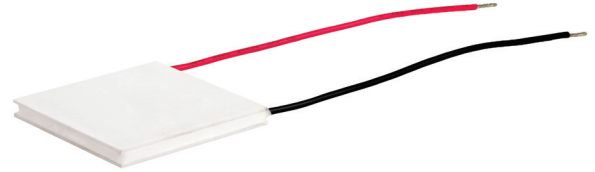


**SERIES:** CP50 | **DESCRIPTION:** PELTIER MODULE**FEATURES**

- arcTEC™ structure on select models
- solid state device
- precise temperature control
- quiet operation

**MODEL**

| MODEL                  | input<br>voltage <sup>1</sup><br>max<br>(Vdc) | input<br>current <sup>2</sup><br>max<br>(A) | internal<br>resistance <sup>3</sup><br>typ<br>( $\Omega \pm 10\%$ ) | output<br>Qmax <sup>4</sup> |                             | output<br>$\Delta T_{max}$ <sup>5</sup> |                              |
|------------------------|-----------------------------------------------|---------------------------------------------|---------------------------------------------------------------------|-----------------------------|-----------------------------|-----------------------------------------|------------------------------|
|                        |                                               |                                             |                                                                     | T <sub>h</sub> =27°C<br>(W) | T <sub>h</sub> =50°C<br>(W) | T <sub>h</sub> =27°C<br>(°C)            | T <sub>h</sub> =50°C<br>(°C) |
| CP50141                | 2.1                                           | 5.0                                         | 0.31                                                                | 5.5                         | 6.1                         | 68                                      | 75                           |
| CP50241                | 3.8                                           | 5.0                                         | 0.56                                                                | 10.0                        | 11.1                        | 68                                      | 75                           |
| CP50301541             | 4.2                                           | 5.0                                         | 0.63                                                                | 11                          | 12.3                        | 68                                      | 75                           |
| CP5030395 <sup>6</sup> | 11.8                                          | 5.0                                         | 1.74                                                                | 35.0                        | 38.0                        | 70                                      | 77                           |
| CP50341 <sup>6</sup>   | 8.6                                           | 5.0                                         | 1.29                                                                | 23.0                        | 25.7                        | 70                                      | 77                           |
| CP50441 <sup>6</sup>   | 15.4                                          | 5.0                                         | 2.3                                                                 | 41.0                        | 45.8                        | 70                                      | 77                           |

Notes:

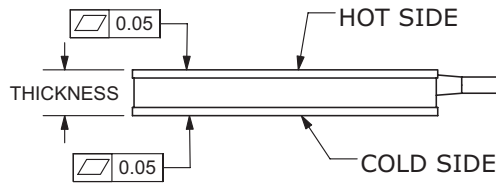
1. Maximum voltage at  $\Delta T_{max}$  and T<sub>h</sub>=27°C
2. Maximum current to achieve  $\Delta T_{max}$
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at I<sub>max</sub>, V<sub>max</sub>, and  $\Delta T=0^\circ\text{C}$
5. Maximum temperature difference occurs at I<sub>max</sub>, V<sub>max</sub>, and Q=0W ( $\Delta T_{max}$  measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure

## SPECIFICATIONS

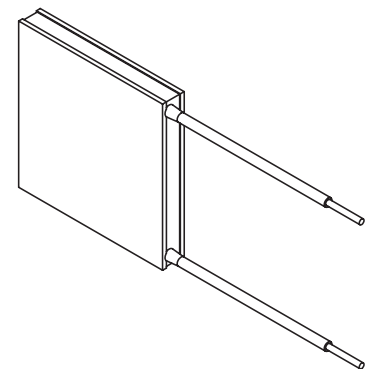
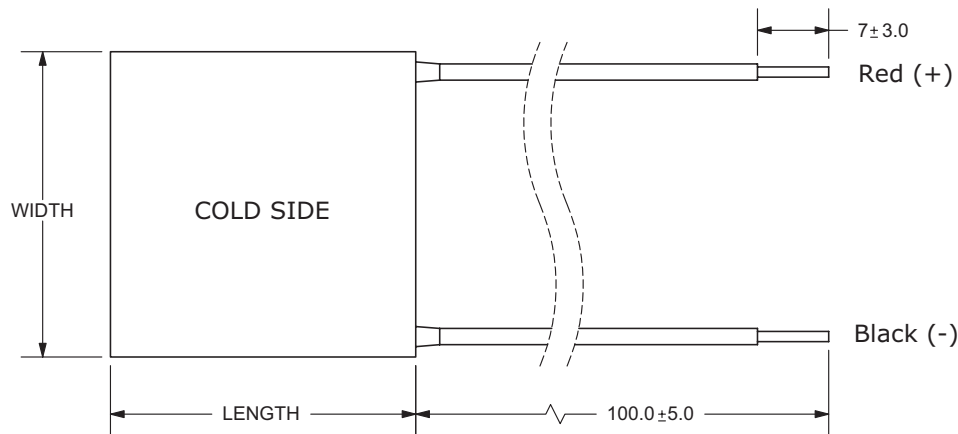
| parameter                  | conditions/description                  | min | typ | max | units |
|----------------------------|-----------------------------------------|-----|-----|-----|-------|
| solder melting temperature | connection between thermoelectric pairs | 235 |     |     | °C    |
| assembly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

