

**SERIES:** CP60H | **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) | $T_h = 27^\circ\text{C}$ ( $^\circ\text{C}$ ) | $T_h = 50^\circ\text{C}$ ( $^\circ\text{C}$ ) |
| CP60131H                  | 3.8                        | 6.0                        | 0.45                             | 13                           | 14.3                         | 70  | 77  |
| CP60139H                  | 2.1                        | 6.0                        | 0.30                             | 7.4                          | 8.2                          | 70  | 77  |
| CP60231H                  | 8.8                        | 6.0                        | 1.05                             | 29.7                         | 32.7                         | 70  | 77  |
| CP60239H                  | 3.8                        | 6.0                        | 0.55                             | 13.6                         | 14.9                         | 70  | 77  |
| CP602040395H <sup>6</sup> | 7.6                        | 6.0                        | 1.09                             | 27.5                         | 30.2                         | 70  | 77  |
| CP60301233H               | 5.6                        | 6.0                        | 0.76                             | 19.7                         | 21.7                         | 70  | 77  |
| CP60301531H               | 7.6                        | 6.0                        | 0.93                             | 26.3                         | 28.9                         | 70  | 77  |
| CP603315H <sup>6</sup>    | 15.7                       | 6.0                        | 1.90                             | 53.1                         | 59.1                         | 70  | 77  |
| CP6030395 <sup>6</sup>    | 11.8                       | 6.0                        | 1.65                             | 41.5                         | 45.6                         | 70  | 77  |
| CP603395H <sup>6</sup>    | 8.8                        | 6.0                        | 1.25                             | 31.1                         | 34.2                         | 70  | 77  |
| CP604020395H <sup>6</sup> | 7.6                        | 6.0                        | 1.09                             | 27.5                         | 30.2                         | 70  | 77  |
| CP60433H <sup>6</sup>     | 19.5                       | 6.0                        | 2.54                             | 67.6                         | 74.3                         | 68  | 75  |
| CP604395H <sup>6</sup>    | 15.7                       | 6.0                        | 2.2                              | 55.6                         | 61.0                         | 70  | 77  |
| CP604040 <sup>6</sup>     | 24.1                       | 6.0                        | 3.21                             | 83.5                         | 91.9                         | 68  | 75  |
| CP60546241 <sup>6</sup>   | 41.3                       | 6.0                        | 5.78                             | 147                          | 161                          | 70  | 77  |
| CP6055354 <sup>6</sup>    | 35.4                       | 6.0                        | 4.95                             | 126                          | 138                          | 70  | 77  |
| CP60555542 <sup>6</sup>   | 29.8                       | 6.0                        | 4.15                             | 106                          | 116                          | 70  | 77  |
| CP604060395 <sup>6</sup>  | 23.6                       | 6.0                        | 3.3                              | 80.2                         | 88.2                         | 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  $I_{max}$ ,  $V_{max}$ , and  $\Delta T = 0^\circ\text{C}$
  5. Maximum temperature difference occurs at  $I_{max}$ ,  $V_{max}$ , and  $Q = 0\text{W}$  ( $\Delta T$  max measured in a vacuum at 1.3 Pa)
  6. Designed with arcTEC™ structure.

## SPECIFICATIONS

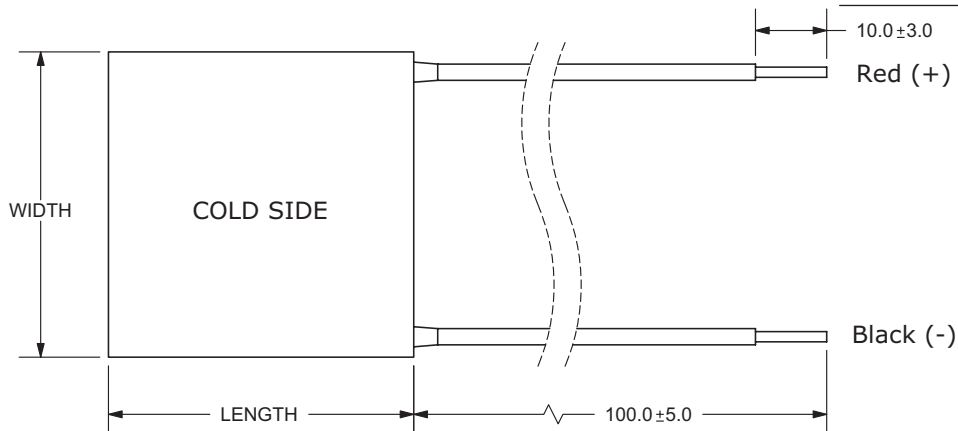
| parameter                  | conditions/description                  | min | typ | max | units |
|----------------------------|---|-----|-----|-----|-------|
| solder melting temperature | connection between thermoelectric pairs | 235 |     |     | °C    |
| assembly compression       |   |     | 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

## MECHANICAL DRAWING

units: mm

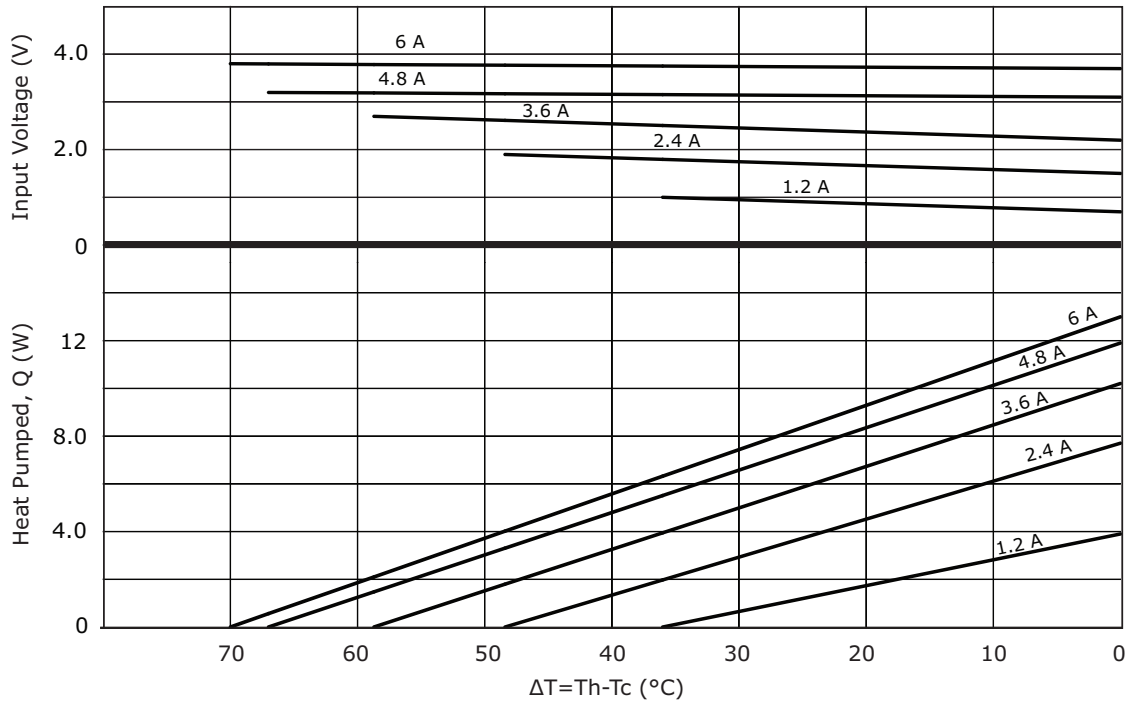


|  | MATERIAL  | PLATING |
|--|---|---------|
| ceramic plate  | 96% AL <sub>2</sub> O <sub>3</sub>                        |         |
| wire leads (CP60131H, CP60231H, CP60301233H, CP60301531H, CP603315H) | 22 AWG  | tin     |
| wire leads (all other models)  | 20 AWG  | tin     |
| sealer   | silicon rubber 703 RTV (between cold and hot side plates) |         |
| joint cover  | silicon rubber 703 RTV                                    |         |
| marking  | P/N & S/N printed on cold side surface                    |         |



| 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     | CP6055354    | 55 ±0.3     | 55 ±0.3    | 4.1 ±0.1       |
| CP603315H    | 30 ±0.3     | 30 ±0.3    | 3.15 ±0.025    | CP60555542   | 55 ±0.3     | 55 ±0.3    | 4.2 ±0.1       |
| CP6030395    | 30 ±0.3     | 30 ±0.3    | 3.95 ±0.025    | CP604060395  | 40 ±0.3     | 60 ±0.3    | 3.95 ±0.025    |

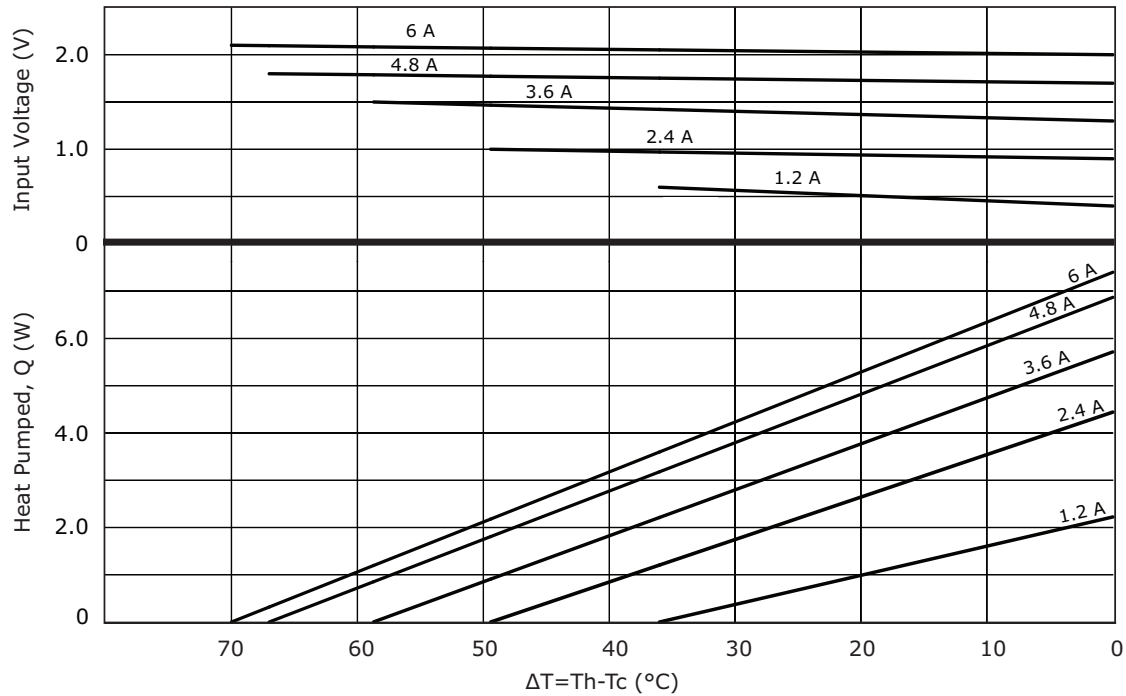
### CP60131H PERFORMANCE (Th=27°C)



