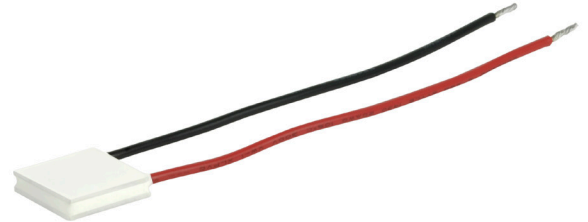


## SERIES: CP85H | DESCRIPTION: PELTIER MODULE

### FEATURES

- arcTEC™ structure on select models
- enhanced reliability for high thermal cycling
- superior thermal performance
- silicon sealed
- wide  $\Delta T$  max
- low profile
- precise temperature control
- solid state construction



### MODEL

|                           | input voltage <sup>1</sup> | input current <sup>2</sup> | internal resistance <sup>3</sup> | output Qmax <sup>4</sup>     |                              | output $\Delta T$ max <sup>5</sup> |                               |
|---------------------------|----------------------------|----------------------------|----------------------------------|------------------------------|------------------------------|------------------------------------|-------------------------------|
|                           | max [Vdc]                  | max [A]                    | typ [ $\Omega \pm 10\%$ ]        | $T_h = 27^\circ\text{C}$ [W] | $T_h = 50^\circ\text{C}$ [W] | $T_h = 27^\circ\text{C}$ [°C]      | $T_h = 50^\circ\text{C}$ [°C] |
| CP85134H                  | 2.1                        | 8.5                        | 0.2                              | 10.3                         | 11.3                         | 70                                 | 77                            |
| CP85153034H               | 4.2                        | 8.5                        | 0.4 <sup>7</sup>                 | 21                           | 23                           | 70                                 | 77                            |
| CP85234H                  | 3.8                        | 8.5                        | 0.35                             | 18.8                         | 20.8                         | 70                                 | 77                            |
| CP852040345H <sup>6</sup> | 7.6                        | 8.5                        | 0.75                             | 38.2                         | 42                           | 70                                 | 77                            |
| CP85301534H               | 4.2                        | 8.5                        | 0.4 <sup>7</sup>                 | 21                           | 23                           | 70                                 | 77                            |
| CP853345H <sup>6</sup>    | 8.8                        | 8.5                        | 0.85                             | 43.1                         | 48                           | 70                                 | 77                            |
| CP8530345 <sup>6</sup>    | 11.8                       | 8.5                        | 1.15                             | 57.7                         | 63.4                         | 70                                 | 77                            |
| CP854020345H <sup>6</sup> | 7.6                        | 8.5                        | 0.75                             | 38.2                         | 42                           | 70                                 | 77                            |
| CP854345H <sup>6</sup>    | 15.7                       | 8.5                        | 1.5                              | 77.1                         | 85                           | 70                                 | 77                            |

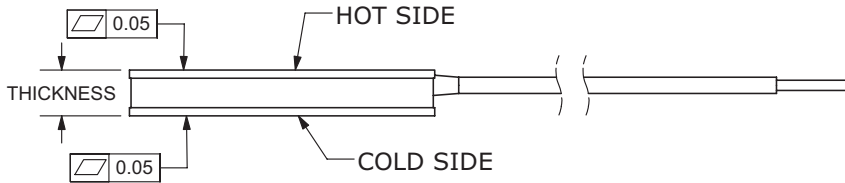
- Notes:
1. Maximum voltage at  $\Delta T$  max and  $T_h = 27^\circ\text{C}$
  2. Maximum current to achieve  $\Delta T$  max
  3. Measured by AC 4-terminal method at  $25^\circ\text{C}$
  4. Maximum heat absorbed at cold side occurs at  $I_{\text{max}}$ ,  $V_{\text{max}}$ , and  $\Delta T = 0^\circ\text{C}$
  5. Maximum temperature difference occurs at  $I_{\text{max}}$ ,  $V_{\text{max}}$ , and  $Q = 0\text{W}$  ( $\Delta T$  max measured in a vacuum at 1.3 Pa)
  6. Designed with arcTEC™ structure.
  7. Internal resistance tolerance is  $\pm 12.5\%$

## SPECIFICATIONS

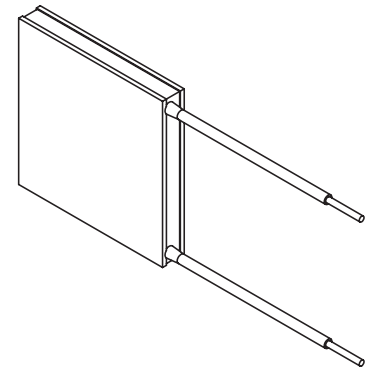
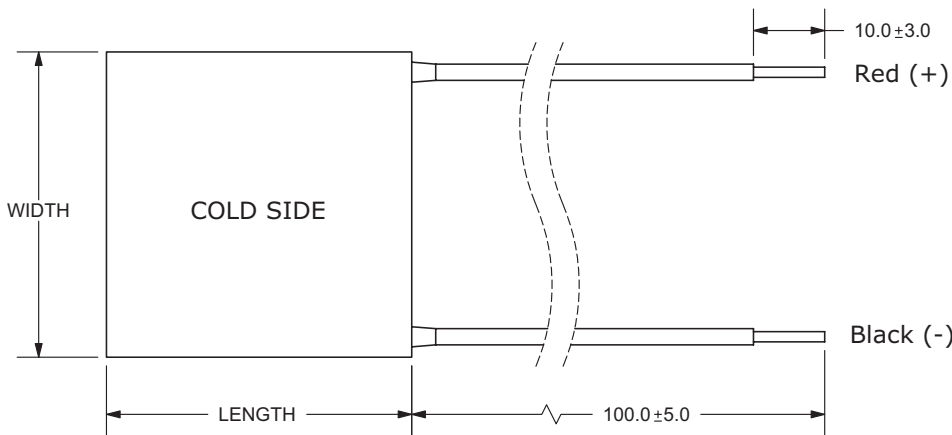
| parameter                  | conditions/description                  | min | typ | max | units |
|----------------------------|---|-----|-----|-----|-------|
| solder melting temperature | connection between thermoelectric pairs | 235 |     |     | °C    |
| assembly compression       |   |     |     | 1   | MPa   |
| RoHS                       | yes                                     |     |     |     |       |

