
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<td>CP60555542(^6)</td>
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<td>CP604060395(^6)</td>
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<td>6.0</td>
<td>3.3</td>
<td>80.2</td>
<td>88.2</td>
</tr>
</tbody>
</table>

Notes:
1. Maximum voltage at ΔT max and T\(_h=27°C\)
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\(_{max}\), V\(_{max}\), and ΔT=0°C
5. Maximum temperature difference occurs at I\(_{max}\), V\(_{max}\), and 0=0W (ΔT max 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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<tr>
<td>solder melting temperature</td>
<td>connection between thermoelectric pairs</td>
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<td></td>
<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**

**MATERIAL**

- **PLATING**
  - Ceramic plate: 96% Al₂O₃
  - Wire leads (CP60131H, CP60231H, CP60302031H, CP60301233H, CP60301531H, CP603315H): 22 AWG tin
  - Wire leads (all other models): 20 AWG tin
  - Sealer: silicon rubber 703 RTV (between cold and hot side plates)
  - Joint cover: silicon rubber 703 RTV
  - Marking: P/N B S/N printed on cold side surface

**MECHANICAL DRAWING**

**MODEL NO.** | **LENGTH (mm)** | **WIDTH (mm)** | **THICKNESS (mm)** | **MODEL NO.** | **LENGTH (mm)** | **WIDTH (mm)** | **THICKNESS (mm)**
---|---|---|---|---|---|---|---
CP60131H | 15 ±0.3 | 15 ±0.3 | 3.1 ±0.025 | CP603395H | 30 ±0.3 | 30 ±0.3 | 3.95 ±0.025
CP60139H | 15 ±0.3 | 15 ±0.3 | 3.9 ±0.025 | CP604020395H | 40 ±0.3 | 20 ±0.3 | 3.95 ±0.025
CP60231H | 20 ±0.3 | 20 ±0.3 | 3.1 ±0.025 | CP60433H | 40 ±0.3 | 40 ±0.3 | 3.3 ±0.03
CP60239H | 20 ±0.3 | 20 ±0.3 | 3.9 ±0.025 | CP604395H | 40 ±0.3 | 40 ±0.3 | 3.95 ±0.025
CP602040395H | 20 ±0.3 | 40 ±0.3 | 3.95 ±0.025 | CP604040 | 40 ±0.3 | 40 ±0.3 | 4.0 ±0.1
CP60301233H | 30 ±0.1 | 12 ±0.1 | 3.3 ±0.1 | CP60546241 | 62.5 ±0.3 | 54 ±0.3 | 4.1 ±0.1
CP60301531H | 30 ±0.3 | 15 ±0.3 | 3.1 ±0.025 | CP60555354 | 55 ±0.3 | 55 ±0.3 | 4.1 ±0.1
CP60302031H | 30 ±0.3 | 20 ±0.3 | 3.1 ±0.1 | CP60555542 | 55 ±0.3 | 55 ±0.3 | 4.2 ±0.1
CP603315H | 30 ±0.3 | 30 ±0.3 | 3.15 ±0.025 | CP604060395 | 40 ±0.3 | 60 ±0.3 | 3.95 ±0.025
CP6030395 | 30 ±0.3 | 30 ±0.3 | 3.95 ±0.025 |
CP60131H PERFORMANCE (Th=27°C)

ΔT=Th-Tc (°C)

CP60131H PERFORMANCE (Th=50°C)
CP60139H PERFORMANCE (Th=27°C)

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

CP60139H PERFORMANCE (Th=50°C)

Input Voltage (V) vs. Heat Pumped, Q (W) for different currents and voltages.
CP60231H PERFORMANCE (Th=27°C)

![Graph showing the performance of CP60231H at Th=27°C.]

CP60231H PERFORMANCE (Th=50°C)

![Graph showing the performance of CP60231H at Th=50°C.]

