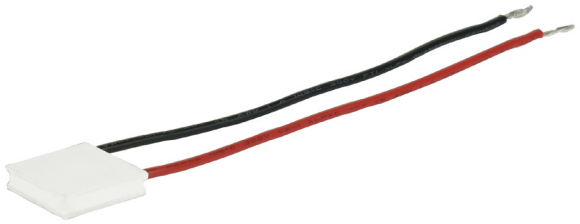
CUDEVICES



# **SERIES:** CP39H | **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



RoHS

| MODEL | input voltage[1] max (Vdc) | input current[2] max (A) | internal resistance[3] typ (Ω±10%) | output Qmax[4] $T_h$=27°C (W) | output Qmax[4] $T_h$=50°C (W) | output ΔTmax[5] $T_h$=27°C (°C) | output ΔTmax[5] $T_h$=50°C (°C) |
|---|---|---|---|---|---|---|---|
| CP39136H | 3.8 | 3.9 | 0.85 | 8.6 | 9.5 | 70 | 77 |
| CP39236H | 8.8 | 3.9 | 1.95 | 18.7 | 20.9 | 70 | 77 |
| CP39234030H | 14.9 | 3.9 | 3.38 | 31.0 | 35.9 | 68 | 75 |
| CP39301536H | 7.6 | 3.9 | 1.73 | 16.5 | 18.1 | 70 | 77 |
| CP393365H[6] | 15.7 | 3.9 | 3.50 | 35.2 | 39.0 | 70 | 77 |
| CP394044365[6] | 32.5 | 3.9 | 6.95±5% | 71.8 | 80.0 | 70 | 77 |

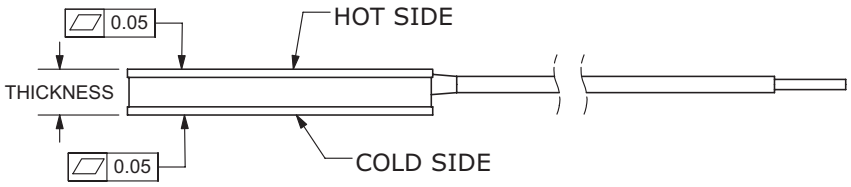
Notes:
1. Maximum voltage at ΔT max and $T_h$=27°C
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at $I_{max}$, $V_{max}$, and ΔT=0°C
5. Maximum temperature difference occurs at $I_{max}$, $V_{max}$, and Q=0W (ΔT max measured in a vacuum at 1.3 Pa)
6. Designed with arcTEC™ structure.

## SPECIFICATIONS

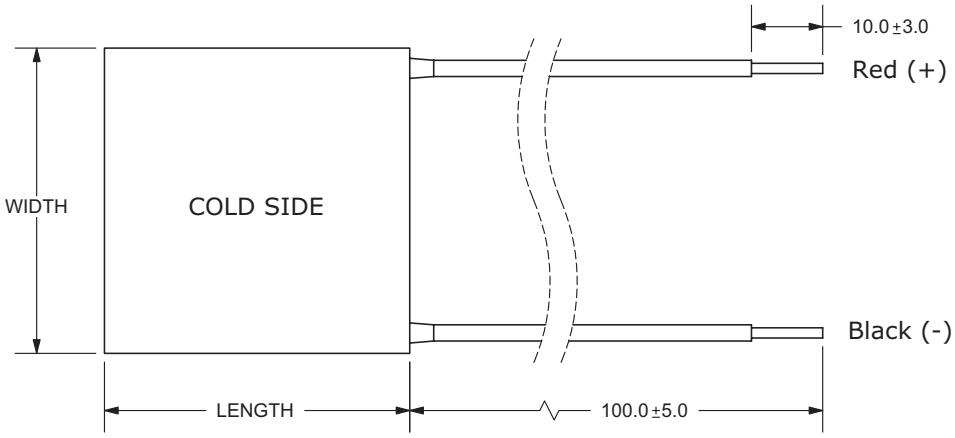
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| solder melting temperature | connection between thermoelectric pairs | 235 | | | °C |
| assembly compression | | | | 1 | MPa |
| RoHS | yes | | | | |