## MECHANICAL DRAWING

units: mm

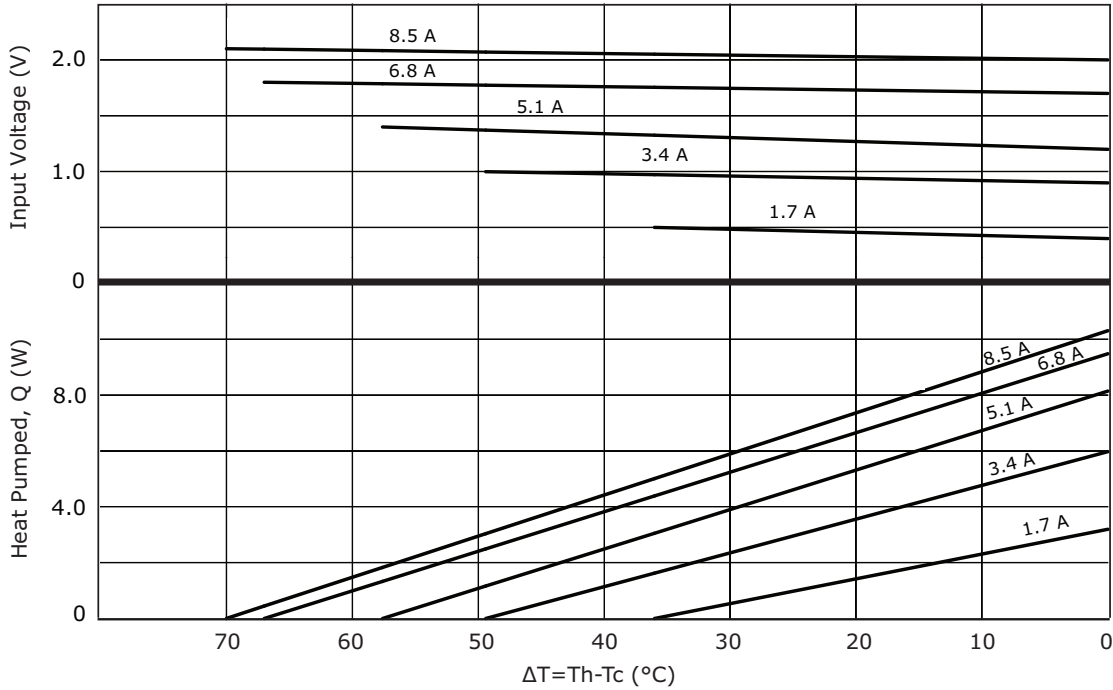


|               | MATERIAL  | PLATING |
|---------------|---|---------|
| ceramic plate | 96% AL <sub>2</sub> O <sub>3</sub>                        |         |
| wire leads    | 20 AWG  | tin     |
| sealer        | silicon rubber 703 RTV (between cold and hot side plates) |         |
| joint cover   | silicon rubber 703 RTV                                    |         |
| marking       | P/N & S/N printed on cold side surface                    |         |

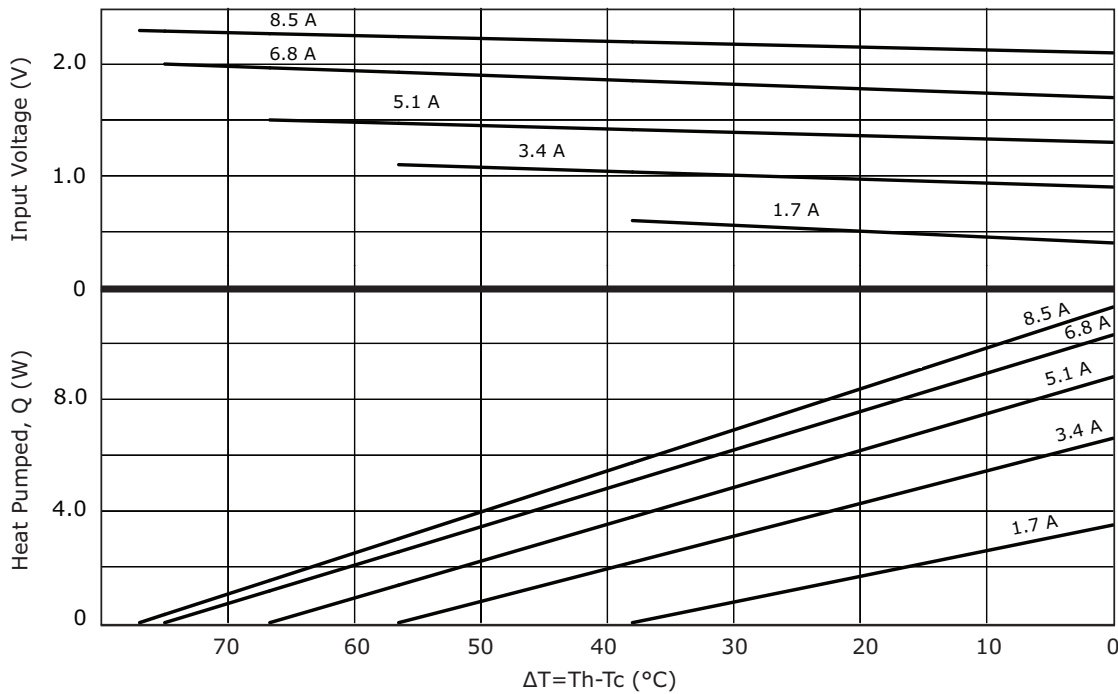


| MODEL NO.    | LENGTH [mm] | WIDTH [mm] | THICKNESS [mm] |
|--------------|-------------|------------|----------------|
| CP85134H     | 15 ± 0.3    | 15 ± 0.3   | 3.4 ± 0.025    |
| CP85153034H  | 15 ± 0.3    | 30 ± 0.3   | 3.4 ± 0.025    |
| CP85234H     | 20 ± 0.3    | 20 ± 0.3   | 3.4 ± 0.025    |
| CP852040345H | 20 ± 0.3    | 40 ± 0.3   | 3.45 ± 0.025   |
| CP85301534H  | 30 ± 0.3    | 15 ± 0.3   | 3.4 ± 0.025    |
| CP853345H    | 30 ± 0.3    | 30 ± 0.3   | 3.45 ± 0.025   |
| CP8530345    | 30 ± 0.3    | 30 ± 0.3   | 3.45 ± 0.025   |
| CP854020345H | 40 ± 0.3    | 20 ± 0.3   | 3.45 ± 0.025   |
| CP854345H    | 40 ± 0.3    | 40 ± 0.3   | 3.45 ± 0.025   |

