

SERIES: CP50 | DESCRIPTION: PELTIER MODULE

FEATURES

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



| MODEL | input voltage ¹ max (Vdc) | input current ² max (A) | internal resistance ³ typ (Ω±10%) | output Qmax ⁴ | | output ΔTmax ⁵ | |
|------------------------|--|--|--|-----------------------------|-----------------------------|------------------------------|------------------------------|
| | | | | T _h =27°C (W) | T _h =50°C (W) | T _h =27°C (°C) | T _h =50°C (°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 ⁶ | 11.8 | 5.0 | 1.74 | 35.0 | 38.0 | 70 | 77 |
| CP50341 ⁶ | 8.6 | 5.0 | 1.29 | 23.0 | 25.7 | 70 | 77 |
| CP50441 ⁶ | 15.4 | 5.0 | 2.3 | 41.0 | 45.8 | 70 | 77 |

Notes:

1. Maximum voltage at ΔT max and T_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_{max'}, V_{max'}, and ΔT=0°C
5. Maximum temperature difference occurs at I_{max'}, V_{max'}, and Q=0W (ΔT max measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure

SPECIFICATIONS

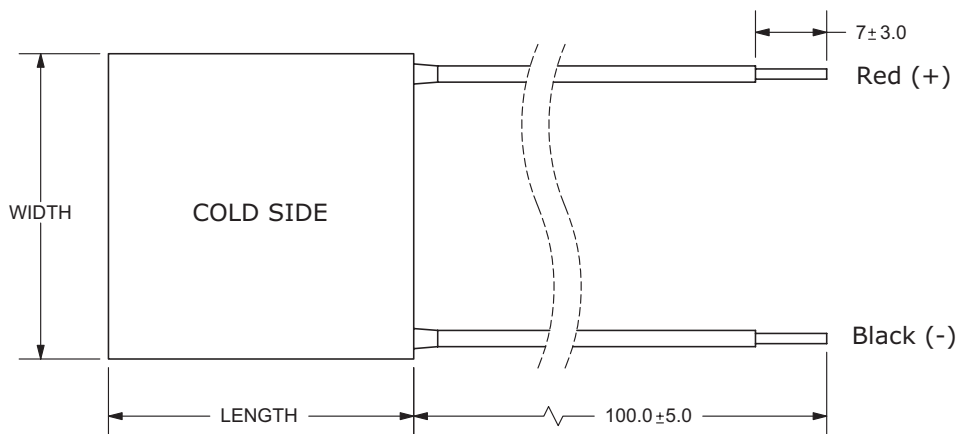
| parameter | conditions/description | min | typ | max | units |
|----------------------------|---|-----|-----|-----|-------|
| solder melting temperature | connection between thermoelectric pairs | 235 | | | °C |
| assembly compression | | | | 1 | MPa |
| RoHS | yes | | | | |

MECHANICAL DRAWING

units: mm



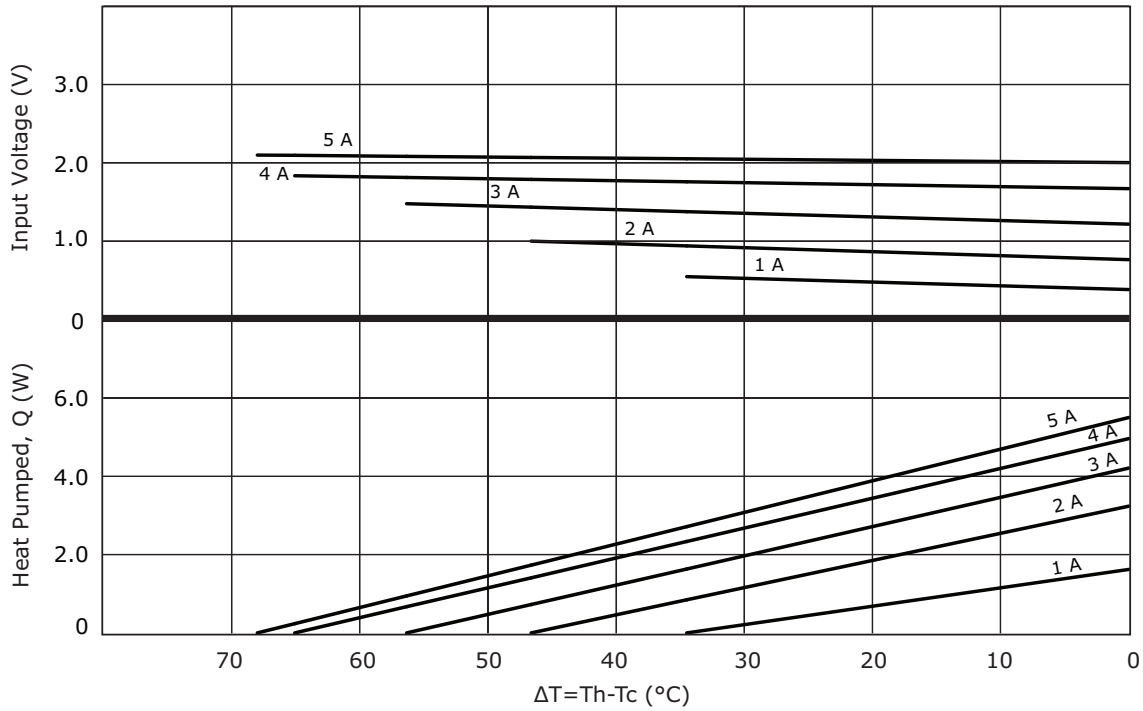
| | MATERIAL | PLATING |
|---------------|---|---------|
| ceramic plate | 96% Al_2O_3 | |
| wire leads | 20 AWG | tin |
| sealer | silicon rubber 703 RTV (between cold and hot side plates) | |
| joint cover | silicon rubber 703 RTV | |
| marking | P/N & S/N printed on cold side surface | |