## MECHANICAL DRAWING

units: mm

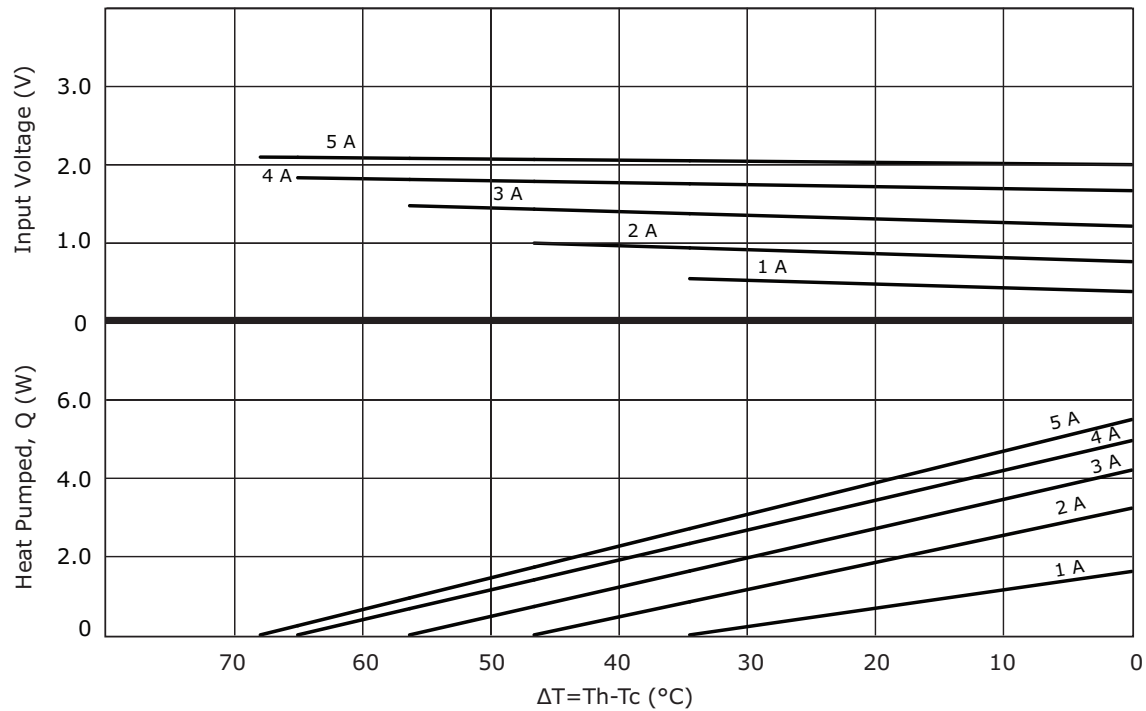
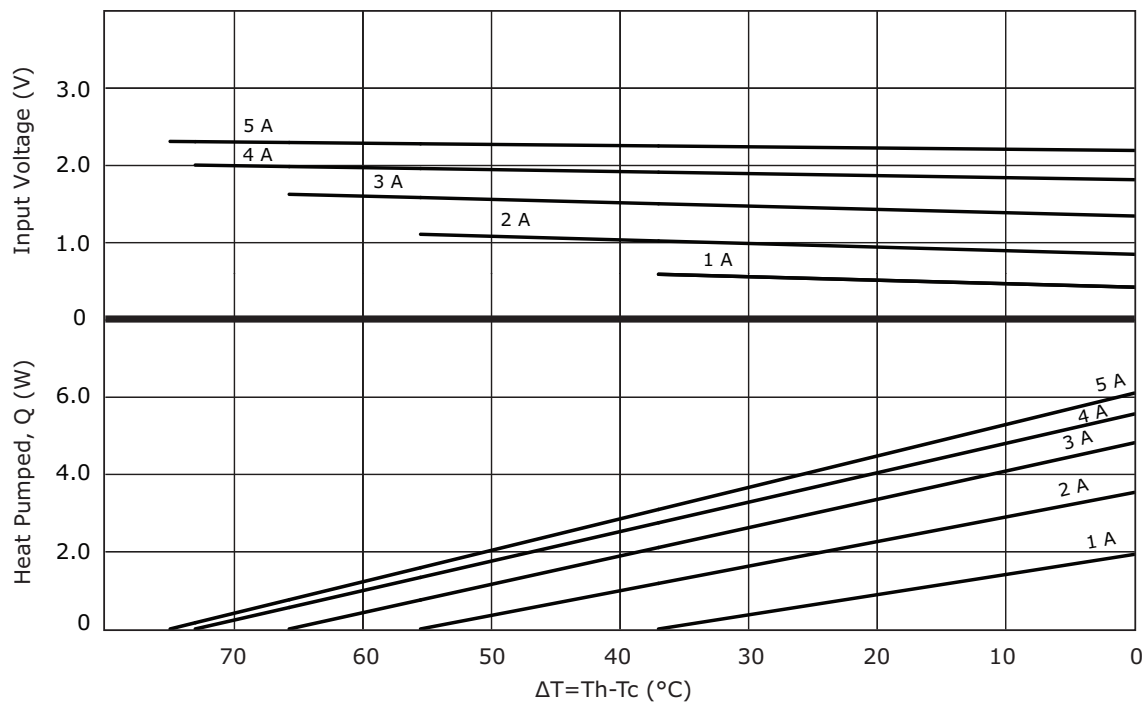