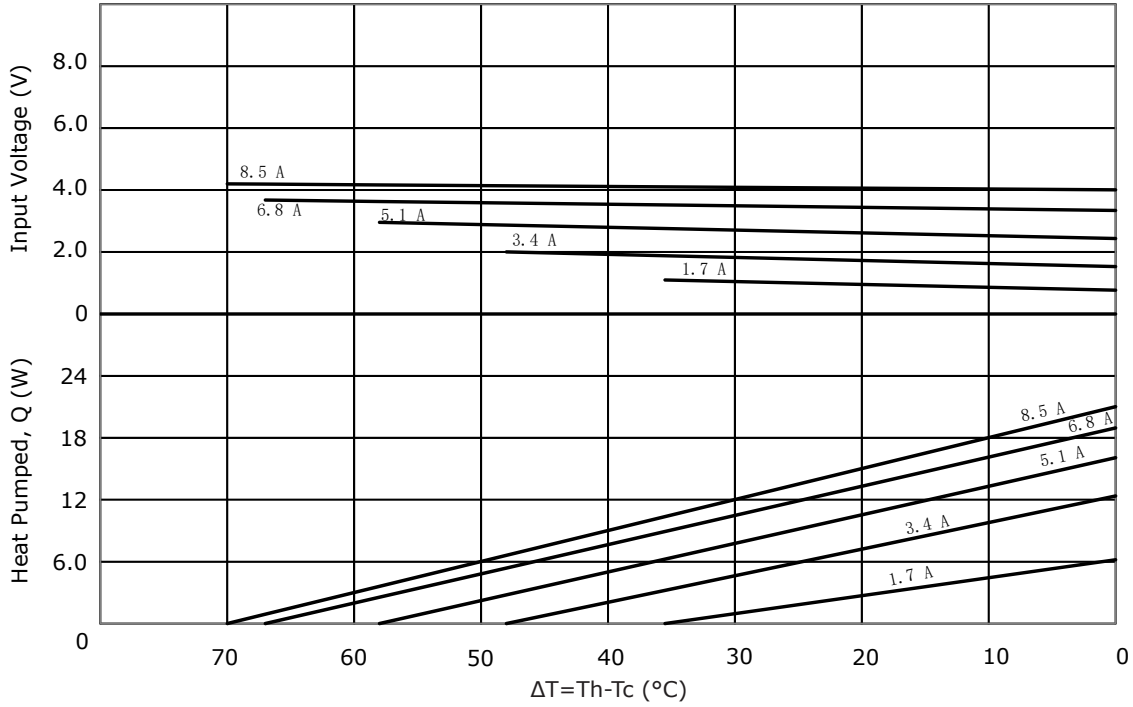
## CP85134H PERFORMANCE (Th=27°C)



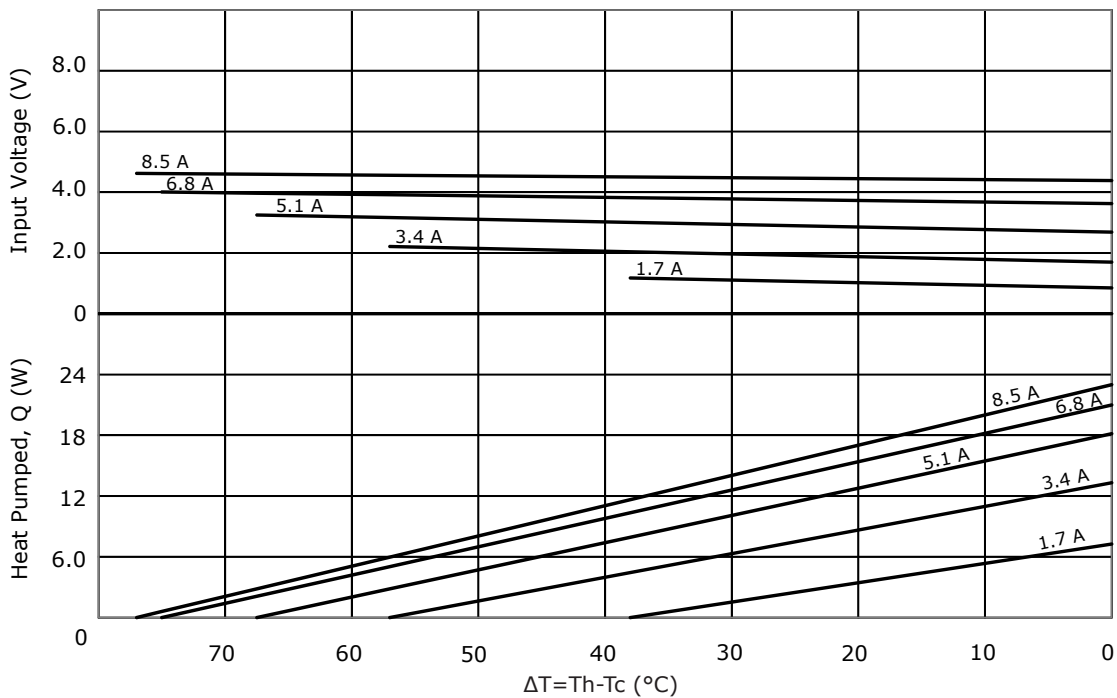
## CP85134H PERFORMANCE (Th=50°C)



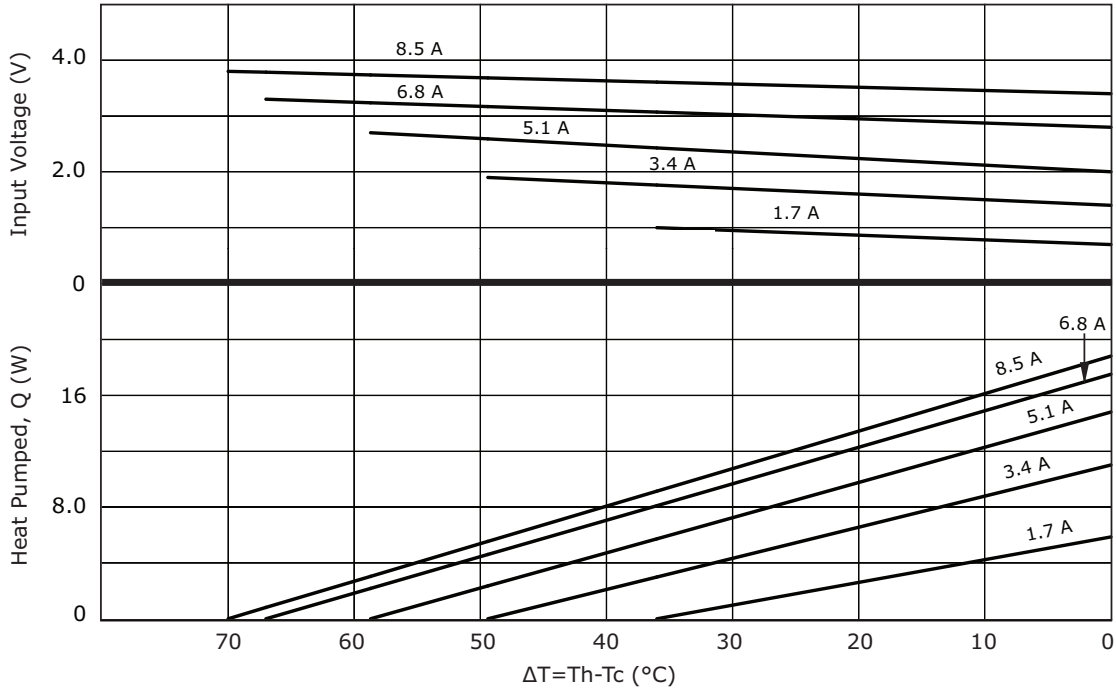
### CP85153034H PERFORMANCE (Th=27°C)