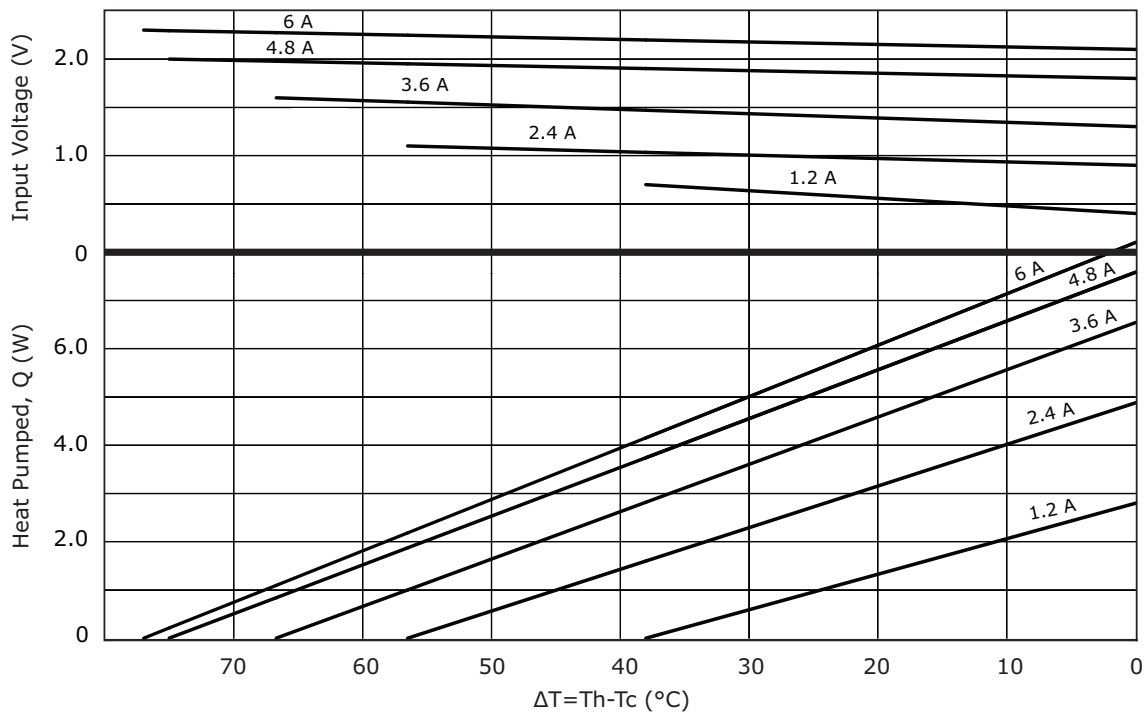
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### CP60139H PERFORMANCE (Th=27°C)



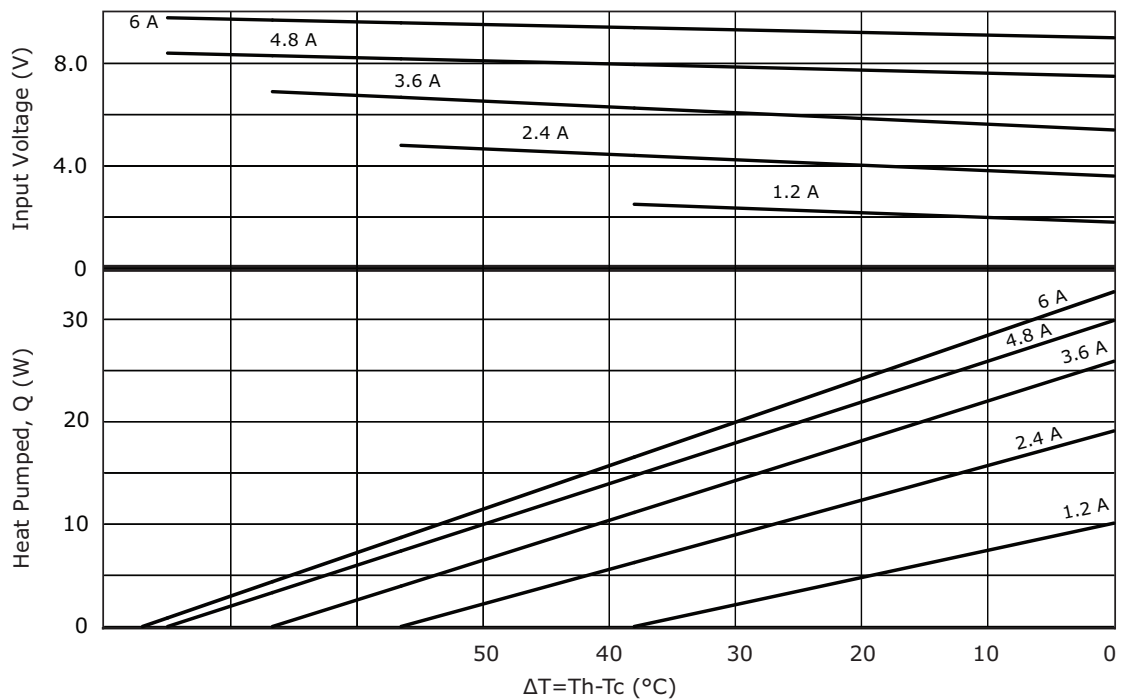
### CP60139H PERFORMANCE (Th=50°C)



### CP60231H PERFORMANCE (Th=27°C)



### CP60231H PERFORMANCE (Th=50°C)



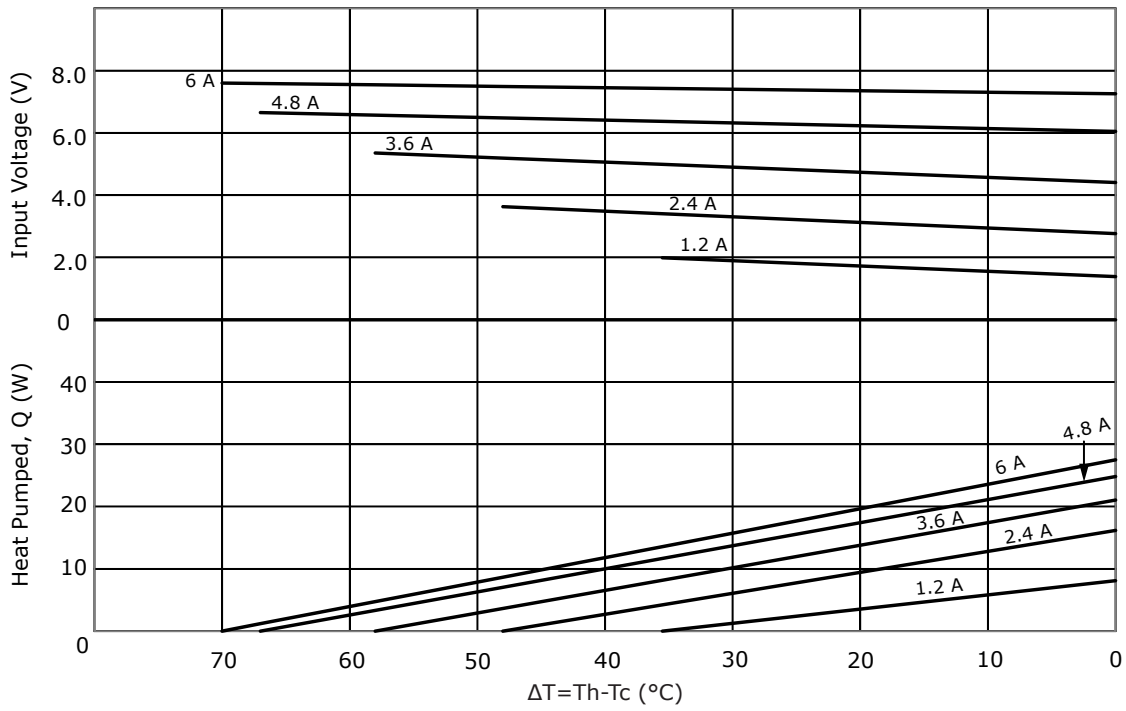
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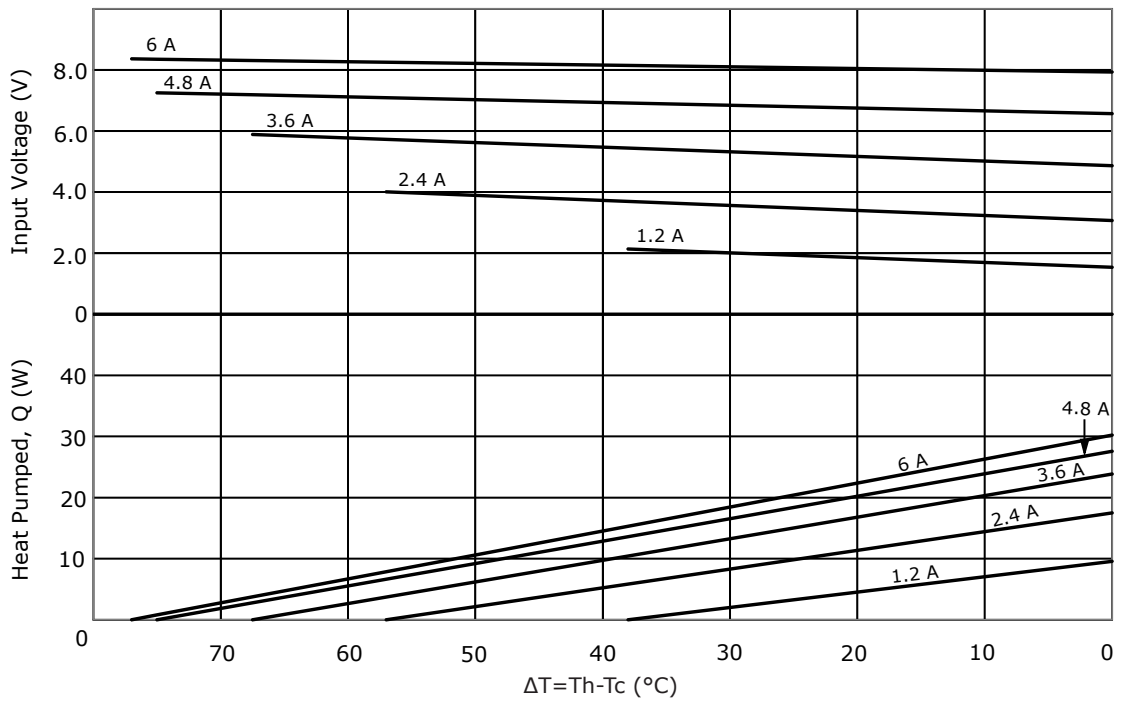
### CP60239H PERFORMANCE (Th=50°C)