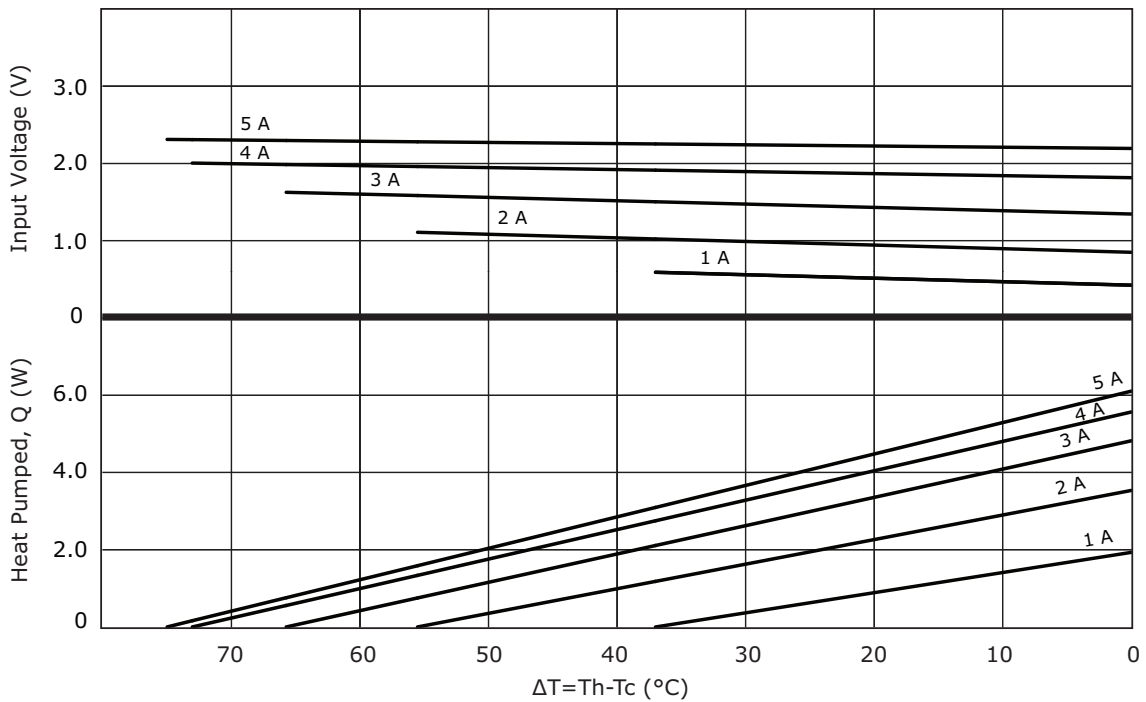
| MODEL NO. | LENGTH (mm) | WIDTH (mm) | THICKNESS (mm) |
|----------------------|-------------|------------|----------------|
| CP50141 | 15 ± 0.3 | 15 ± 0.3 | 4.0 ± 0.1 |
| CP50241 | 20 ± 0.3 | 20 ± 0.3 | 4.0 ± 0.1 |
| CP50301541 | 30 ± 0.3 | 15 ± 0.3 | 4.0 ± 0.1 |
| CP5030395 | 30 ± 0.3 | 30 ± 0.3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