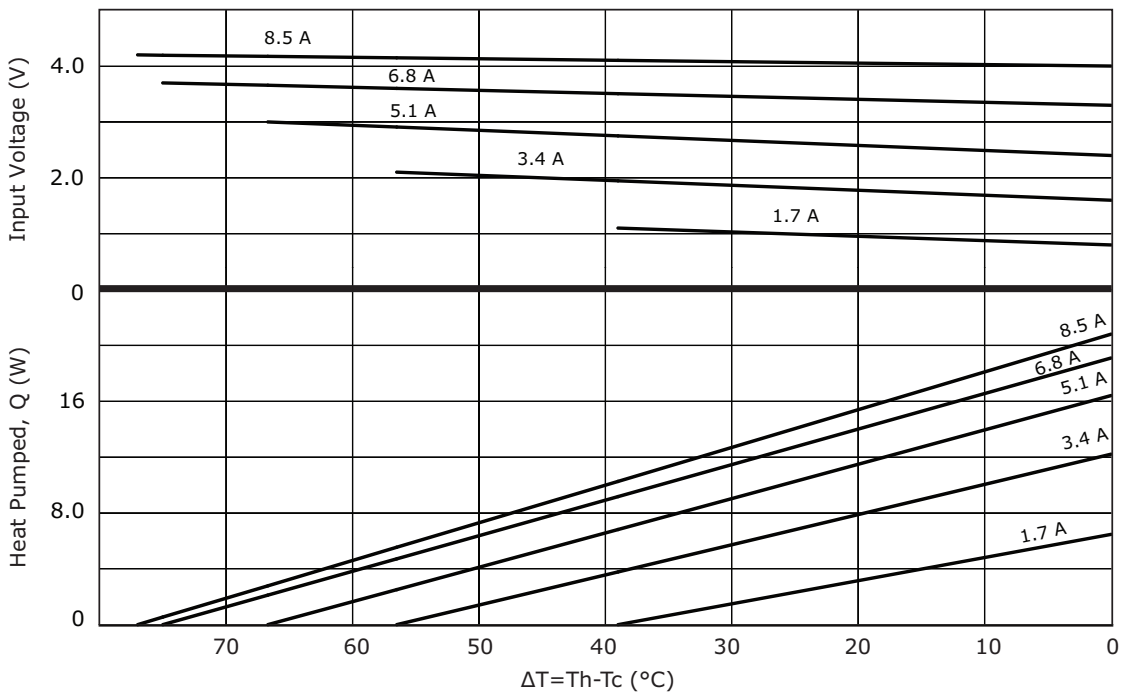
### CP85153034H PERFORMANCE (Th=50°C)



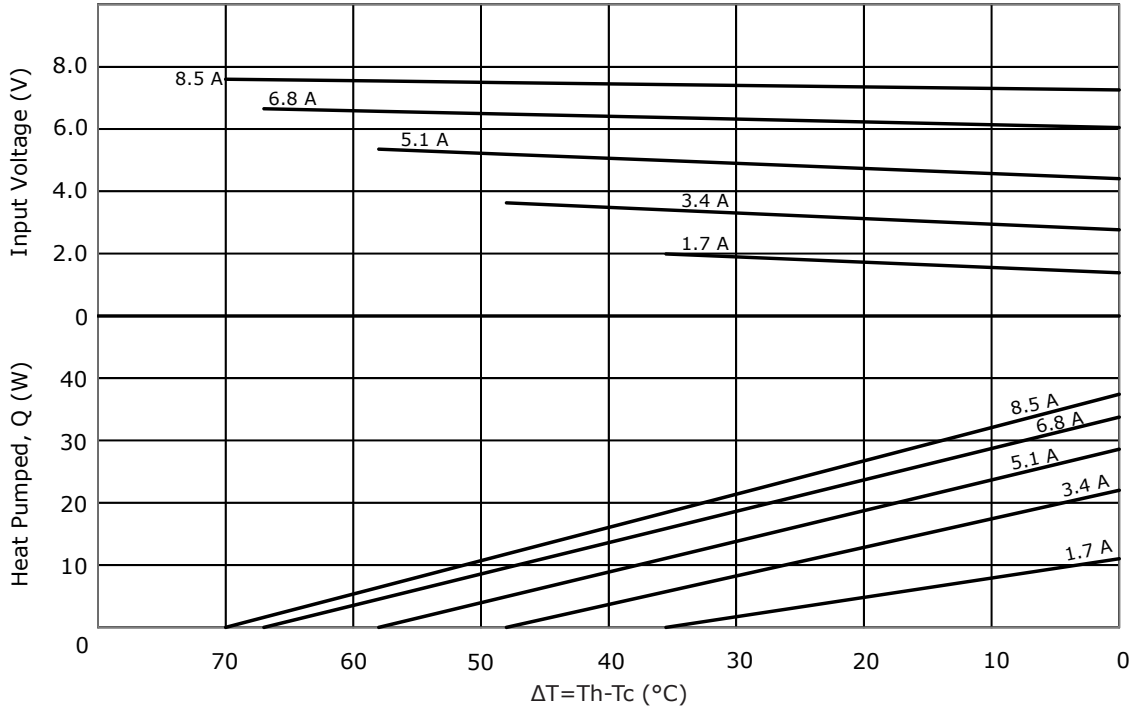
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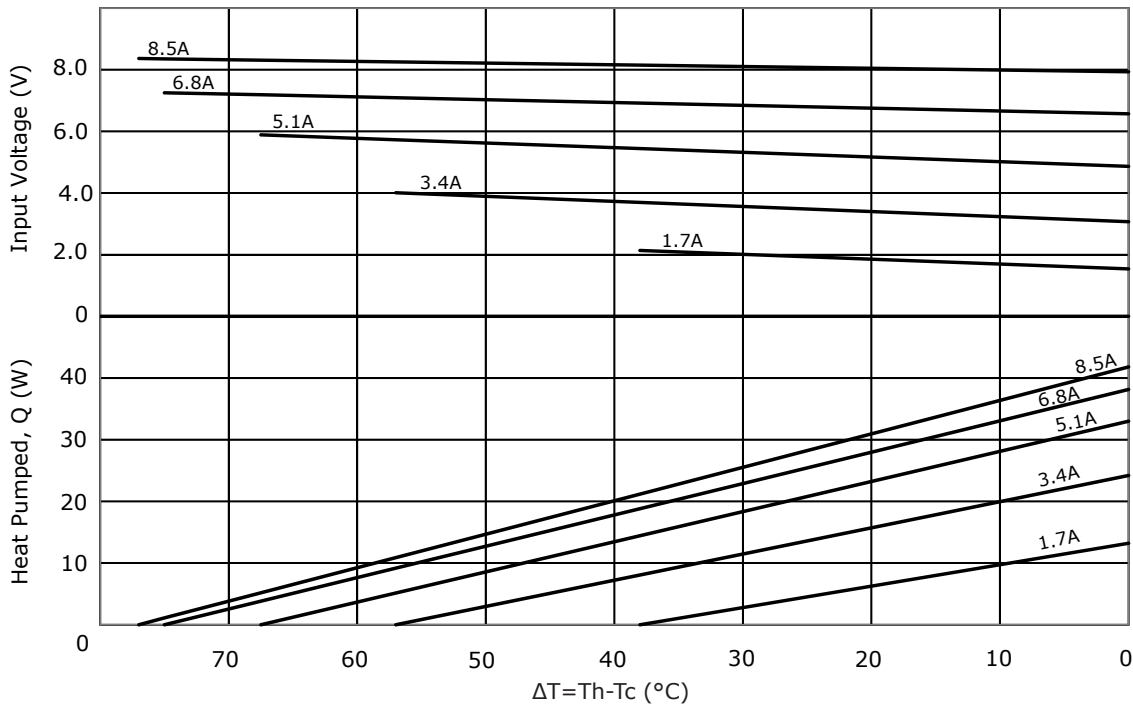
## CP85234H PERFORMANCE (Th=50°C)