Additional Resources:  
Product Page  |  3D Model
CP60239H PERFORMANCE (Th=27°C)

\[
\text{Heat Pumped, } Q (\text{W}) \quad \Delta T=\text{Th}-\text{Tc} (\degree \text{C})
\]

\[
\begin{array}{c|c|c|c|c|c|c|c|c}
\hline
\text{Input Voltage (V)} & 4.0 & 3.6 & 4.8 & 3.6 & 2.4 & 3.6 & 2.4 & 1.2 \\
\hline
\text{Heat Pumped, } Q (\text{W}) & 12 & 8.0 & 4.0 & 8.0 & 4.0 & 8.0 & 4.0 & 12 \\
\hline
\end{array}
\]

CP60239H PERFORMANCE (Th=50°C)

\[
\text{Heat Pumped, } Q (\text{W}) \quad \Delta T=\text{Th}-\text{Tc} (\degree \text{C})
\]

\[
\begin{array}{c|c|c|c|c|c|c|c|c}
\hline
\text{Input Voltage (V)} & 4.0 & 3.6 & 4.8 & 3.6 & 2.4 & 3.6 & 2.4 & 1.2 \\
\hline
\text{Heat Pumped, } Q (\text{W}) & 12 & 8.0 & 4.0 & 8.0 & 4.0 & 8.0 & 4.0 & 12 \\
\hline
\end{array}
\]
CP602040395H PERFORMANCE (Th=27°C)

CP602040395H PERFORMANCE (Th=50°C)
CP60301233H PERFORMANCE (Th=27°C)

CP60301233H PERFORMANCE (Th=50°C)
CP60301531H PERFORMANCE (Th=27°C)

CP60301531H PERFORMANCE (Th=50°C)
CP60302031H PERFORMANCE (Th=27°C)

CP60302031H PERFORMANCE (Th=50°C)
CP603315H PERFORMANCE (Th=27°C)

![Graph showing performance at 27°C.]

CP603315H PERFORMANCE (Th=50°C)

![Graph showing performance at 50°C.]

Additional Resources: Product Page | 3D Model
CP6030395 PERFORMANCE (Th=27°C)

CP6030395 PERFORMANCE (Th=50°C)
CP603395H PERFORMANCE (Th=27°C)

CP603395H PERFORMANCE (Th=50°C)
CP604020395H PERFORMANCE (Th=27°C)

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

ΔT=Th-Tc (°C)

CP604020395H PERFORMANCE (Th=50°C)

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

ΔT=Th-Tc (°C)
CP60433H PERFORMANCE (Th=27°C)

CP60433H PERFORMANCE (Th=50°C)
CP604395H PERFORMANCE (Th=27°C)

△T = Th - Tc (°C)

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

CP604395H PERFORMANCE (Th=50°C)

△T = Th - Tc (°C)

Input Voltage (V) vs. Heat Pumped, Q (W)
CP604040 PERFORMANCE (Th=27°C)

CP604040 PERFORMANCE (Th=50°C)
CP60546241 PERFORMANCE (Th=27°C)

![Graph showing performance of CP60546241 with Th=27°C.](image)

CP60546241 PERFORMANCE (Th=50°C)

![Graph showing performance of CP60546241 with Th=50°C.](image)
CP6055354 PERFORMANCE (Th=27°C)

![Graph showing performance data for CP6055354 at Th=27°C.](image)

CP6055354 PERFORMANCE (Th=50°C)

![Graph showing performance data for CP6055354 at Th=50°C.](image)
CP60555542 PERFORMANCE (Th=27°C)

- Graph showing the relationship between input voltage, heat pumped, and ΔT (Th-Tc) for different currents (1.2 A, 2.4 A, 3.6 A, 4.8 A, 6 A).

CP60555542 PERFORMANCE (Th=50°C)

- Graph showing the relationship between input voltage, heat pumped, and ΔT (Th-Tc) for different currents (1.2 A, 2.4 A, 3.6 A, 4.8 A, 6 A).
CP604060395 PERFORMANCE (Th=27°C)

![Graph showing heat pumped vs. input voltage for CP604060395 at Th=27°C.]

CP604060395 PERFORMANCE (Th=50°C)

![Graph showing heat pumped vs. input voltage for CP604060395 at Th=50°C.]

Additional Resources:
- Product Page
- 3D Model
## REVISION HISTORY

<table>
<thead>
<tr>
<th>rev.</th>
<th>description</th>
<th>date</th>
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<tbody>
<tr>
<td>1.0</td>
<td>initial release</td>
<td>09/08/2016</td>
</tr>
<tr>
<td>1.01</td>
<td>updated datasheet</td>
<td>09/25/2017</td>
</tr>
<tr>
<td>1.02</td>
<td>added new models</td>
<td>05/21/2018</td>
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<tr>
<td>1.03</td>
<td>added models CP604060395, CP60555542, CP6030395, CP604040, CP6055354, CP60546241, brand update</td>
<td>10/22/2019</td>
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<tr>
<td>1.04</td>
<td>added model CP60302031H</td>
<td>11/12/2020</td>
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<tr>
<td>1.05</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.