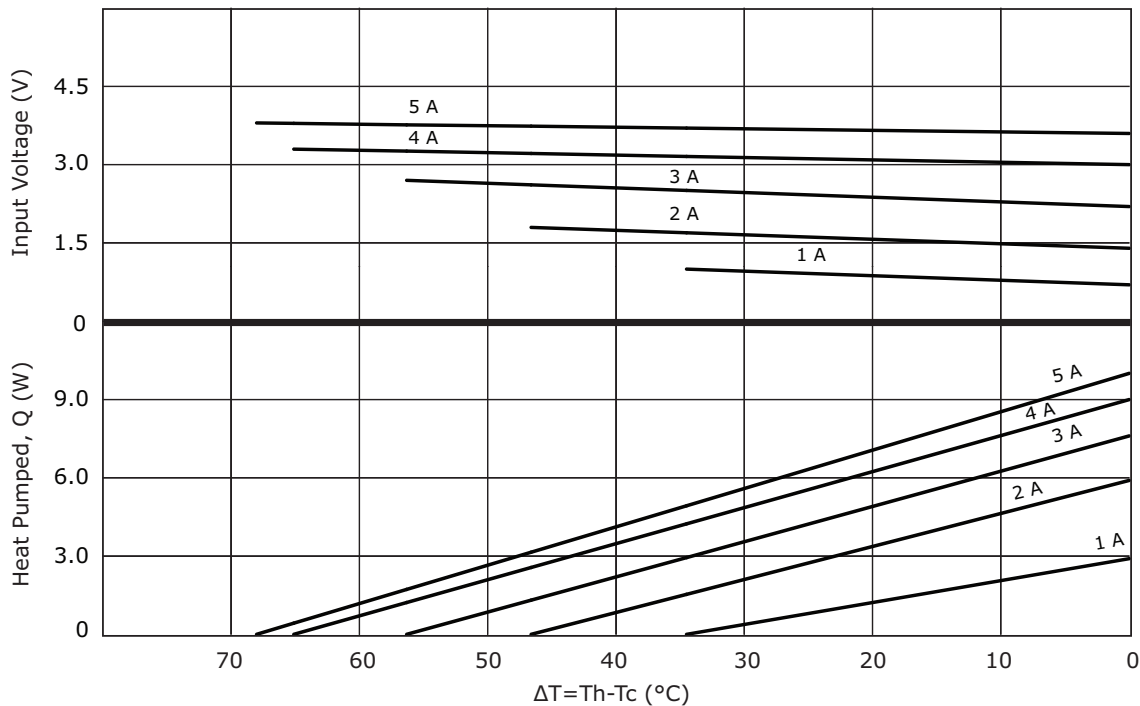
CP50141 PERFORMANCE (Th=27°C)



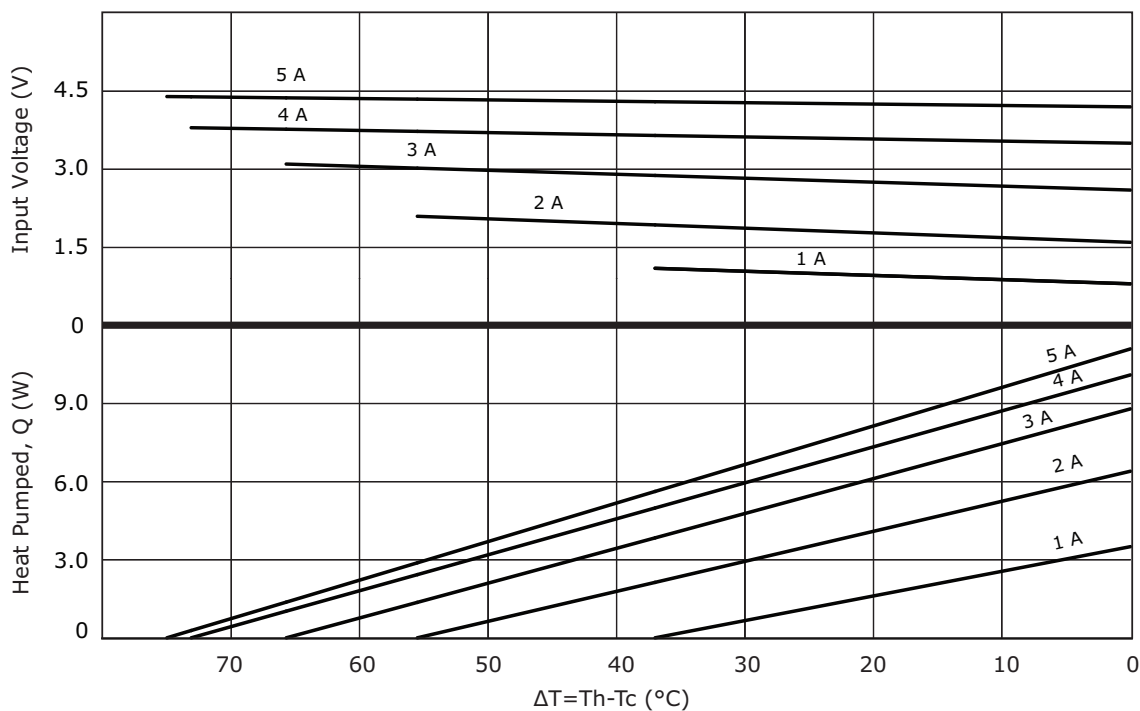
CP50141 PERFORMANCE (Th=50°C)