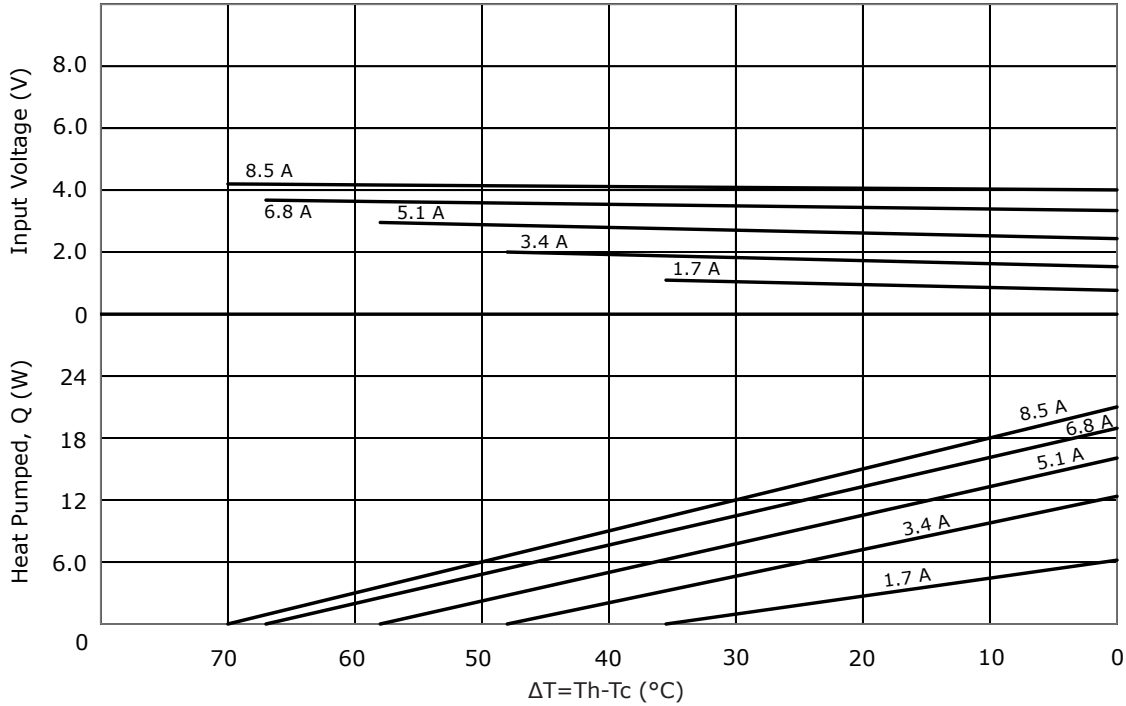
### CP852040345H PERFORMANCE (Th=27°C)



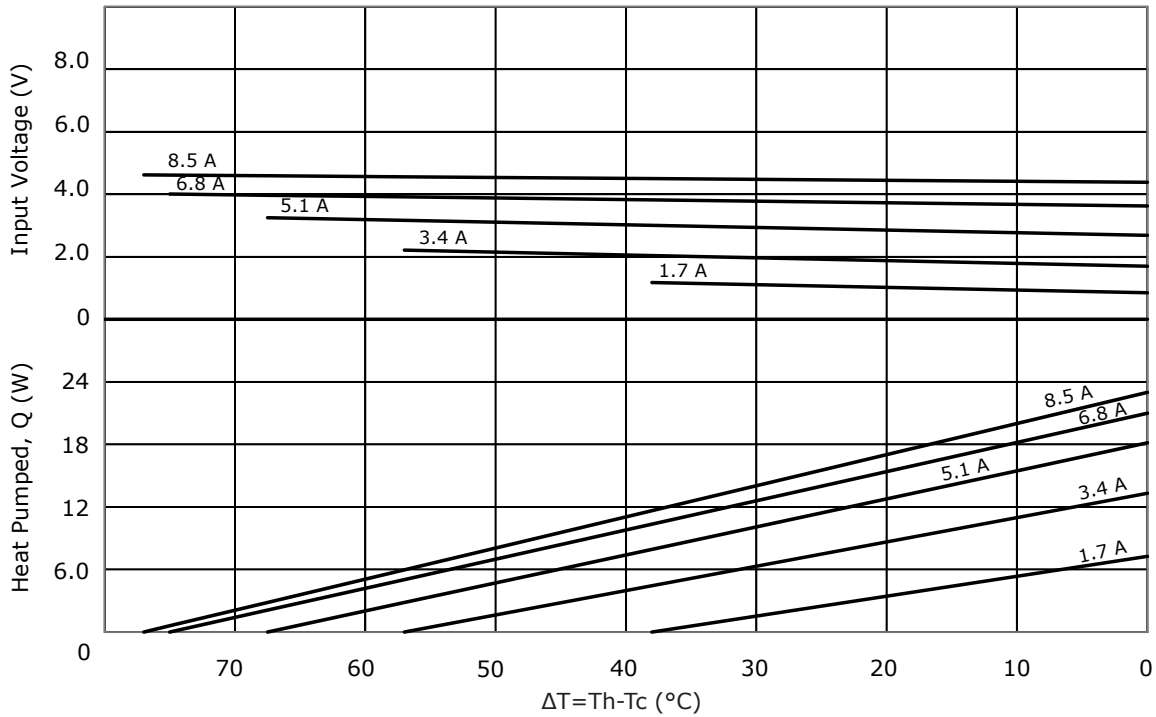
### CP852040345H PERFORMANCE (Th=50°C)