### CP602040395H PERFORMANCE (Th=27°C)



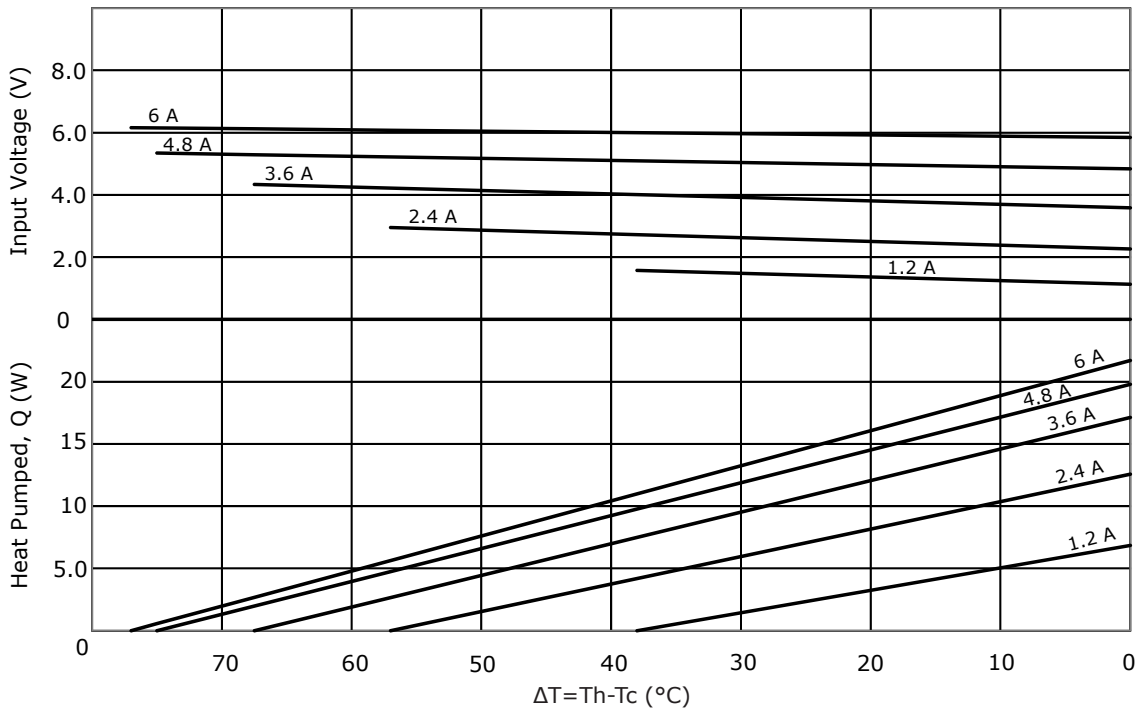
### CP602040395H PERFORMANCE (Th=50°C)



### CP60301233H PERFORMANCE (Th=27°C)



### CP60301233H PERFORMANCE (Th=50°C)

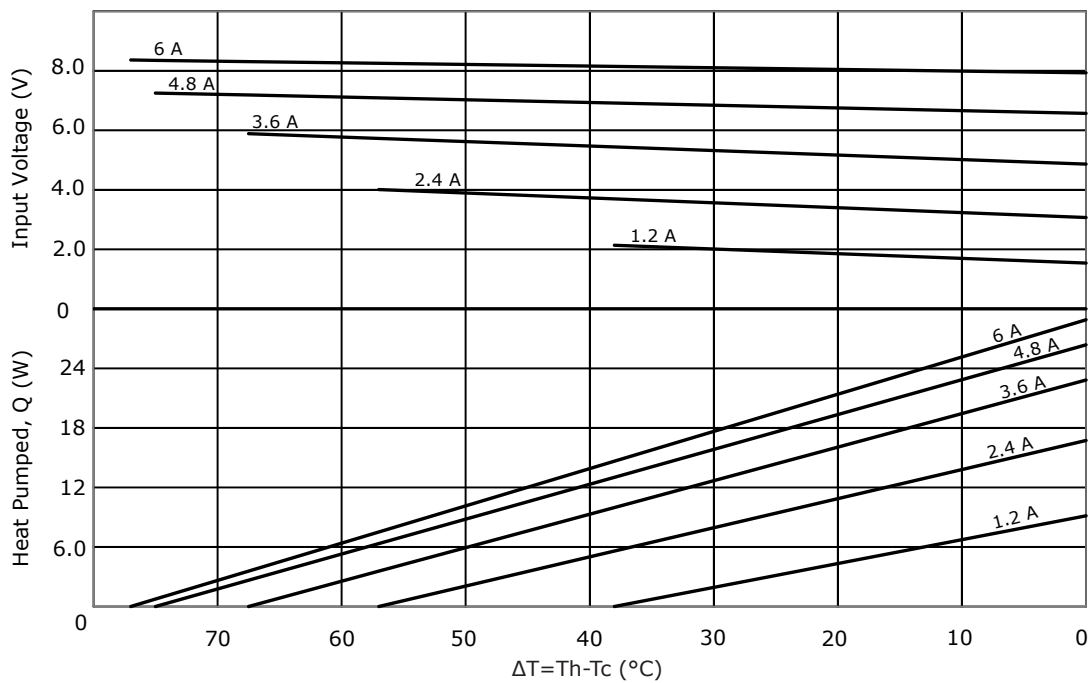




### CP60301531H PERFORMANCE (Th=27°C)



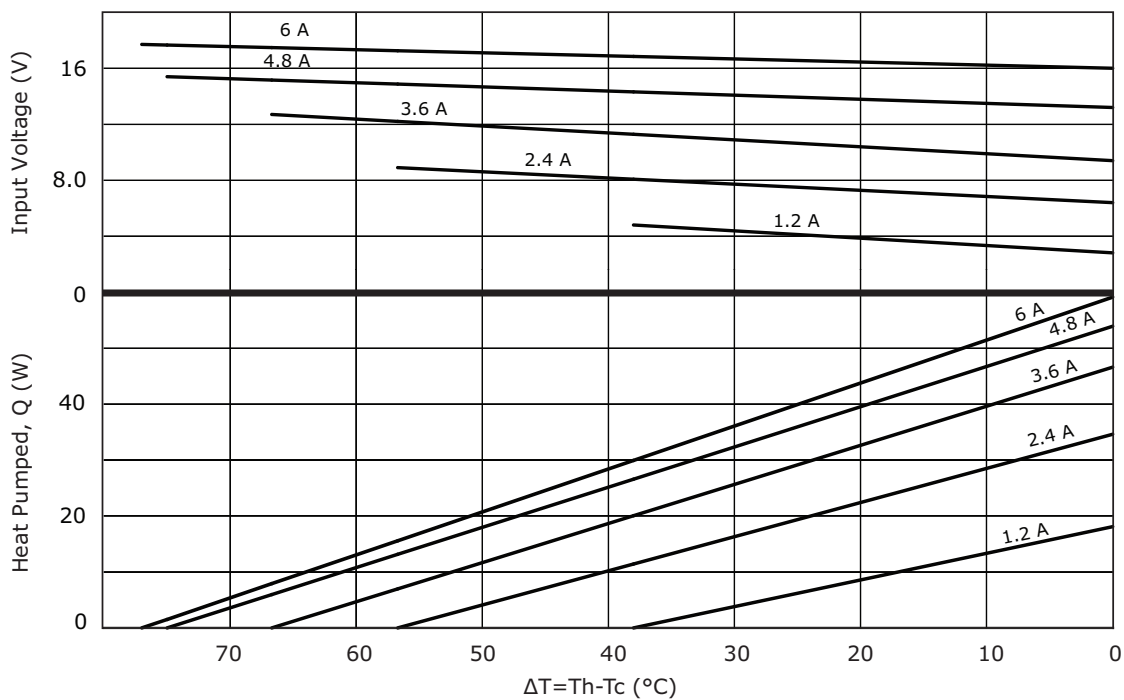
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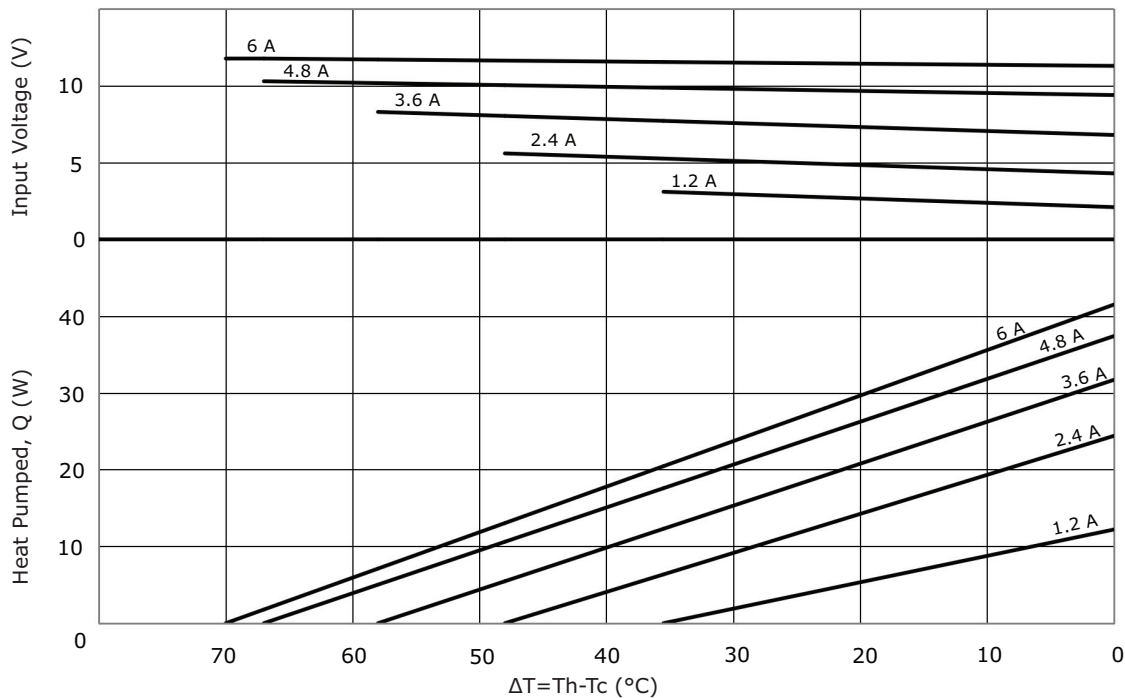
### CP603315H PERFORMANCE (Th=27°C)