CP50241 PERFORMANCE (Th=27°C)



CP50241 PERFORMANCE (Th=50°C)



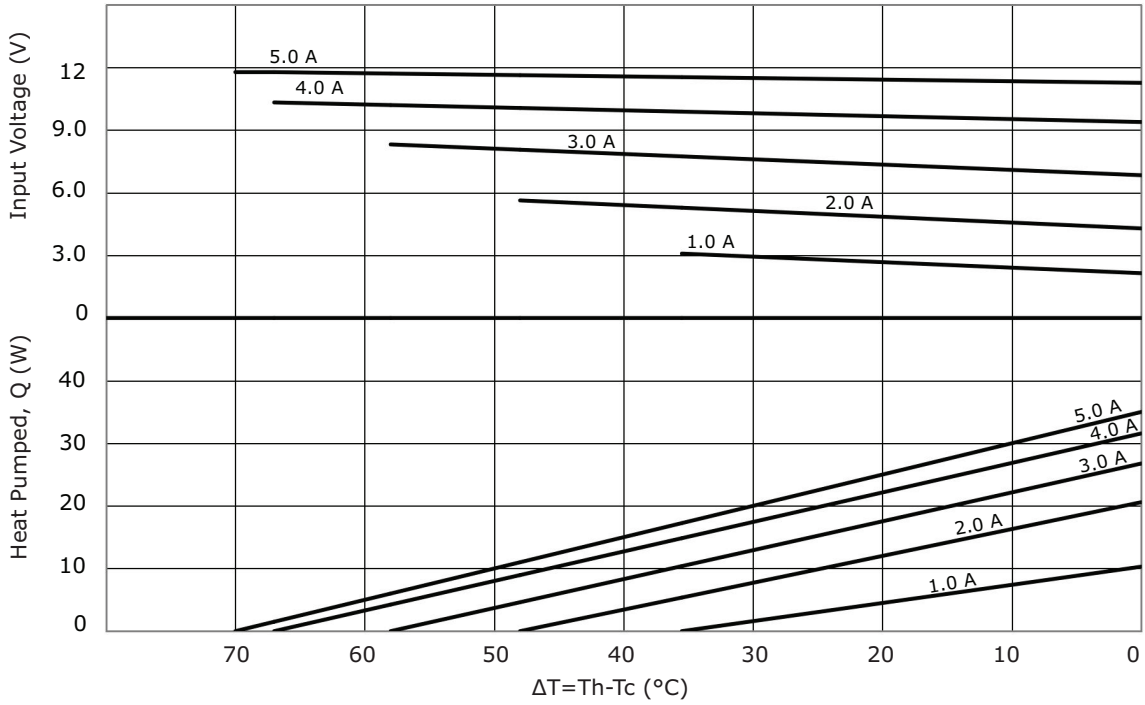
CP50301541 PERFORMANCE (Th=27°C)



CP50301541 PERFORMANCE (Th=50°C)