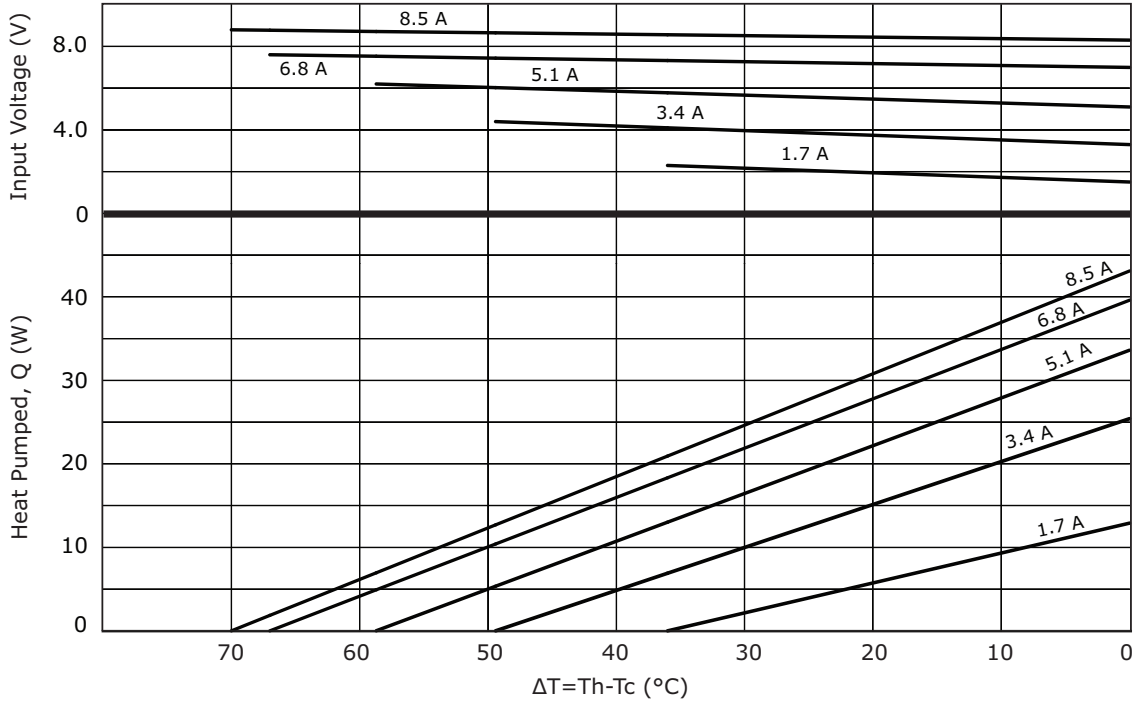
### CP85301534H PERFORMANCE (Th=27°C)



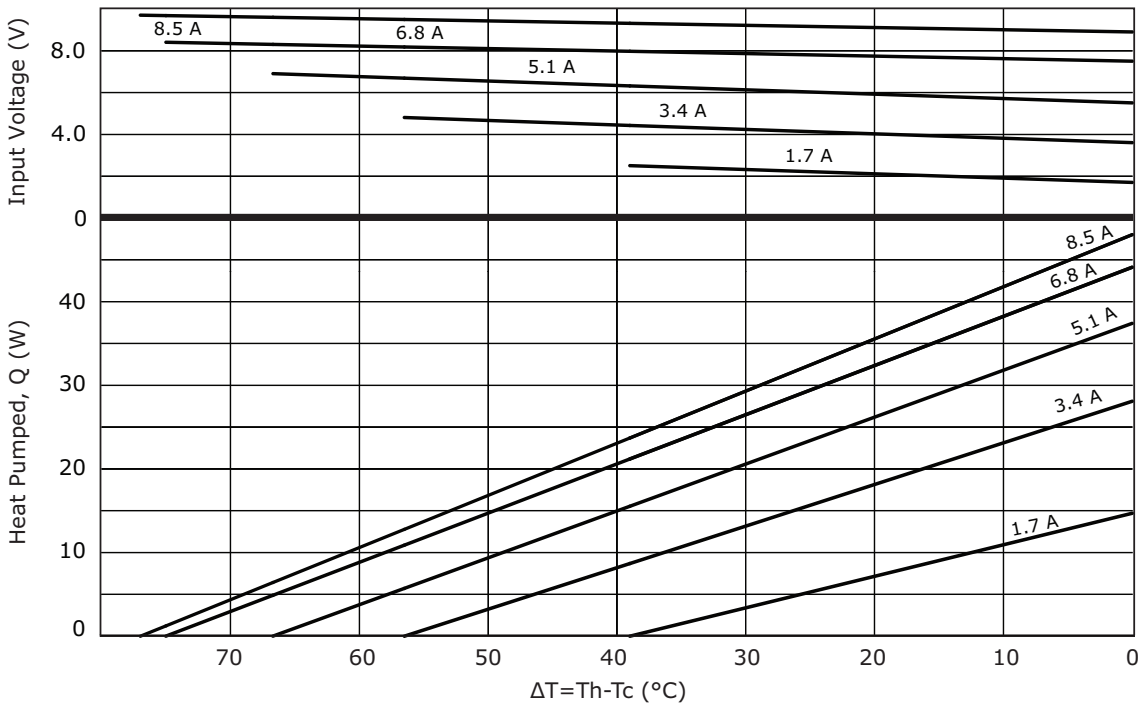
### CP85301534H PERFORMANCE (Th=50°C)