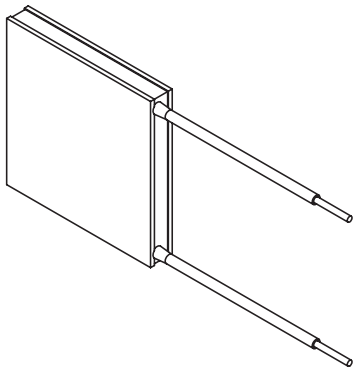
## MECHANICAL DRAWING

units: mm



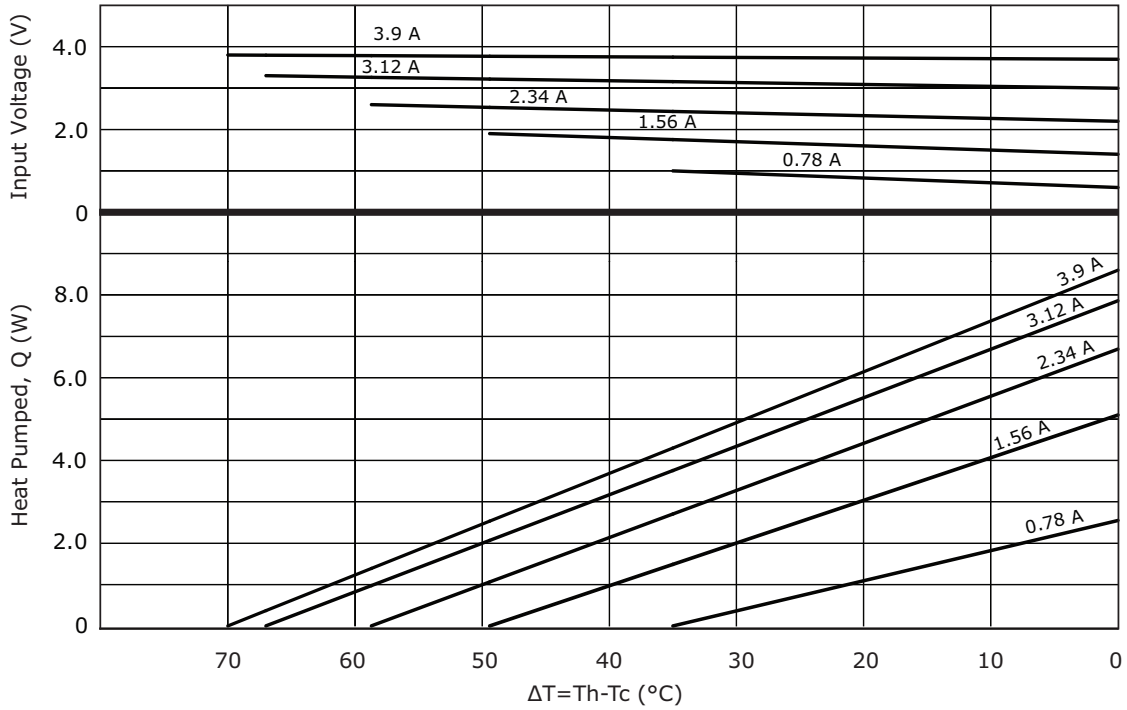

| | MATERIAL | PLATING |
|---|---|---|
| ceramic plate | 96% $AL_2O_3$ | |
| wire leads | 22 AWG | tin |
| sealer | silicon rubber 703 RTV (between cold and hot side plates) | |
| joint cover | silicon rubber 703 RTV | |
| marking | P/N & S/N printed on cold side surface | |