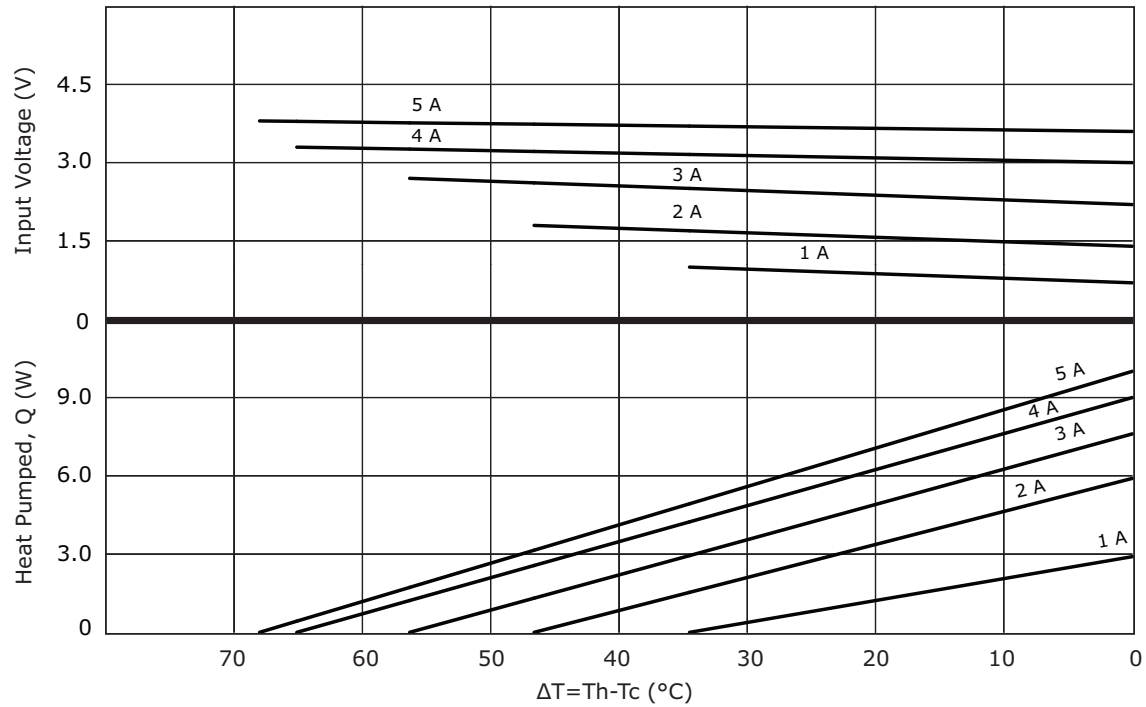
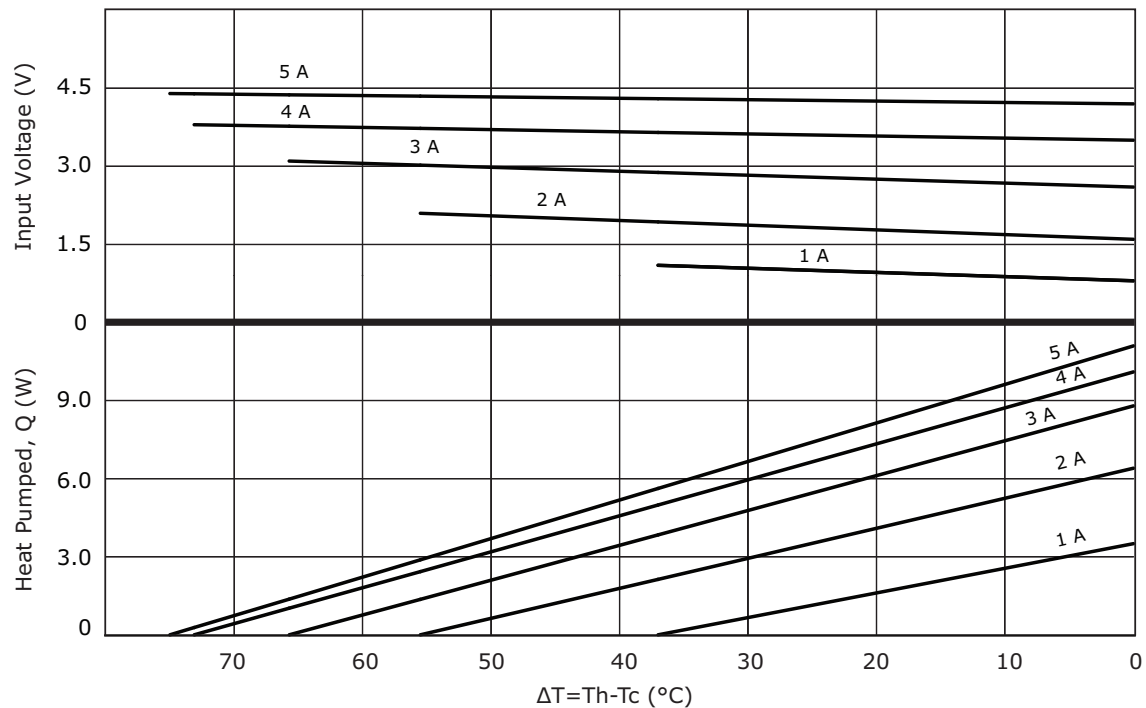
|               | MATERIAL                                                  | PLATING |
|---------------|-----------------------------------------------------------|---------|
| ceramic plate | 96% $Al_2O_3$                                             |         |
| wire leads    | 20 AWG                                                    | 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                    |         |