### CP853345H PERFORMANCE (Th=27°C)

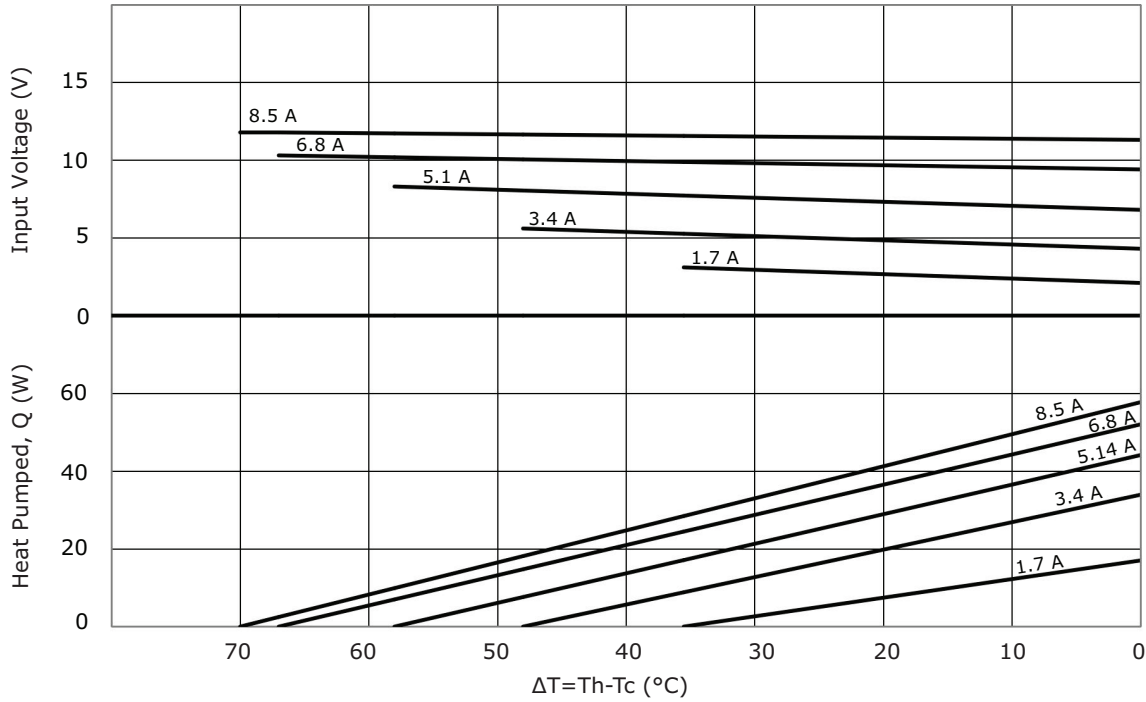


### CP853345H PERFORMANCE (Th=50°C)

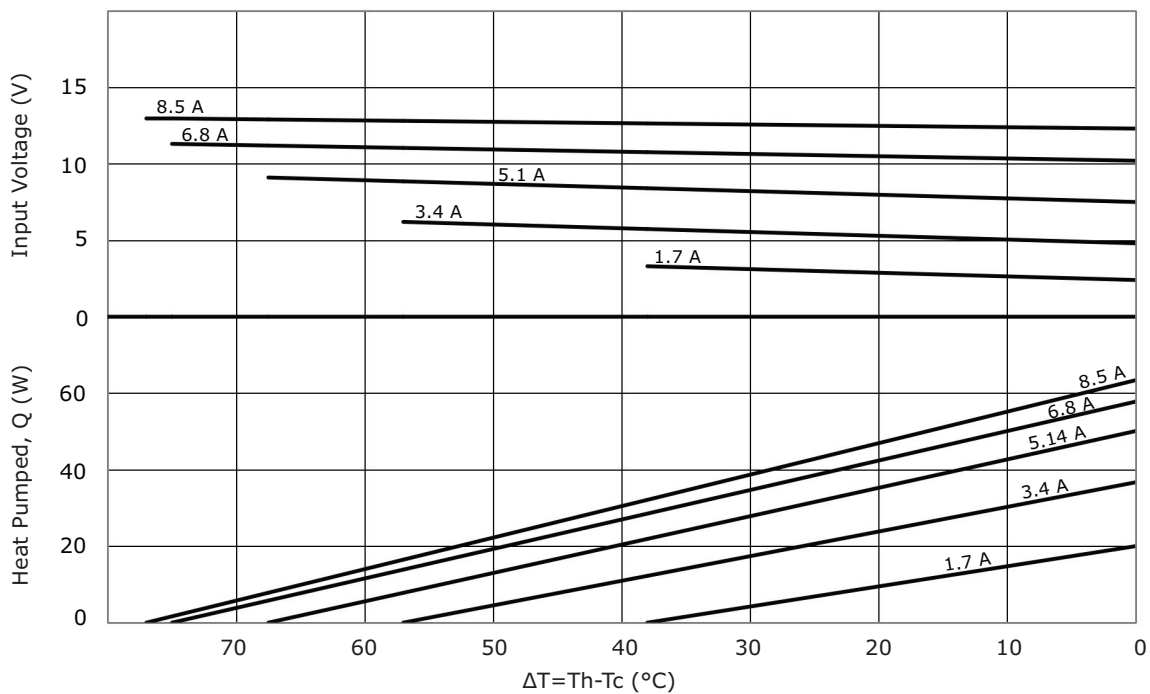




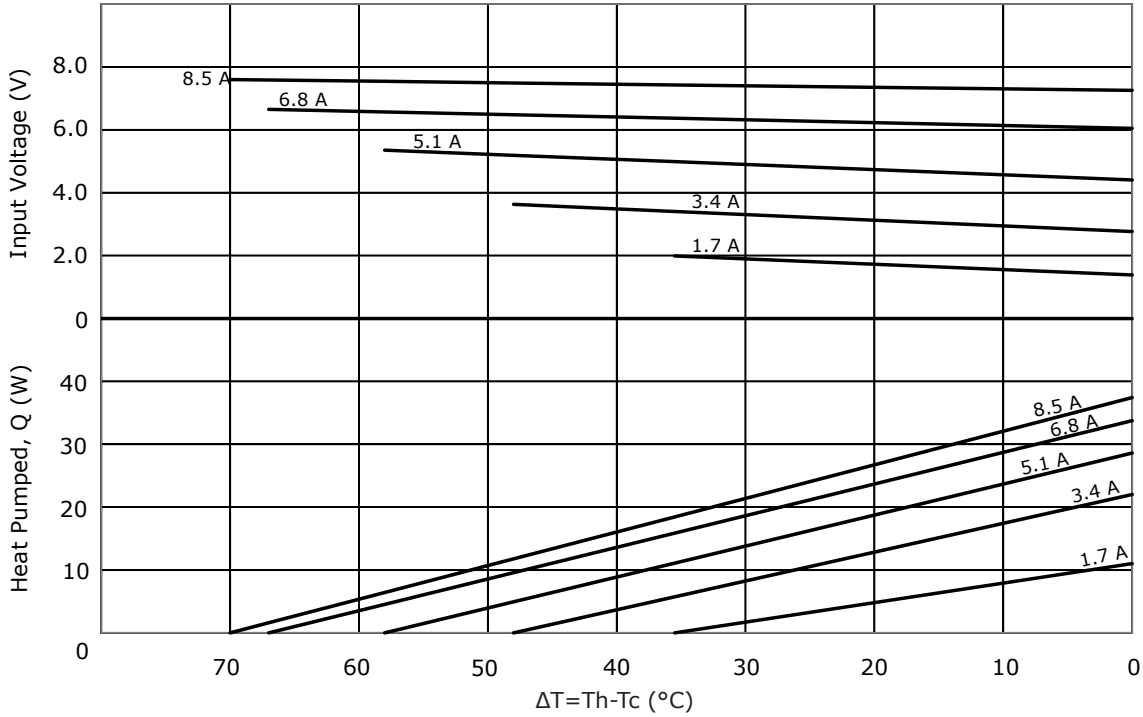
## CP8530345 PERFORMANCE (Th=27°C)



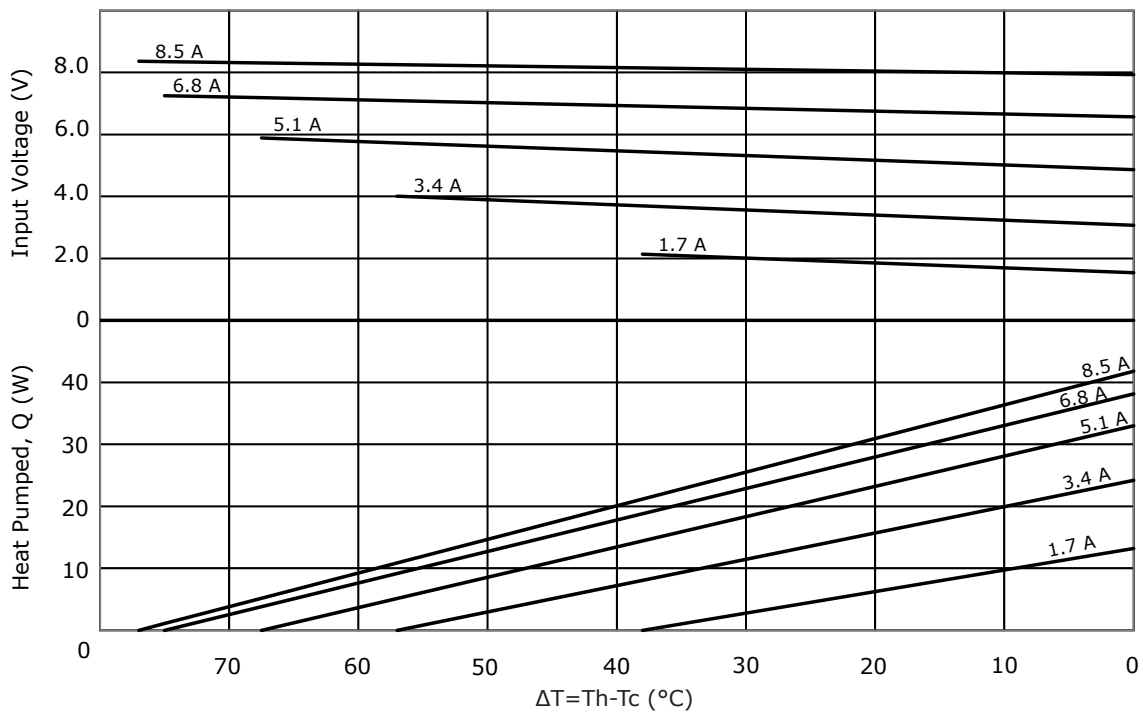
## CP8530345 PERFORMANCE (Th=50°C)