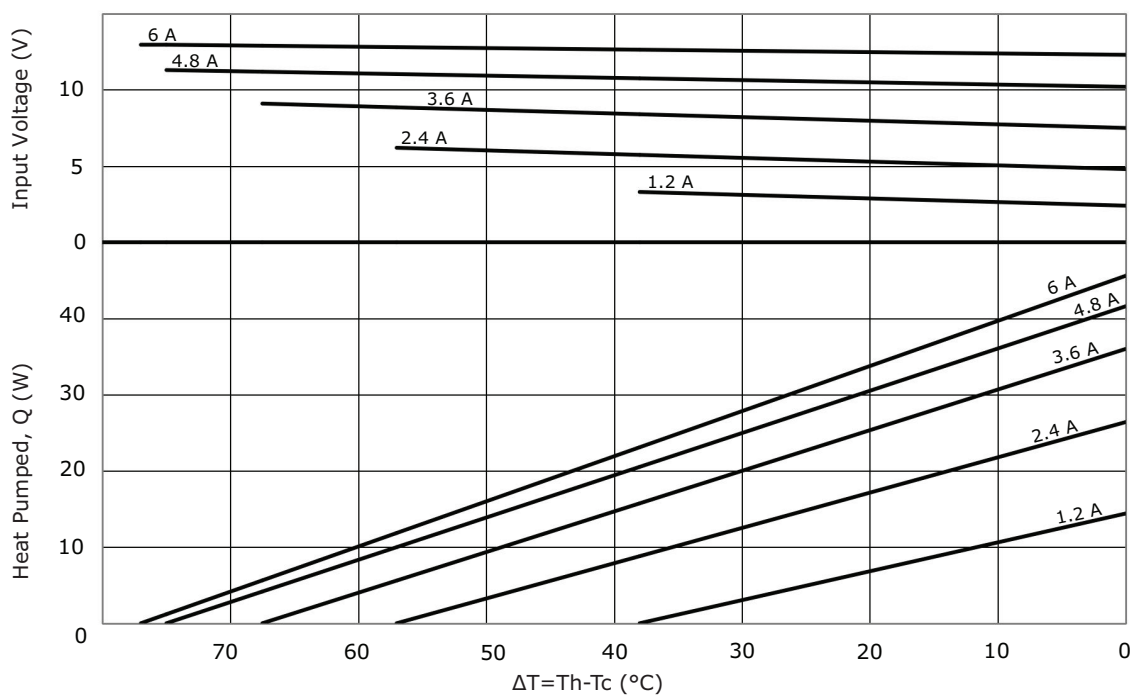
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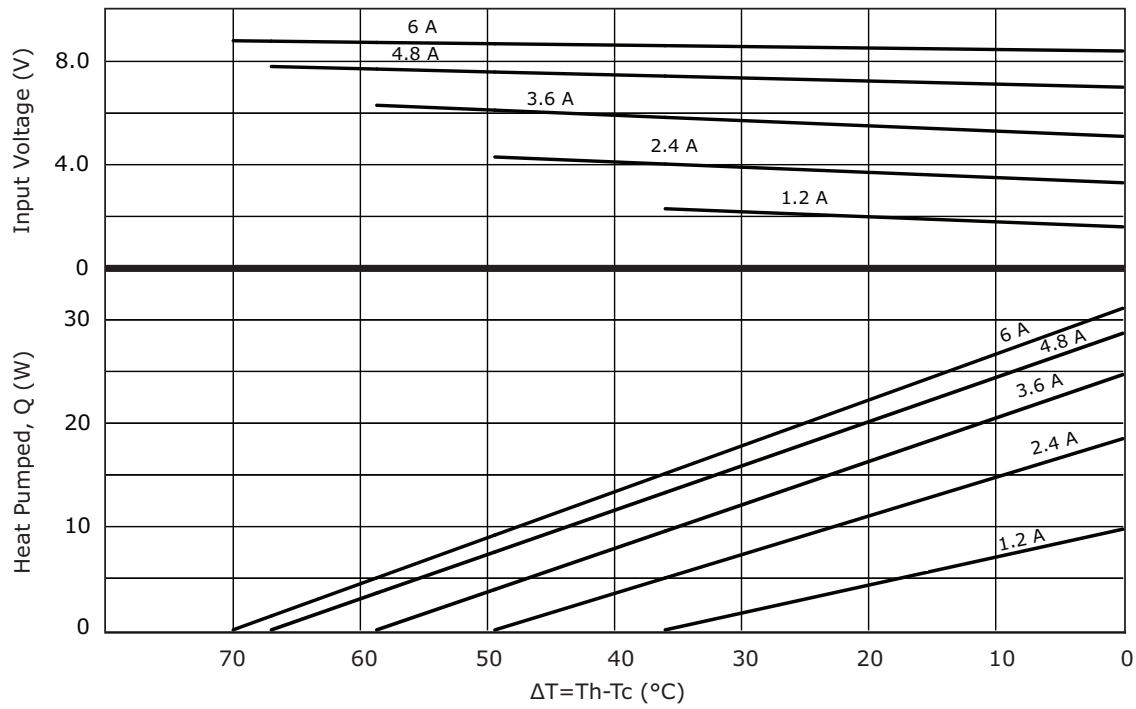
### CP6030395 PERFORMANCE (Th=27°C)



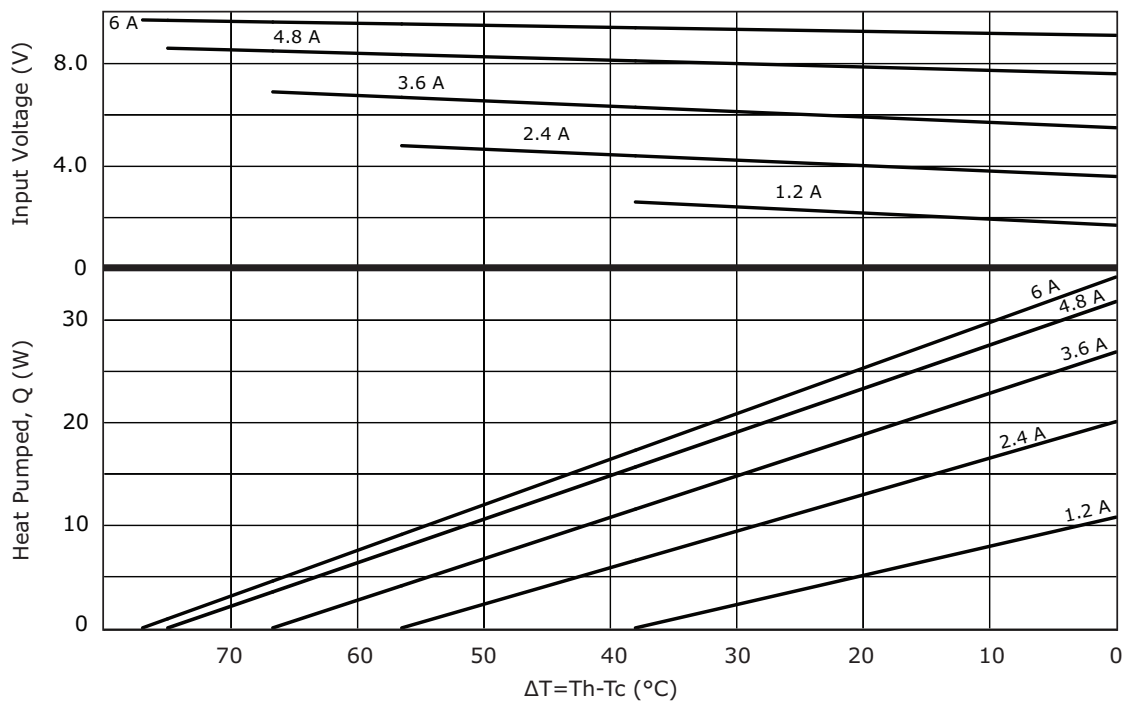
### CP6030395 PERFORMANCE (Th=50°C)