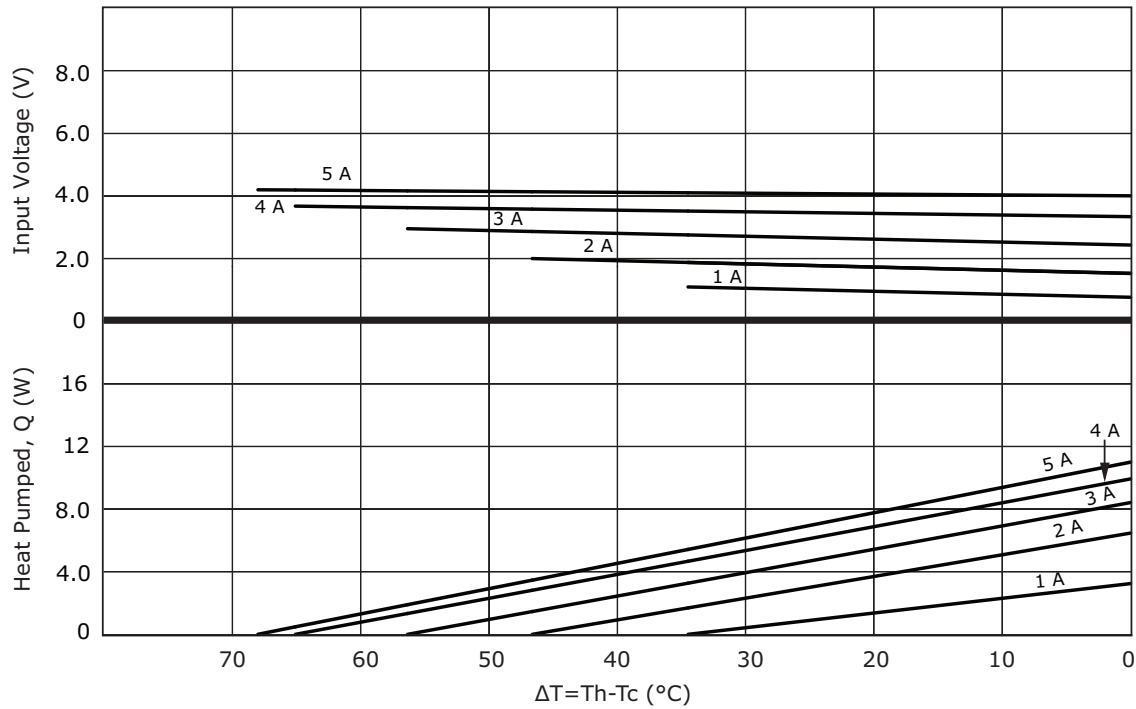
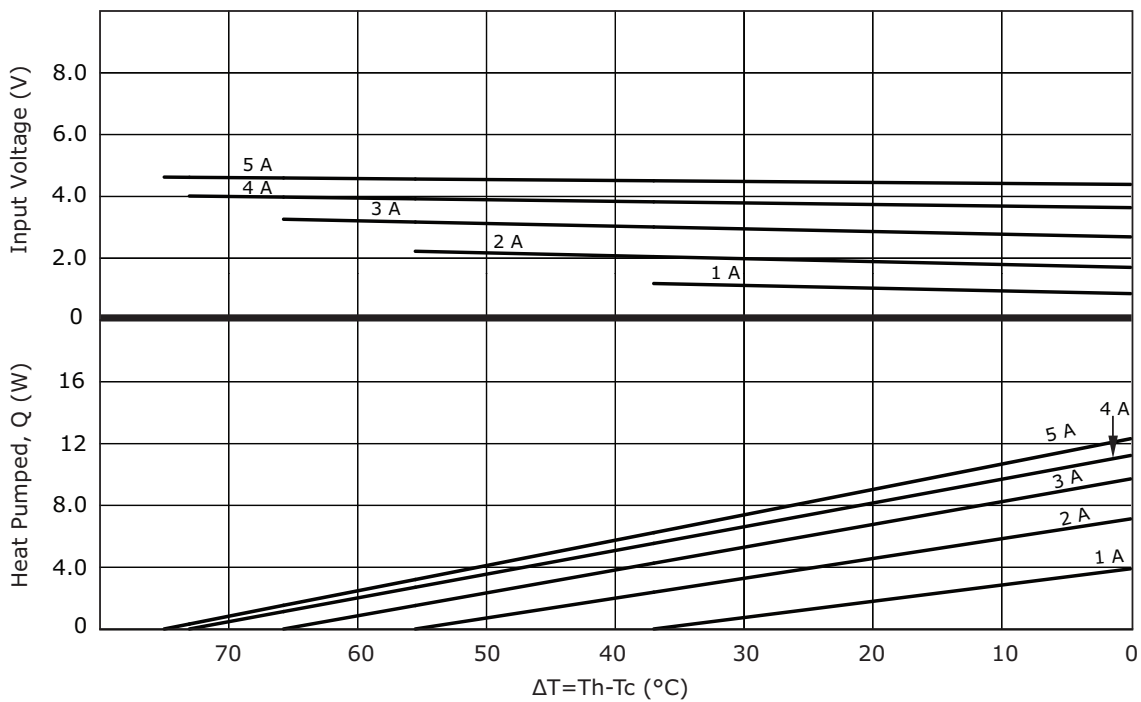