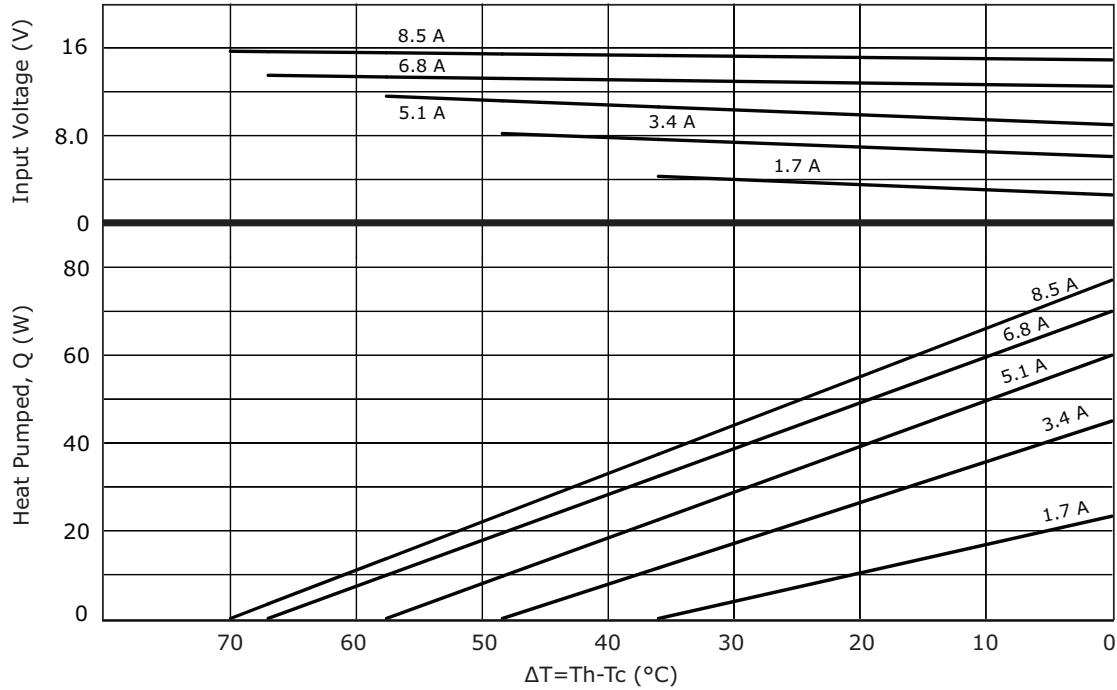
## CP854020345H PERFORMANCE (Th=27°C)



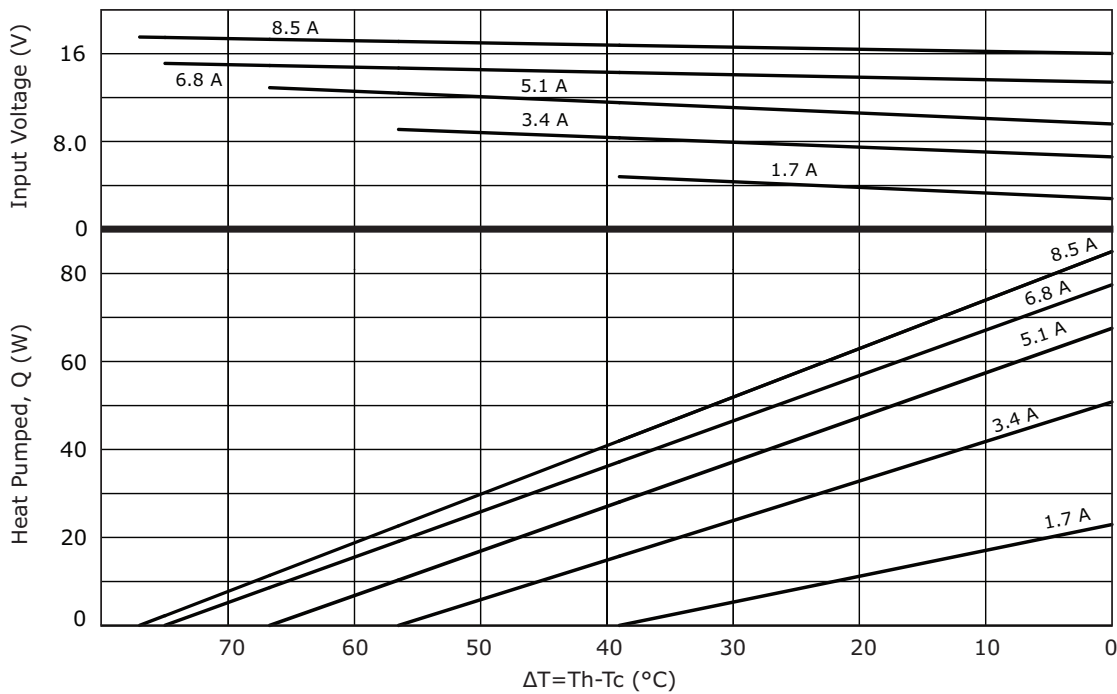
## CP854020345H PERFORMANCE (Th=50°C)



## CP854345H PERFORMANCE (Th=27°C)



## CP854345H PERFORMANCE (Th=50°C)



## REVISION HISTORY

| rev. | description                         | date       |
|------|-------------------------------------|------------|
| 1.0  | initial release                     | 09/08/2016 |
| 1.01 | updated datasheet                   | 09/25/2017 |
| 1.02 | added new models                    | 05/21/2018 |
| 1.03 | added model CP8530345, brand update | 10/18/2019 |
| 1.04 | logo, datasheet style update        | 08/05/2022 |
| 1.05 | CUI Devices rebranded to Same Sky   | 09/12/2024 |

The revision history provided is for informational purposes only and is believed to be accurate.



Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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