**SERIES:** CP39H  |  **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

### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>input voltage(^1)</th>
<th>input current(^2)</th>
<th>internal resistance(^3)</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_\text{h}=27°C) (W)</td>
<td>(T_\text{h}=50°C) (W)</td>
</tr>
<tr>
<td>CP39136H</td>
<td>3.8</td>
<td>3.9</td>
<td>0.85</td>
<td>8.6</td>
<td>9.5</td>
</tr>
<tr>
<td>CP39236H</td>
<td>8.8</td>
<td>3.9</td>
<td>1.95</td>
<td>18.7</td>
<td>20.9</td>
</tr>
<tr>
<td>CP39301536H</td>
<td>7.6</td>
<td>3.9</td>
<td>1.73</td>
<td>16.5</td>
<td>18.1</td>
</tr>
<tr>
<td>CP393365H(^6)</td>
<td>15.7</td>
<td>3.9</td>
<td>3.50</td>
<td>35.2</td>
<td>39.0</td>
</tr>
<tr>
<td>CP394044365(^7)</td>
<td>32.5</td>
<td>3.9</td>
<td>6.95±5%</td>
<td>71.8</td>
<td>80.0</td>
</tr>
</tbody>
</table>

**Notes:**
1. Maximum voltage at ΔT max and \(T_\text{h}=27°C\)
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 \(I_{\text{max}}, V_{\text{max}}, \text{ and } \Delta T=0°C\)
5. Maximum temperature difference occurs at \(I_{\text{max}}, V_{\text{max}}, \text{ and } Q=0W\) (ΔT max measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure.

---

**Additional Resources:** [Product Page] | [3D Model]
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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</thead>
<tbody>
<tr>
<td>solder melting temperature</td>
<td>connection between thermoelectric pairs</td>
<td>235</td>
<td></td>
<td></td>
<td>°C</td>
</tr>
<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></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MECHANICAL DRAWING

units: mm

MATERIAL PLATING

- Ceramic plate: 96% Al₂O₃
- Wire leads: 22 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

MODEL NO. | LENGTH (mm) | WIDTH (mm) | THICKNESS (mm) |
-----------|-------------|------------|----------------|
CP39136H   | 15 ±0.3     | 15 ±0.3    | 3.6 ±0.025     |
CP39236H   | 20 ±0.3     | 20 ±0.3    | 3.6 ±0.025     |
CP39301536H| 30 ±0.3     | 15 ±0.3    | 3.6 ±0.025     |
CP393365H  | 30 ±0.3     | 30 ±0.3    | 3.65 ±0.025    |
CP394044365| 44 ±0.3     | 40.5 ±0.3  | 3.65 ±0.1      |

Additional Resources:  Product Page  |  3D Model
**CP39136H PERFORMANCE (Th=27°C)**

![Graph showing performance data for CP39136H at Th=27°C.]

**CP39136H PERFORMANCE (Th=50°C)**

![Graph showing performance data for CP39136H at Th=50°C.]

Additional Resources:  
- Product Page  
- 3D Model
CP39236H PERFORMANCE (Th=27°C)

\[
\begin{array}{ccc}
\text{Input Voltage (V)} & \text{Heat Pumped, } Q (W) \\
0.78 A & 8.0 \\
1.56 A & 4.0 \\
3.9 A & 2.34 A \\
3.12 A & 1.56 A \\
0.78 A & 0.78 A
\end{array}
\]

\[
\Delta T=\text{Th-Tc} \degree C
\]

CP39236H PERFORMANCE (Th=50°C)

\[
\begin{array}{ccc}
\text{Input Voltage (V)} & \text{Heat Pumped, } Q (W) \\
0.78 A & 8.0 \\
1.56 A & 4.0 \\
3.9 A & 2.34 A \\
3.12 A & 1.56 A \\
0.78 A & 0.78 A
\end{array}
\]

\[
\Delta T=\text{Th-Tc} \degree C
\]
**CP39301536H PERFORMANCE (Th=27°C)**

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

**CP39301536H PERFORMANCE (Th=50°C)**

![Graph showing performance at Th=50°C]


**CP393365H PERFORMANCE (Th=27°C)**

![Graph showing performance at Th=27°C](image)

**CP393365H PERFORMANCE (Th=50°C)**

![Graph showing performance at Th=50°C](image)

Additional Resources:  [Product Page](#)  |  [3D Model](#)
CP394044365 PERFORMANCE \( (T_h=27^\circ C) \)

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

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

- \( 0.78 \text{ A} \)
- \( 1.56 \text{ A} \)
- \( 2.34 \text{ A} \)
- \( 3.12 \text{ A} \)
- \( 3.9 \text{ A} \)

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<tr>
<td>0</td>
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<td>16</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
</tr>
</tbody>
</table>

CP394044365 PERFORMANCE \( (T_h=50^\circ C) \)

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

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

- \( 0.78 \text{ A} \)
- \( 1.56 \text{ A} \)
- \( 2.34 \text{ A} \)
- \( 3.12 \text{ A} \)
- \( 3.9 \text{ A} \)

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Additional Resources:  
Product Page | 3D Model
REVISION HISTORY

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<th>description</th>
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<tr>
<td>1.0</td>
<td>initial release</td>
<td>09/08/2016</td>
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<tr>
<td>1.01</td>
<td>updated datasheet</td>
<td>09/25/2017</td>
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<tr>
<td>1.02</td>
<td>added new model</td>
<td>05/21/2018</td>
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<tr>
<td>1.03</td>
<td>added model CP394044365, brand update</td>
<td>10/16/2019</td>
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The revision history provided is for informational purposes only and is believed to be accurate.

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