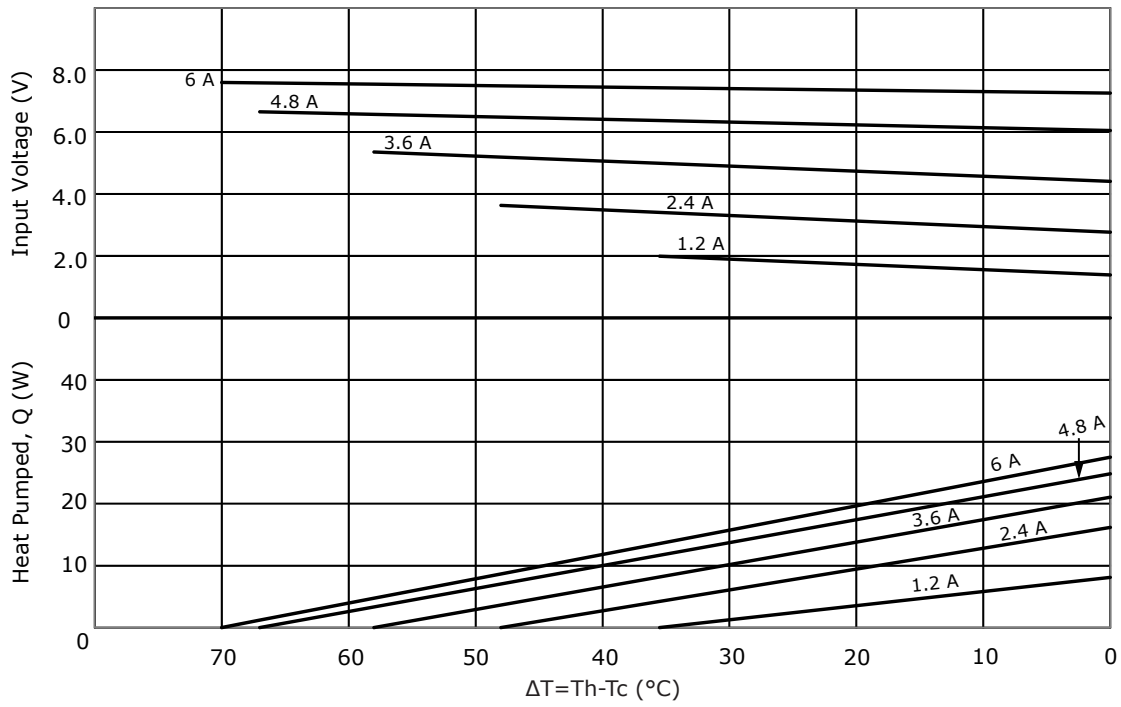
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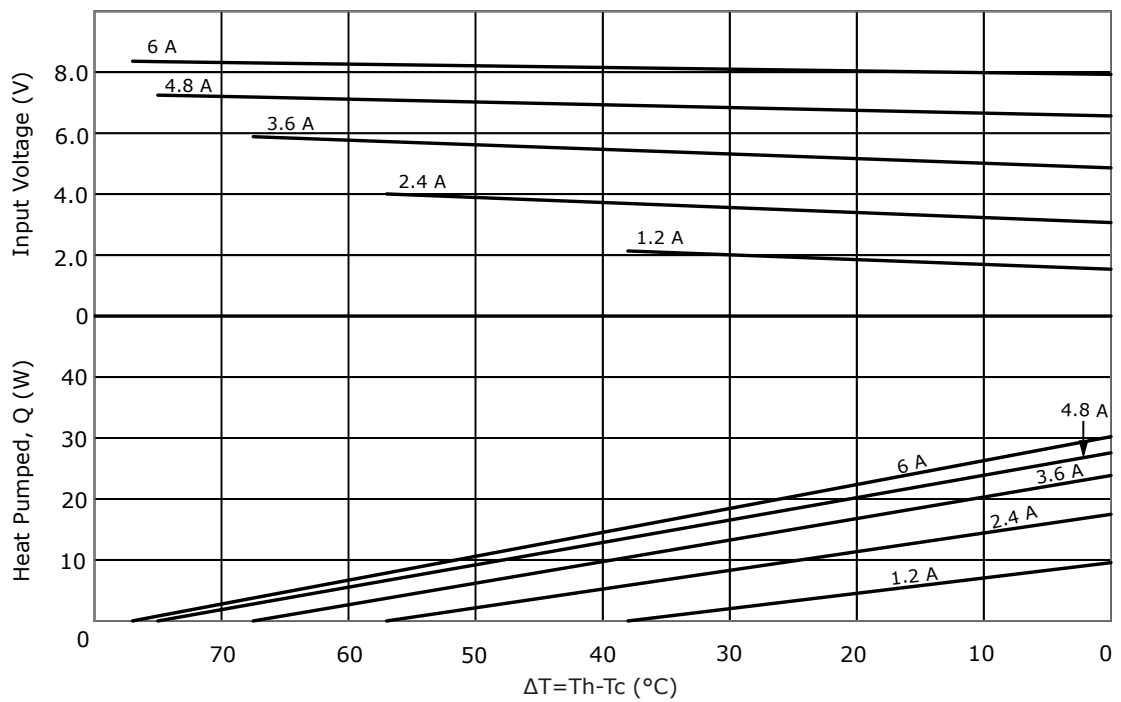
### CP603395H PERFORMANCE (Th=50°C)



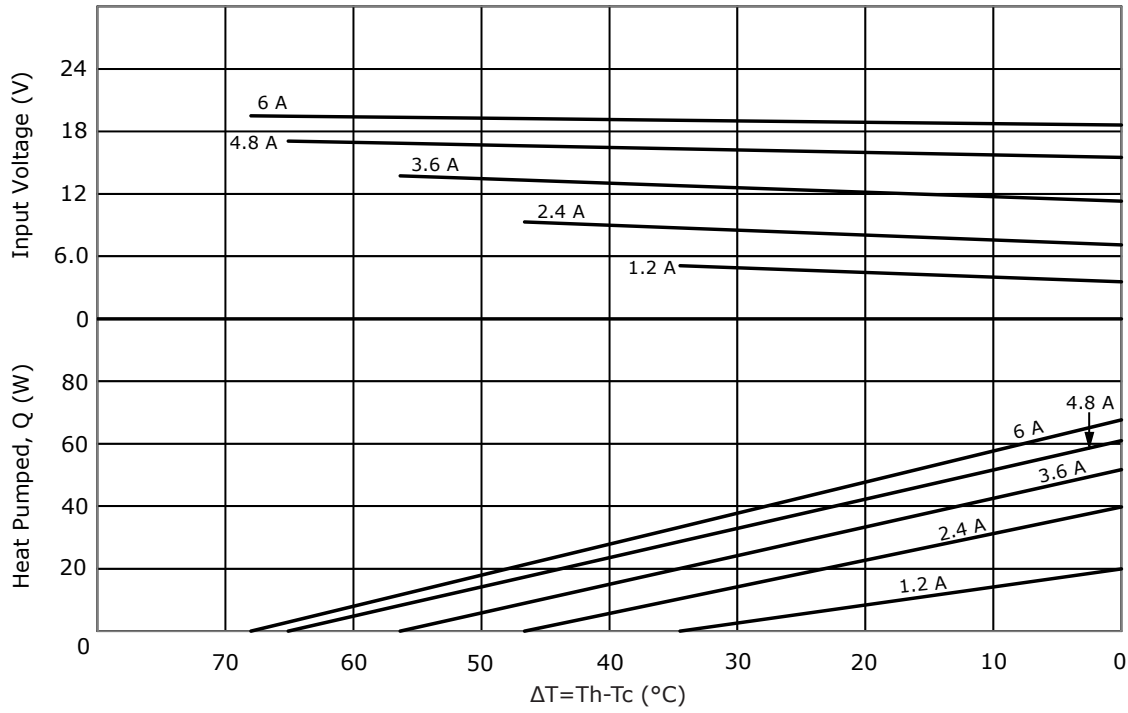
### CP604020395H PERFORMANCE (Th=27°C)



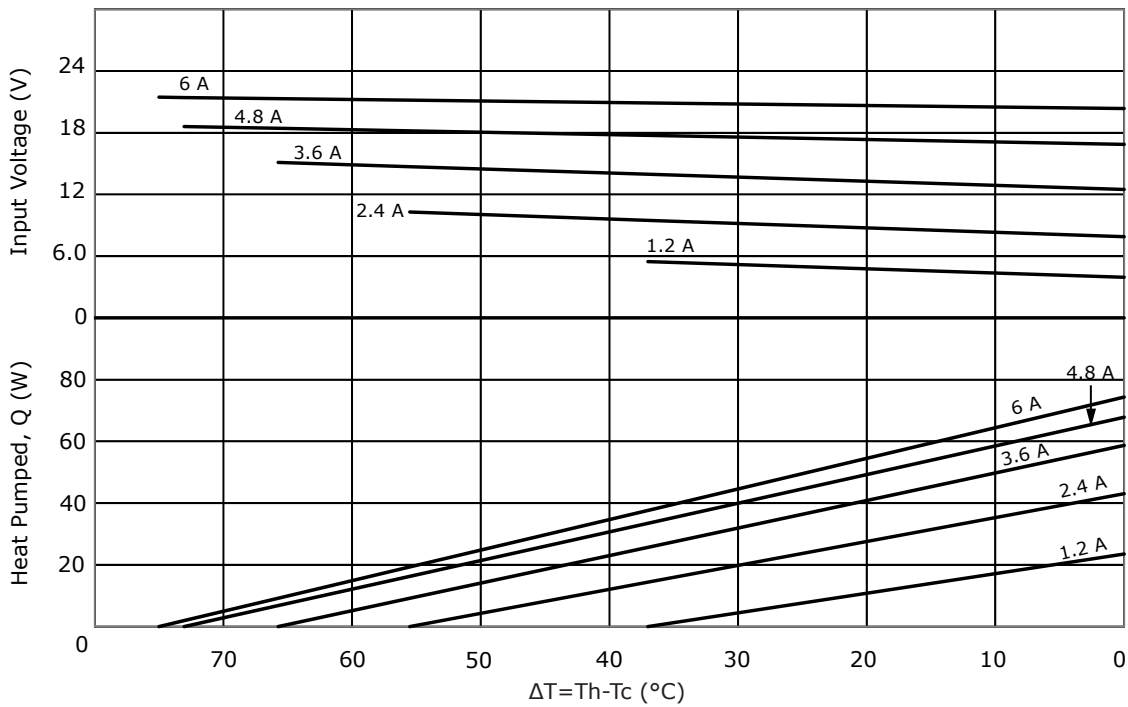
### CP604020395H PERFORMANCE (Th=50°C)