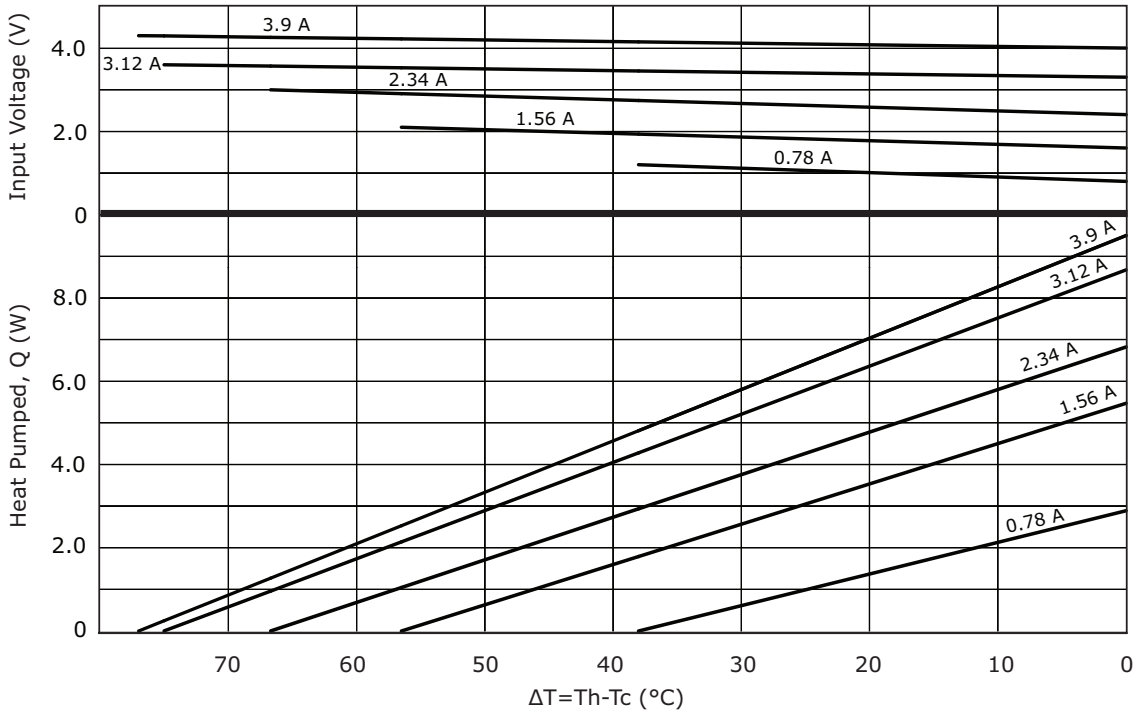



| MODEL NO. | LENGTH (mm) | WIDTH (mm) | THICKNESS (mm) |
|---|---|---|---|
| CP39136H | 15 ±0.3 | 15 ±0.3 | 3.6 ±0.025 |
| CP39236H | 20 ±0.3 | 20 ±0.3 | 3.6 ±0.025 |
| CP39234030H | 23 ±0.3 | 40 ±0.3 | 3.0 ±0.05 |
| CP39301536H | 30 ±0.3 | 15 ±0.3 | 3.6 ±0.025 |
| CP393365H | 30 ±0.3 | 30 ±0.3 | 3.65 ±0.025 |
| CP394044365 | 44 ±0.3 | 40.5 ±0.3 | 3.65 ±0.1 |

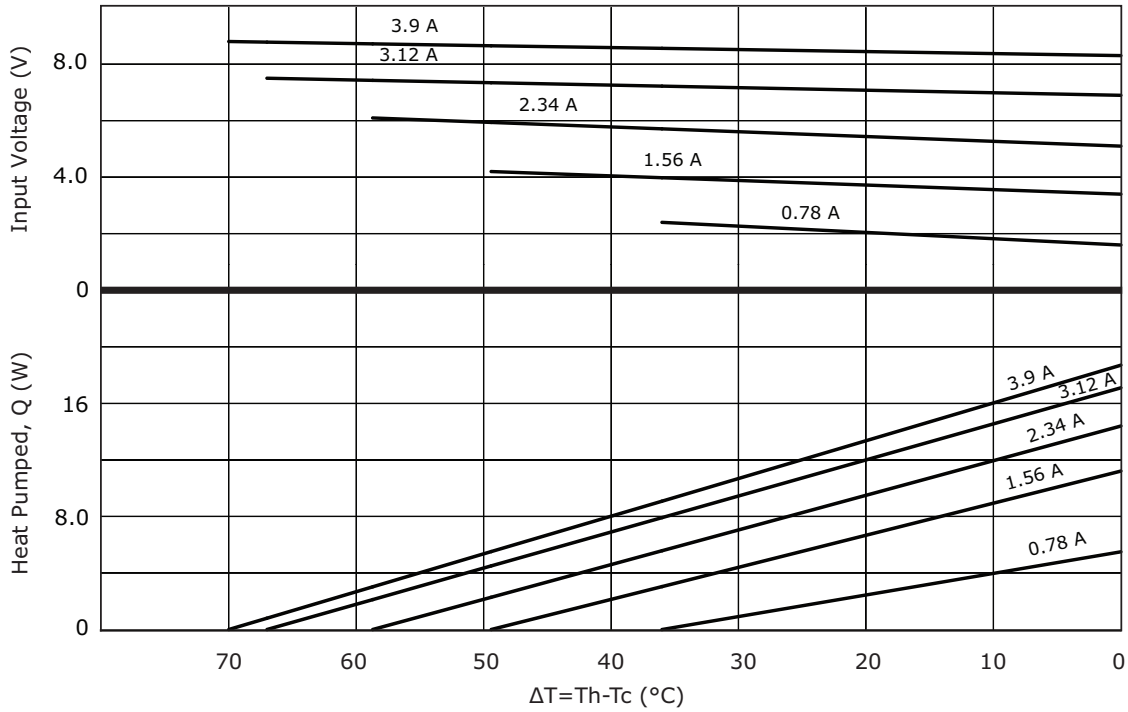
## CP39136H PERFORMANCE (Th=27°C)