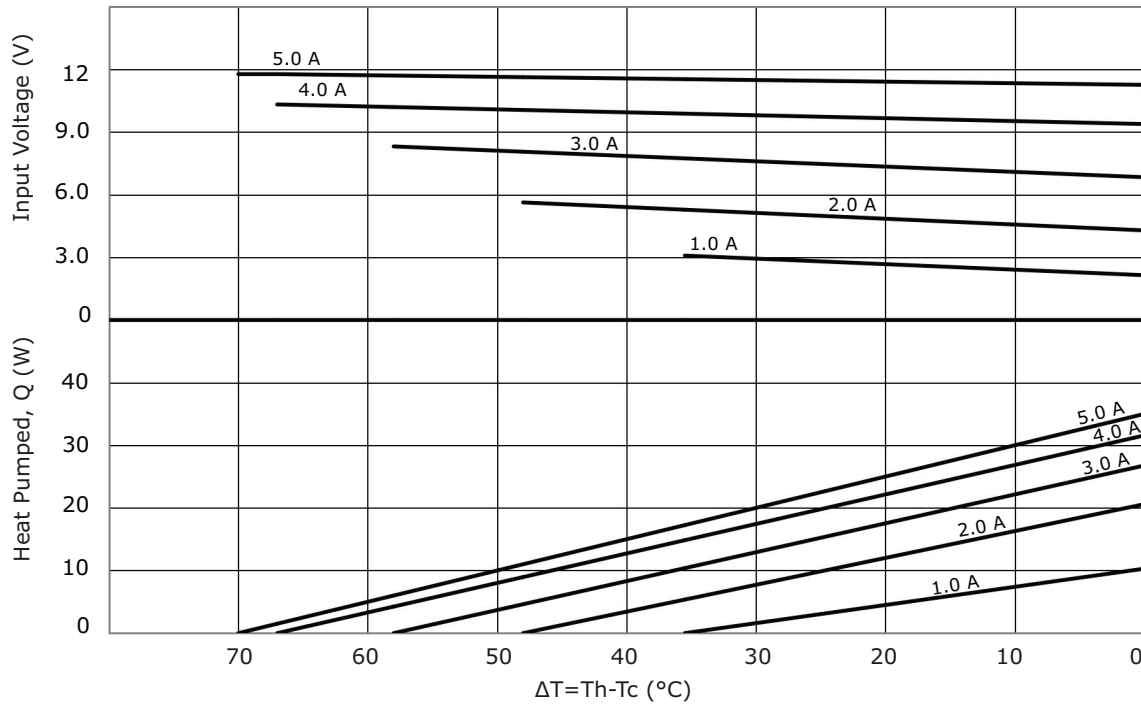
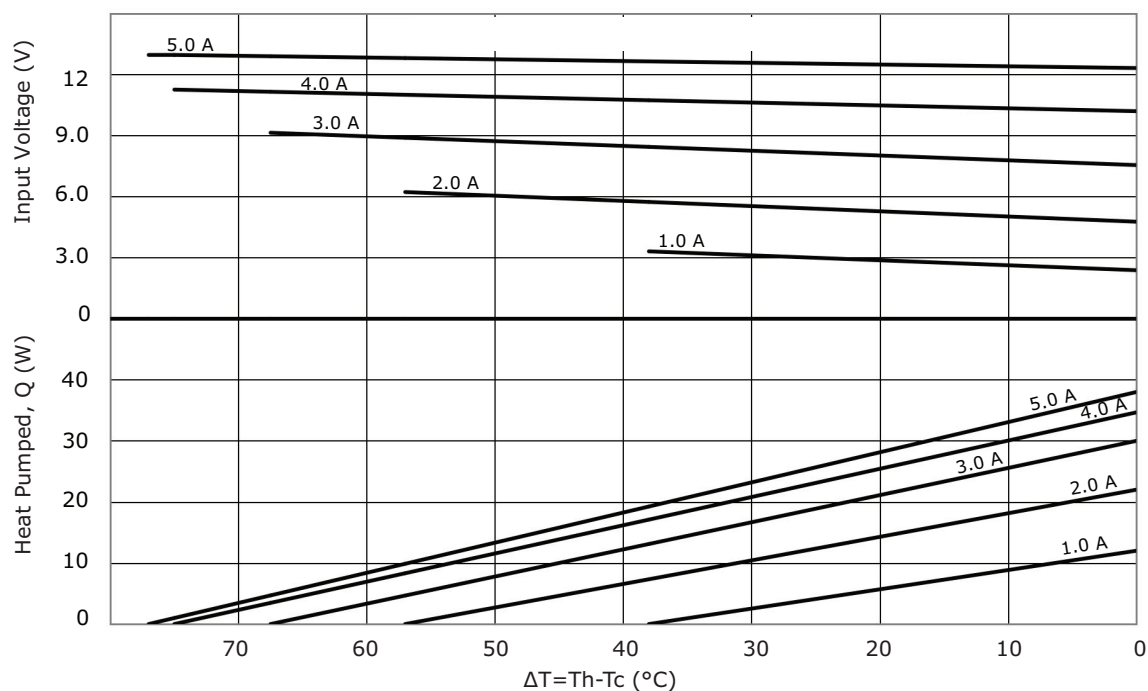
| MODEL NO.            | LENGTH (mm) | WIDTH (mm) | THICKNESS (mm) |
|----------------------|-------------|------------|----------------|
| CP50141              | 15 ± 0.3    | 15 ± 0.3   | 4.0 ± 0.1      |
| CP50241              | 20 ± 0.3    | 20 ± 0.3   | 4.0 ± 0.1      |
| CP50301541           | 30 ± 0.3    | 15 ± 0.3   | 4.0 ± 0.1      |
| CP5030395            | 30 ± 0.3    | 30 ± 0.3   | 3.95 ± 0.025   |
| CP50341 <sup>1</sup> | 30 ± 0.3    | 30 ± 0.3   | 4.0 ± 0.1      |
| CP50441 <sup>1</sup> | 40 ± 0.3    | 40 ± 0.3   | 4.0 ± 0.1      |