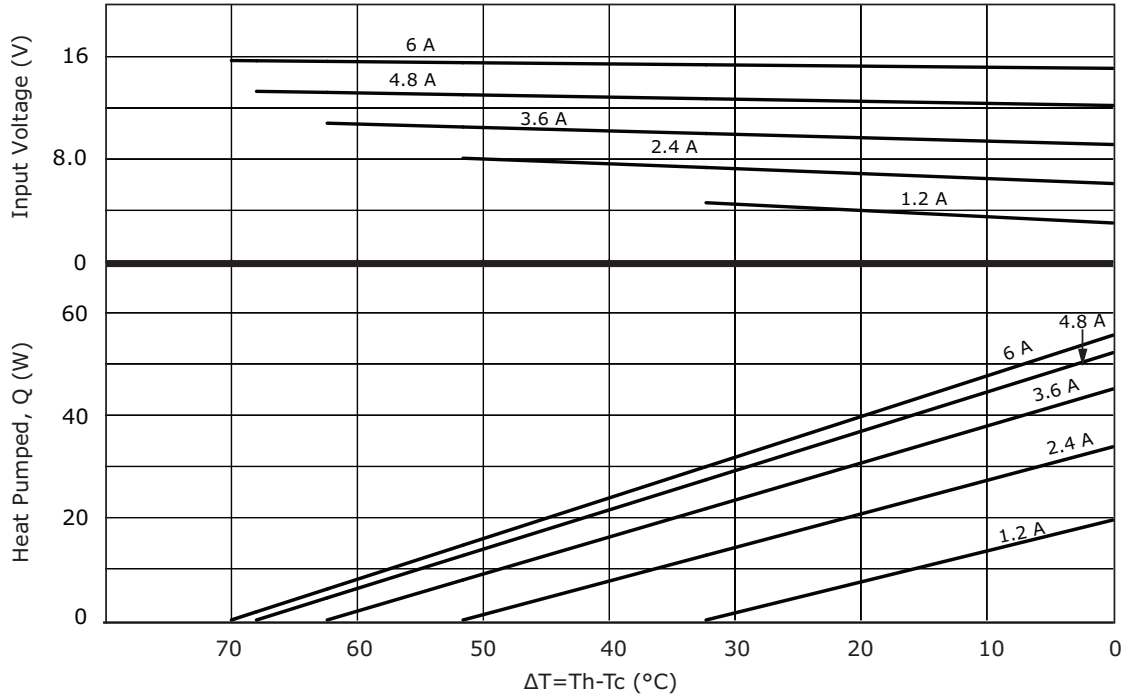
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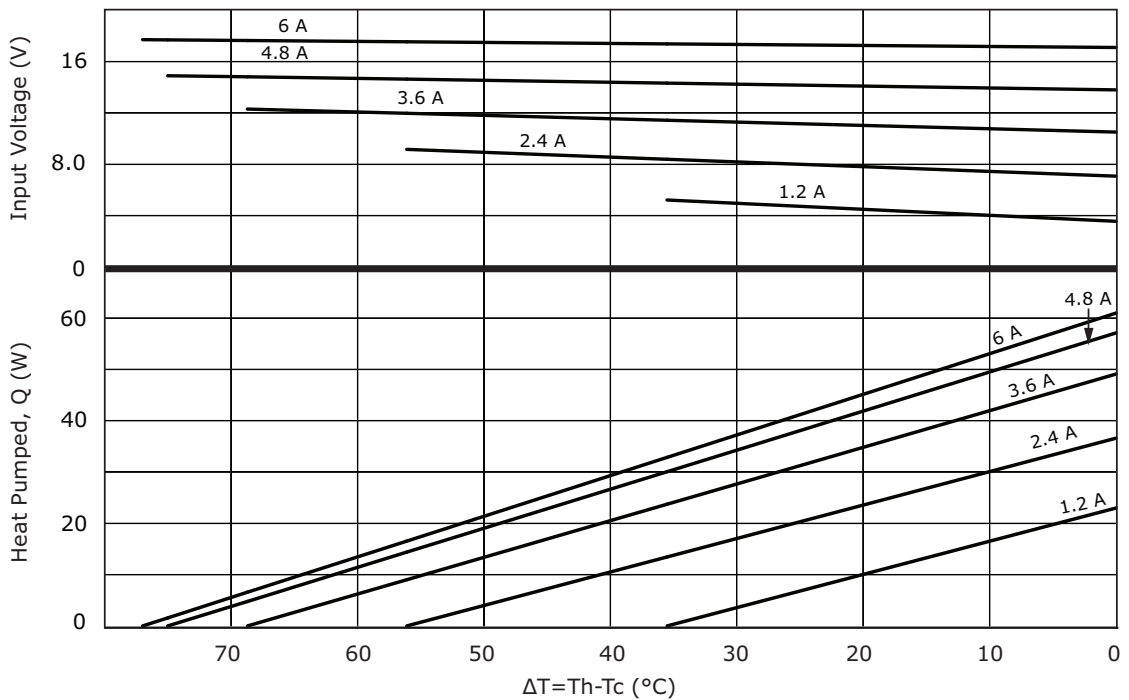
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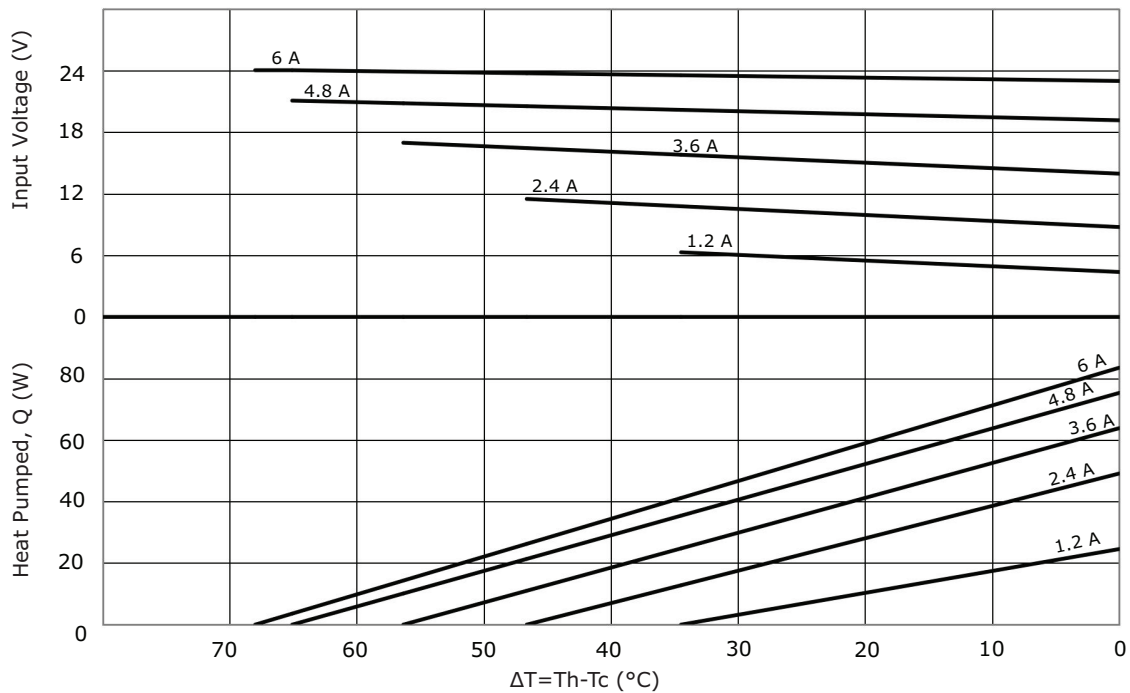
### CP604395H PERFORMANCE (Th=27°C)



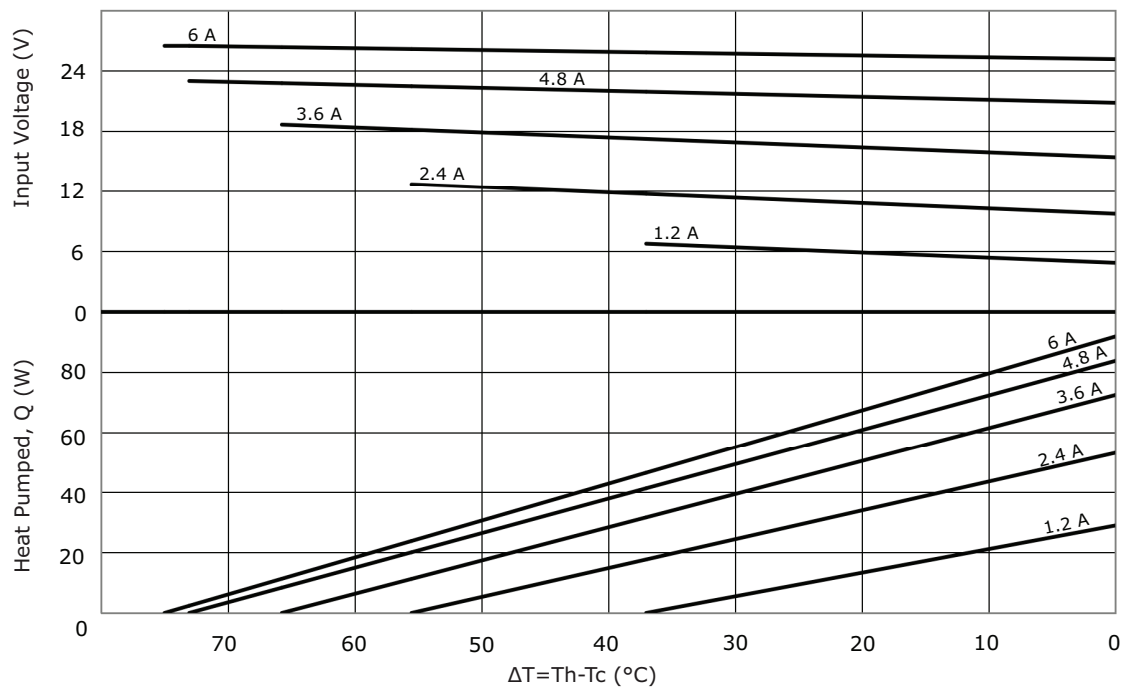
### CP604395H PERFORMANCE (Th=50°C)