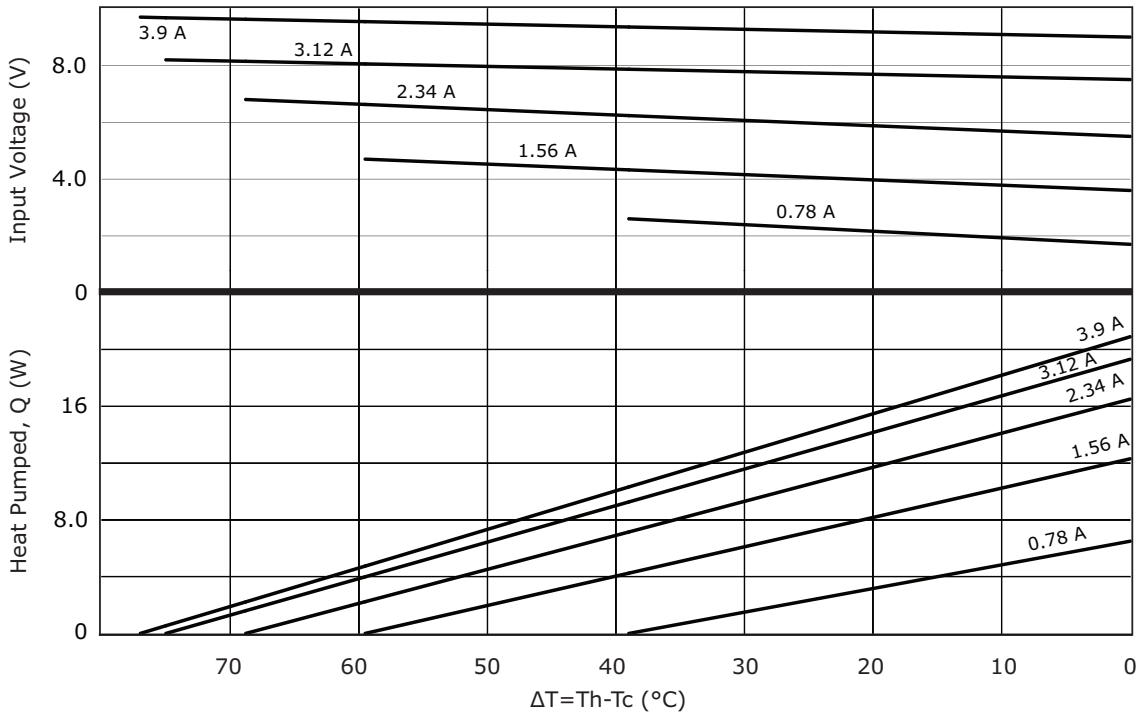

## CP39136H PERFORMANCE (Th=50°C)



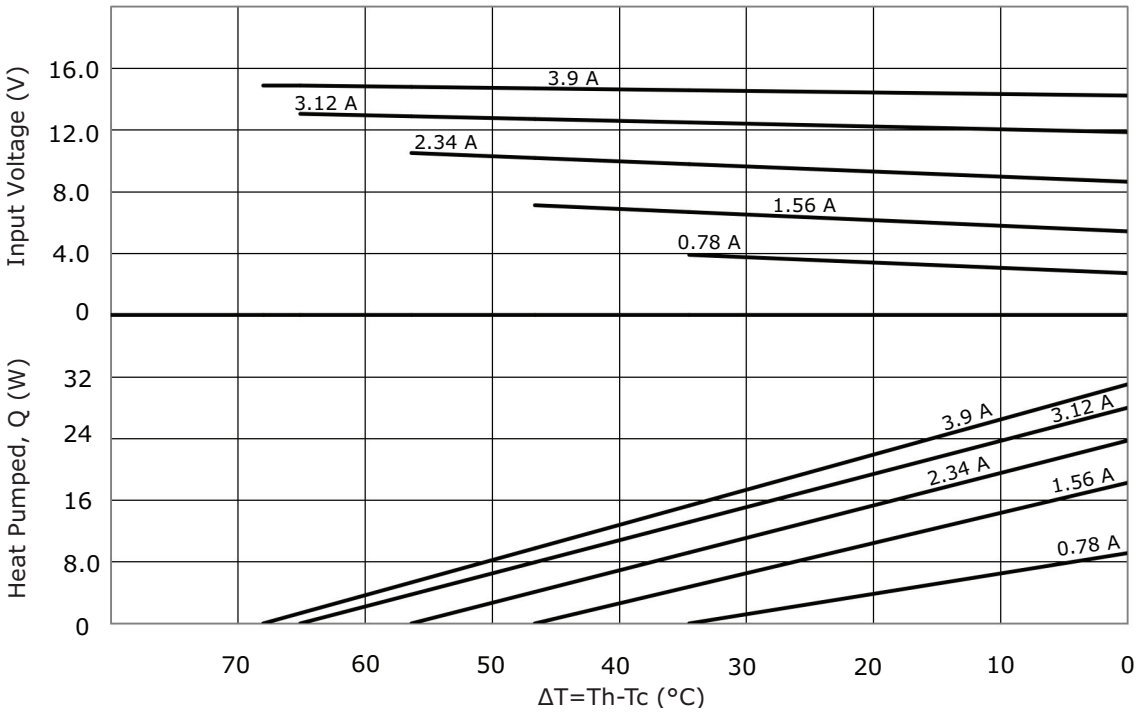