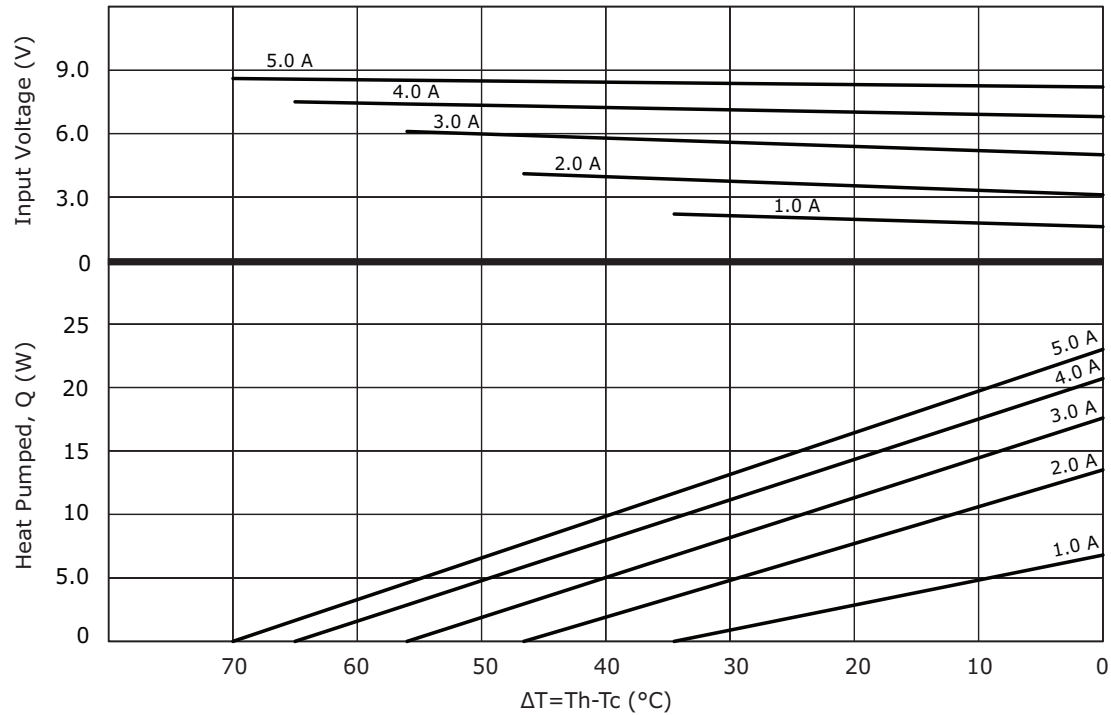
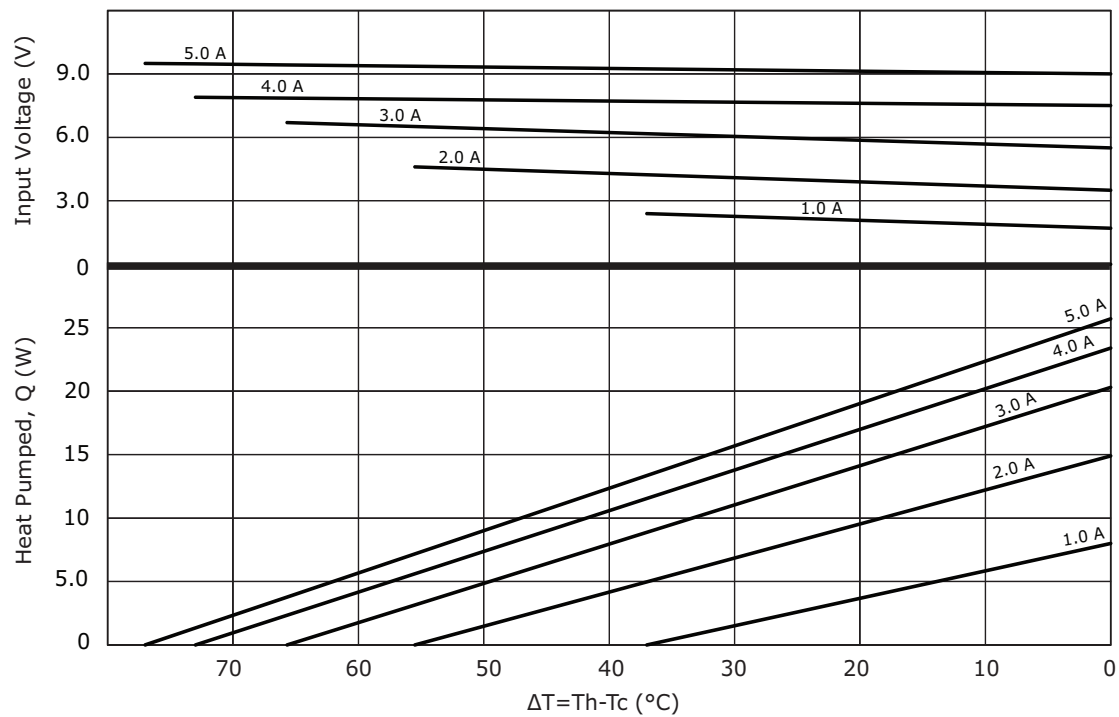
Notes: 1. Wire lead strip length on models CP50341 & CP50441 is 10 ± 3.0 mm.