### CP604040 PERFORMANCE (Th=27°C)

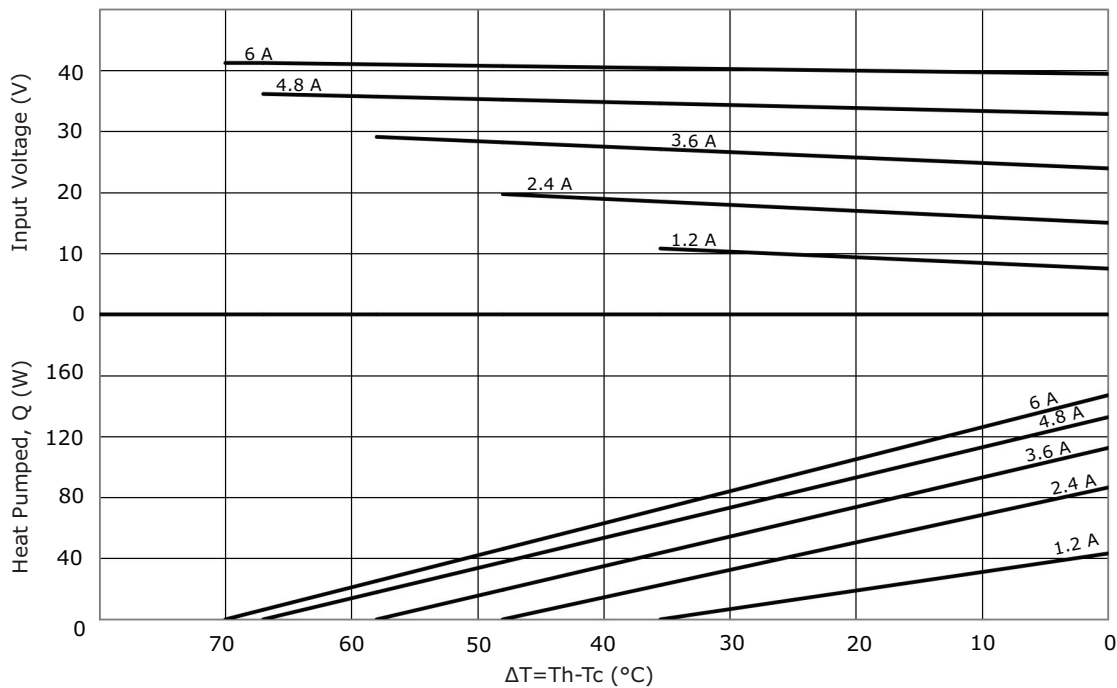


### CP604040 PERFORMANCE (Th=50°C)

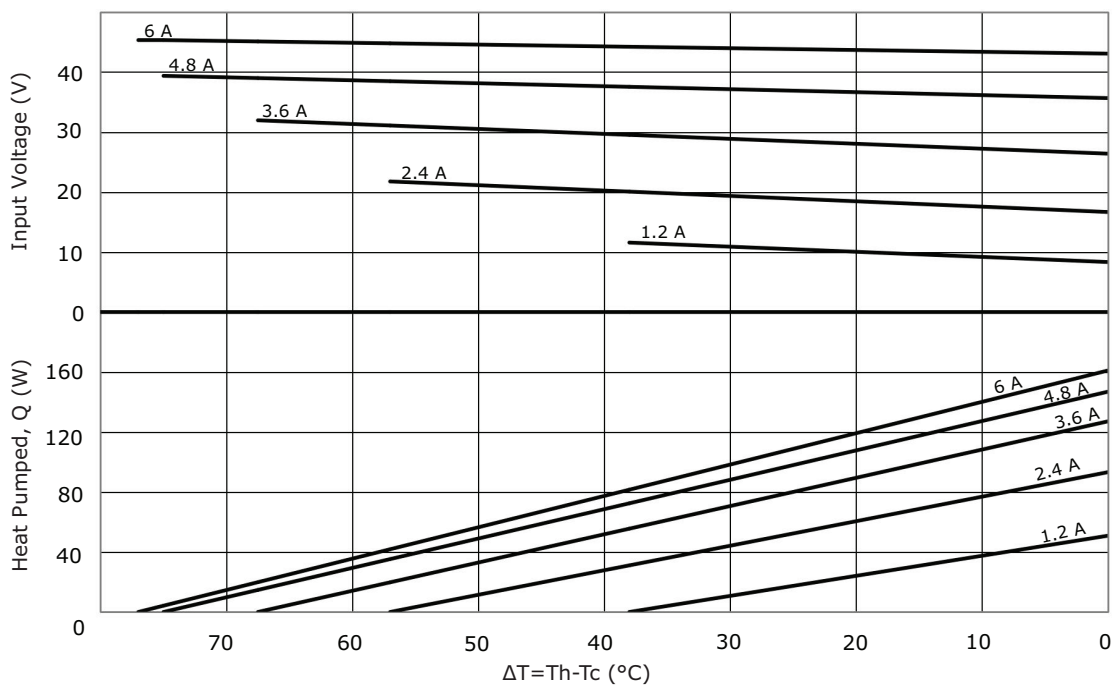




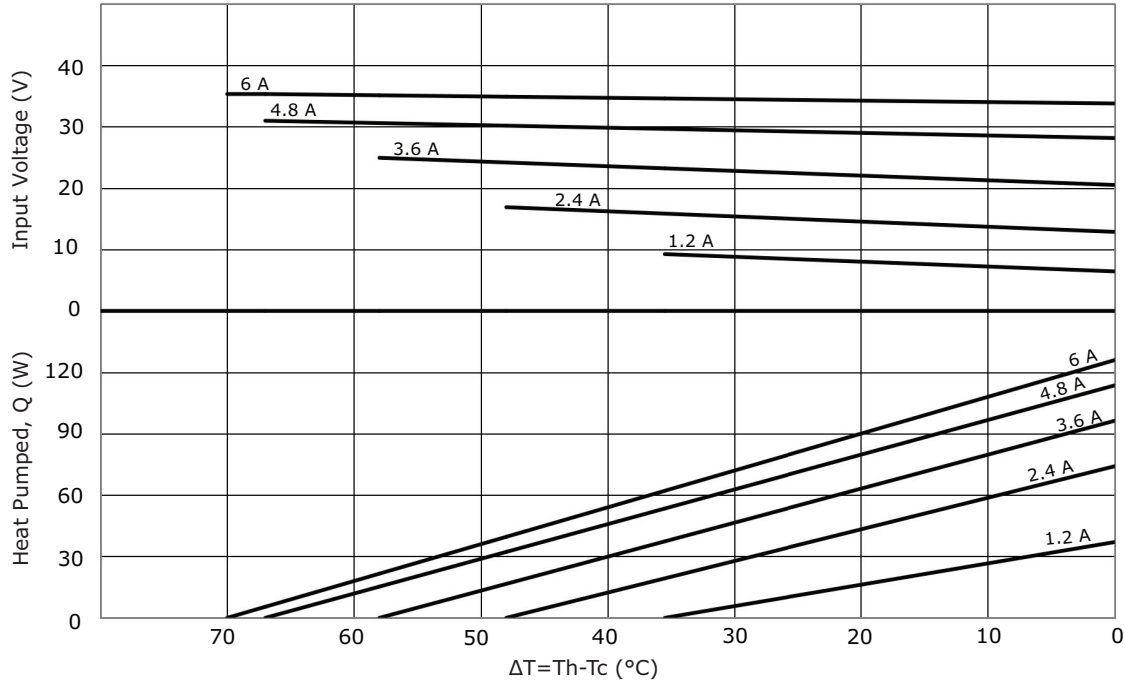
### CP60546241 PERFORMANCE (Th=27°C)



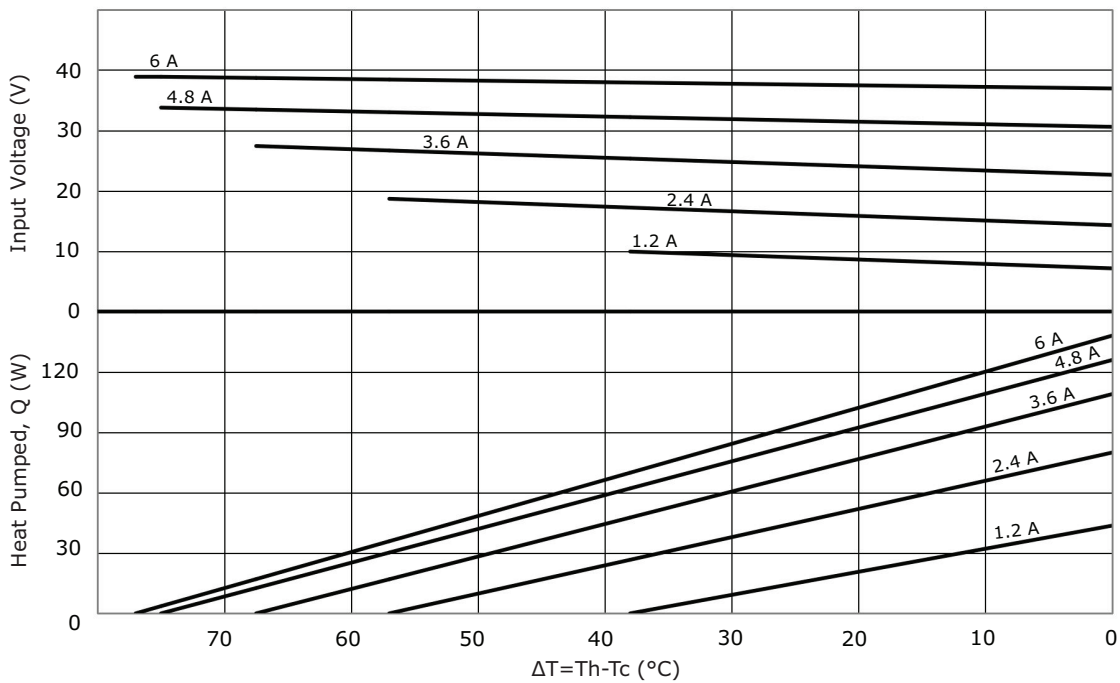
### CP60546241 PERFORMANCE (Th=50°C)



