SERIES: CP85H | 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)(\text{max} (\text{Vdc}))</th>
<th>Input current(^2)(\text{max} (\text{A}))</th>
<th>Internal resistance(^3)(\text{typ} (\Omega \pm 10%))</th>
<th>Output Q(^\text{max})(\text{max} (\text{W}))</th>
<th>Output ΔT(^\text{max})(\text{max} (\text{W}))</th>
<th>T(_h=27^\circ\text{C}) (°C)</th>
<th>T(_h=50^\circ\text{C}) (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP85134H</td>
<td>2.1</td>
<td>8.5</td>
<td>0.2</td>
<td>10.3</td>
<td>11.3</td>
<td>70</td>
<td>77</td>
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<tr>
<td>CP85153034H</td>
<td>4.2</td>
<td>8.5</td>
<td>0.4(^7)</td>
<td>21</td>
<td>23</td>
<td>70</td>
<td>77</td>
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<tr>
<td>CP85234H</td>
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<td>8.5</td>
<td>0.35</td>
<td>18.8</td>
<td>20.8</td>
<td>70</td>
<td>77</td>
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<tr>
<td>CP852040345H(^6)</td>
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<td>8.5</td>
<td>0.75</td>
<td>38.2</td>
<td>42</td>
<td>70</td>
<td>77</td>
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<tr>
<td>CP85301534H</td>
<td>4.2</td>
<td>8.5</td>
<td>0.4(^7)</td>
<td>21</td>
<td>23</td>
<td>70</td>
<td>77</td>
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<td>CP853345H(^6)</td>
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<td>8.5</td>
<td>0.85</td>
<td>43.1</td>
<td>48</td>
<td>70</td>
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<td>CP8530345(^6)</td>
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<td>8.5</td>
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<td>63.4</td>
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<td>77</td>
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<td>8.5</td>
<td>0.75</td>
<td>38.2</td>
<td>42</td>
<td>70</td>
<td>77</td>
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<tr>
<td>CP854345H(^6)</td>
<td>15.7</td>
<td>8.5</td>
<td>1.5</td>
<td>77.1</td>
<td>85</td>
<td>70</td>
<td>77</td>
</tr>
</tbody>
</table>

Notes:
1. Maximum voltage at ΔT max and T\(_h=27^\circ\text{C}\)
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\(_{\text{max}}\), and ΔT=0°C
5. Maximum temperature difference occurs at I\(_{\text{max}}\), V\(_{\text{max}}\), and Q=0W (ΔT max measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure.
7. Internal resistance tolerance is ±12.5%
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions/Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
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<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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<td>RoHS</td>
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</table>

**MECHANICAL DRAWING**

- **Material**: ceramic plate 96% Al₂O₃, wire leads 20 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.**
  - CP85134H: Length (mm) 15 ±0.3, Width (mm) 15 ±0.3, Thickness (mm) 3.4 ±0.025
  - CP85153034H: Length (mm) 15 ±0.3, Width (mm) 30 ±0.3, Thickness (mm) 3.4 ±0.025
  - CP85234H: Length (mm) 20 ±0.3, Width (mm) 20 ±0.3, Thickness (mm) 3.4 ±0.025
  - CP852040345H: Length (mm) 20 ±0.3, Width (mm) 40 ±0.3, Thickness (mm) 3.45 ±0.025
  - CP85301534H: Length (mm) 30 ±0.3, Width (mm) 15 ±0.3, Thickness (mm) 3.4 ±0.025
  - CP853345H: Length (mm) 30 ±0.3, Width (mm) 30 ±0.3, Thickness (mm) 3.45 ±0.025
  - CP8530345: Length (mm) 30 ±0.3, Width (mm) 30 ±0.3, Thickness (mm) 3.45 ±0.025
  - CP854020345H: Length (mm) 40 ±0.3, Width (mm) 20 ±0.3, Thickness (mm) 3.45 ±0.025
  - CP854345H: Length (mm) 40 ±0.3, Width (mm) 40 ±0.3, Thickness (mm) 3.45 ±0.025

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 Additional Resources: [Product Page](#) | [3D Model](#)
CP85134H PERFORMANCE (Th=27°C)

![Graph showing CP85134H performance at Th=27°C.]

CP85134H PERFORMANCE (Th=50°C)

![Graph showing CP85134H performance at Th=50°C.]

Additional Resources:  Product Page  |  3D Model
CP85153034H PERFORMANCE (Th=27°C)

![Graph showing performance of CP85153034H at Th=27°C](image)

CP85153034H PERFORMANCE (Th=50°C)

![Graph showing performance of CP85153034H at Th=50°C](image)
CP85234H PERFORMANCE (Th=27°C)

CP85234H PERFORMANCE (Th=50°C)
CP852040345H PERFORMANCE (Th=27°C)

CP852040345H PERFORMANCE (Th=50°C)
CP85301534H PERFORMANCE (Th=27°C)

![Graph showing performance data for CP85301534H under Th=27°C conditions.](image1)

CP85301534H PERFORMANCE (Th=50°C)

![Graph showing performance data for CP85301534H under Th=50°C conditions.](image2)
CP853345H PERFORMANCE (Th=27°C)

CP853345H PERFORMANCE (Th=50°C)
CP8530345 PERFORMANCE (Th=27°C)

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

\[
\Delta T=\text{Th}-\text{Tc} \, (^\circ \text{C})
\]

8.5 A
6.8 A
5.1 A
3.4 A
1.7 A

CP8530345 PERFORMANCE (Th=50°C)

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

\[
\Delta T=\text{Th}-\text{Tc} \, (^\circ \text{C})
\]

8.5 A
6.8 A
5.1 A
3.4 A
1.7 A

Additional Resources: Product Page | 3D Model
CP854020345H PERFORMANCE (Th=27°C)

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

CP854020345H PERFORMANCE (Th=50°C)

![Graph showing performance at Th=50°C](image)
CP854345H PERFORMANCE (Th=27°C)

ΔT=Th-Tc (°C)

Input Voltage (V)

Heat Pumped, Q (W)

CP854345H PERFORMANCE (Th=50°C)

ΔT=Th-Tc (°C)

Input Voltage (V)

Heat Pumped, Q (W)
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>
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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 models</td>
<td>05/21/2018</td>
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<tr>
<td>1.03</td>
<td>added model CP8530345, 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.