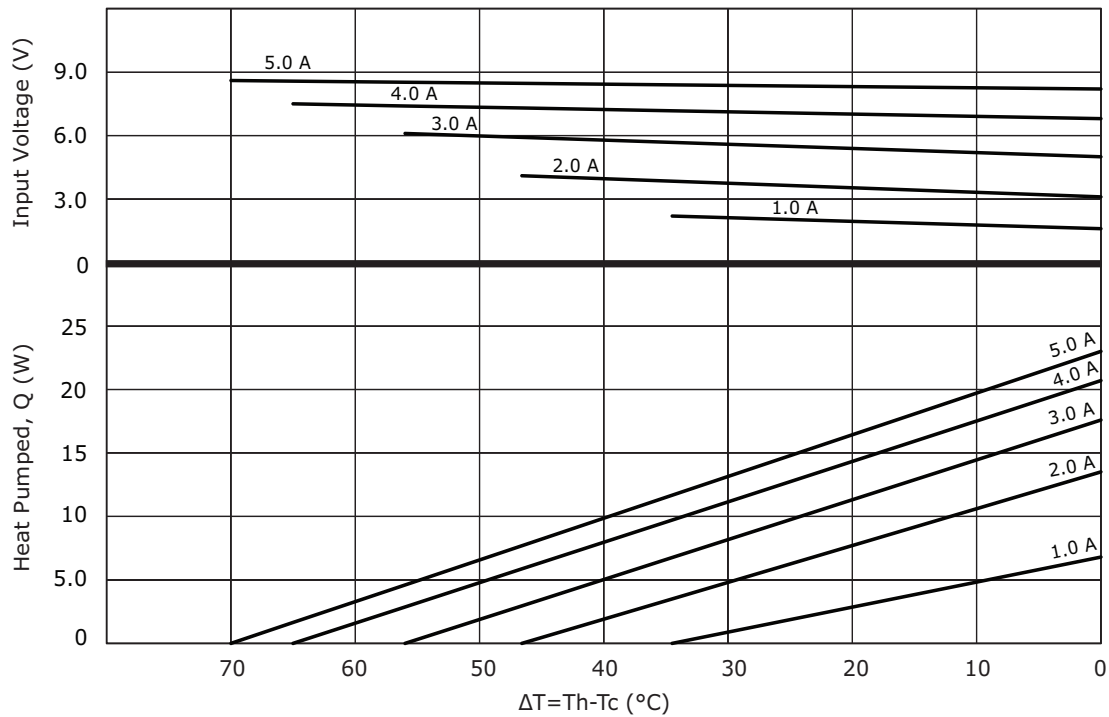
CP5030395 PERFORMANCE (Th=27°C)



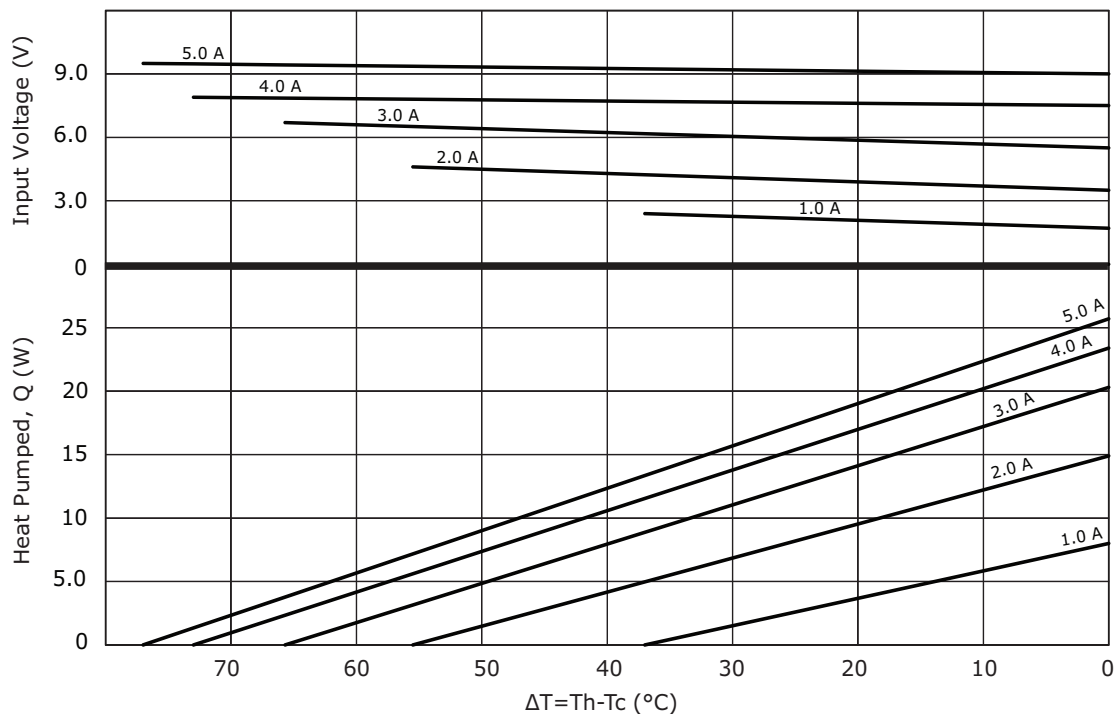
CP5030395 PERFORMANCE (Th=50°C)



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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