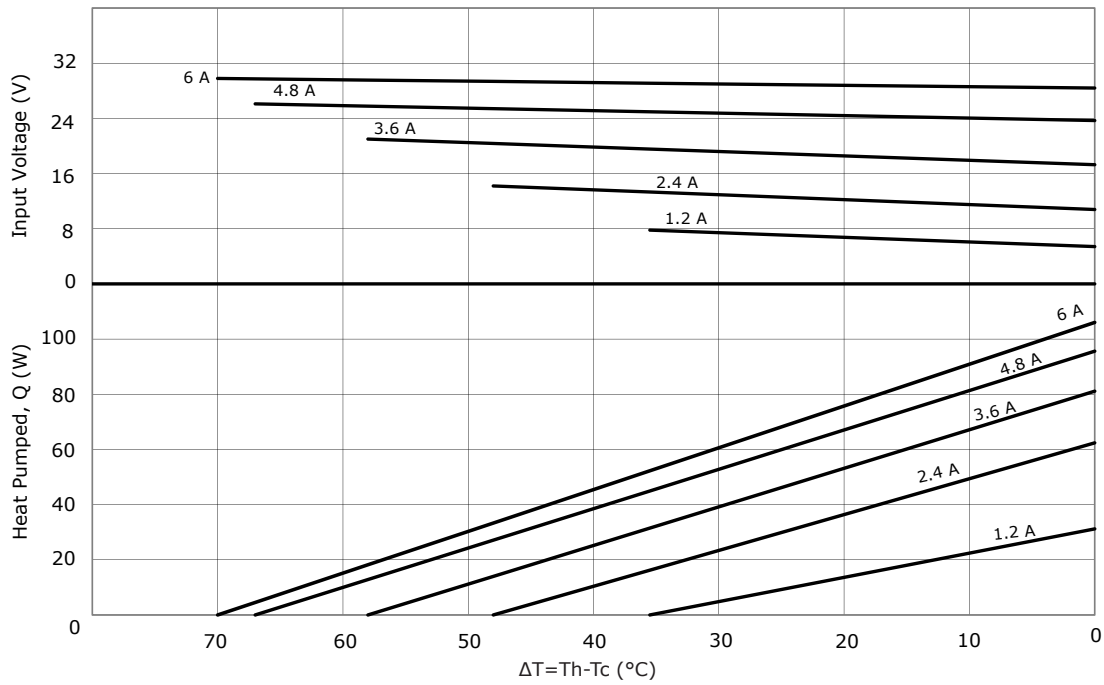
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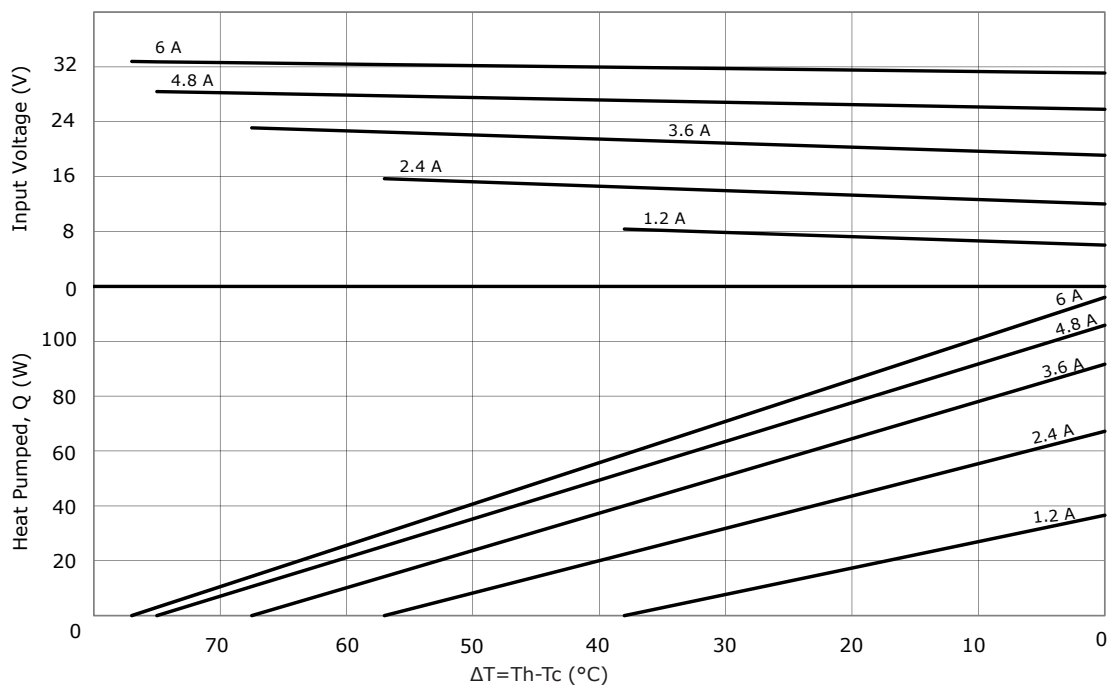
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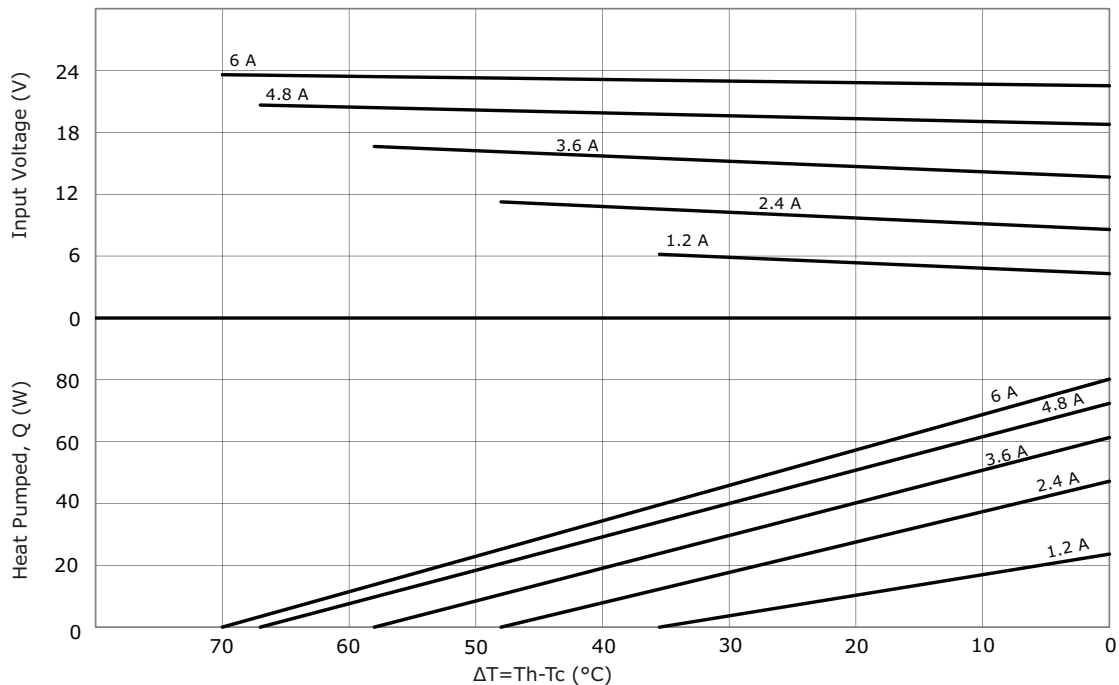
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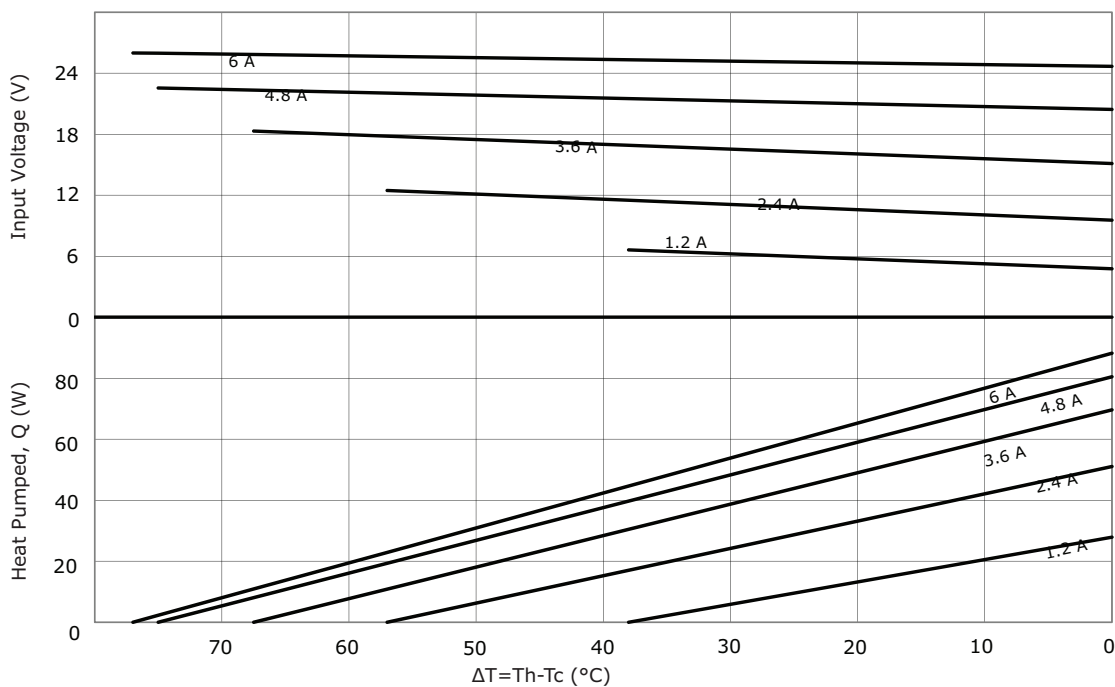
### CP6055542 PERFORMANCE (Th=50°C)



### CP604060395 PERFORMANCE (Th=27°C)



### CP604060395 PERFORMANCE (Th=50°C)



## REVISION HISTORY

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| 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 models CP604060395, CP60555542, CP6030395, CP604040, CP6055354, CP60546241, brand update | 10/22/2019 |

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

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