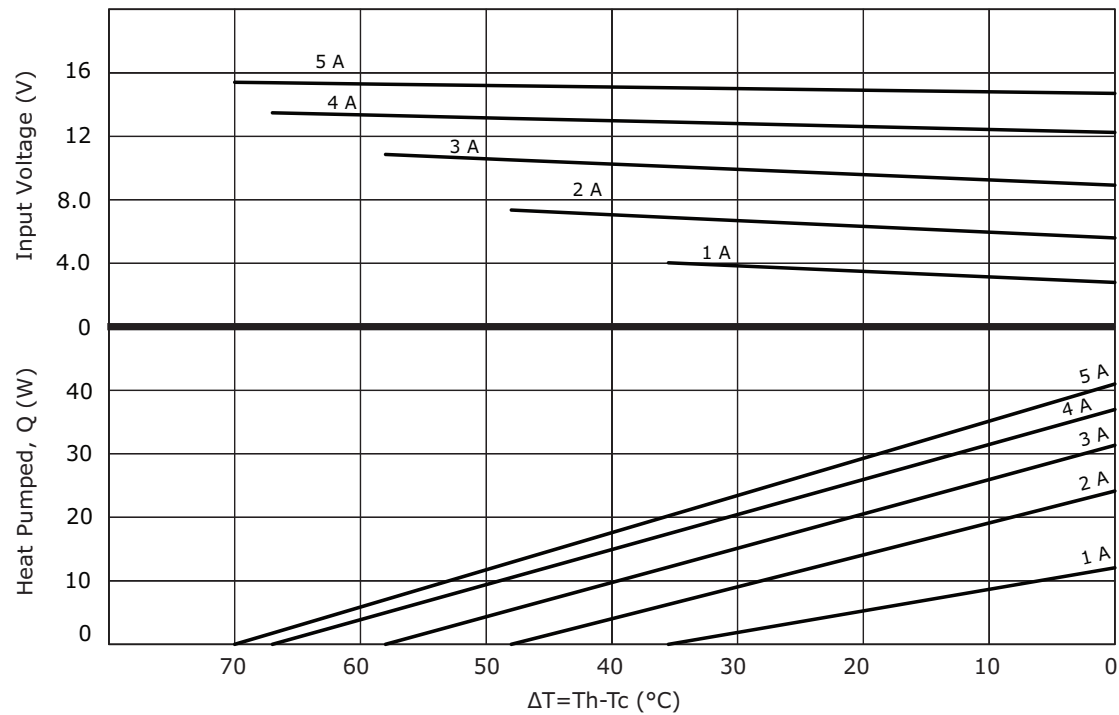
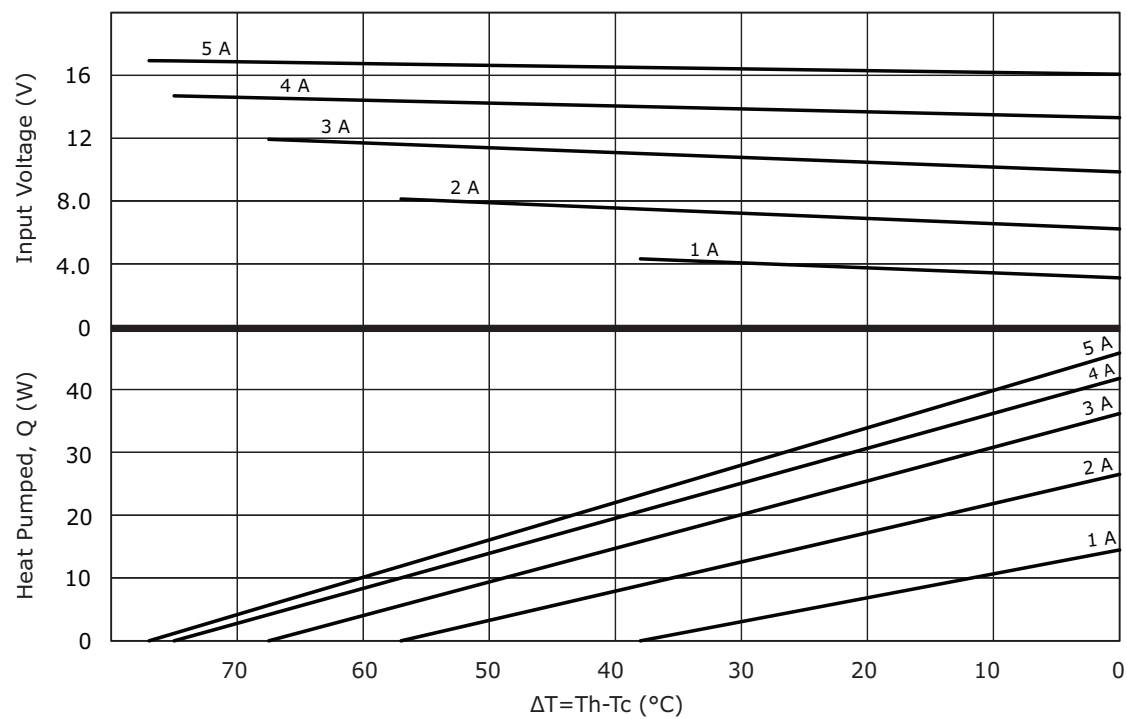
**CP50141 PERFORMANCE (Th=27°C)****CP50141 PERFORMANCE (Th=50°C)**

**CP50241 PERFORMANCE (Th=27°C)****CP50241 PERFORMANCE (Th=50°C)**

**CP50301541 PERFORMANCE (Th=27°C)****CP50301541 PERFORMANCE (Th=50°C)**

**CP5030395 PERFORMANCE (Th=27°C)****CP5030395 PERFORMANCE (Th=50°C)**

**CP50341 PERFORMANCE (Th=27°C)****CP50341 PERFORMANCE (Th=50°C)**

**CP50441 PERFORMANCE (Th=27°C)****CP50441 PERFORMANCE (Th=50°C)**

## REVISION HISTORY

| rev. | description                                              | date       |
|------|----------------------------------------------------------|------------|
| 1.0  | initial release                                          | 09/08/2016 |
| 1.01 | changed models CP50341 & CP50441 to arcTEC™ structure    | 12/01/2017 |
| 1.02 | changed thickness of CP50141, CP50241, CP50301541 models | 09/20/2018 |
| 1.03 | added model CP5030395, brand update                      | 10/18/2019 |

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

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# CUI DEVICES

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