## CP39236H PERFORMANCE (Th=27°C)



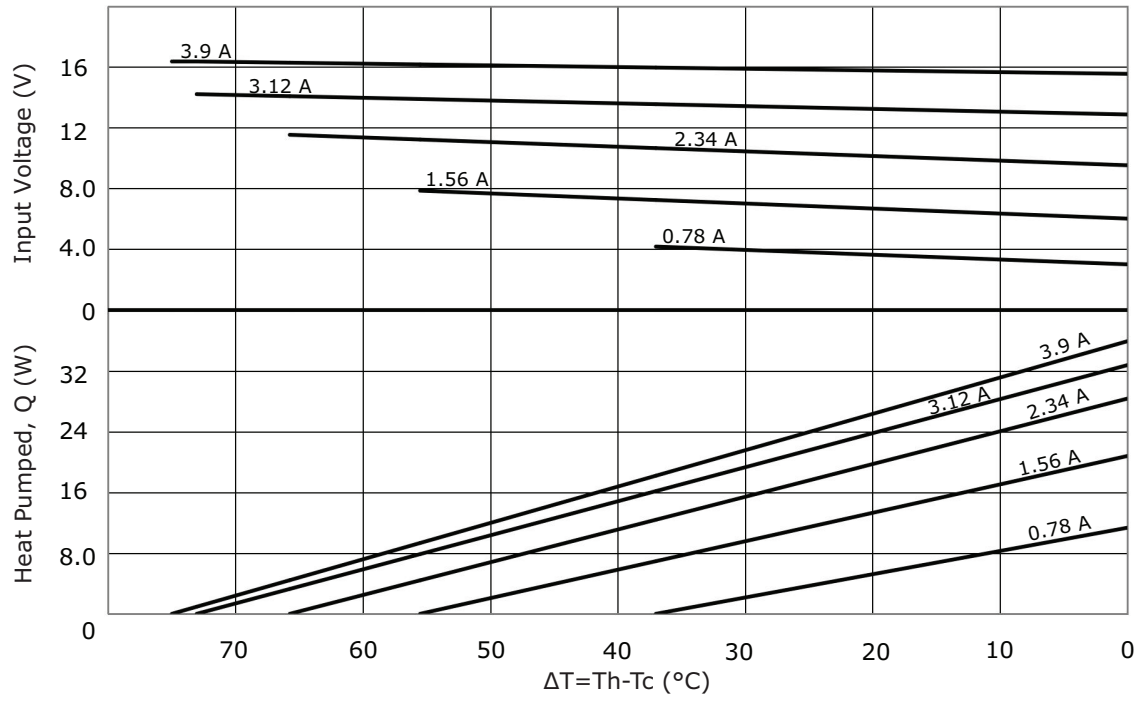

## CP39236H PERFORMANCE (Th=50°C)



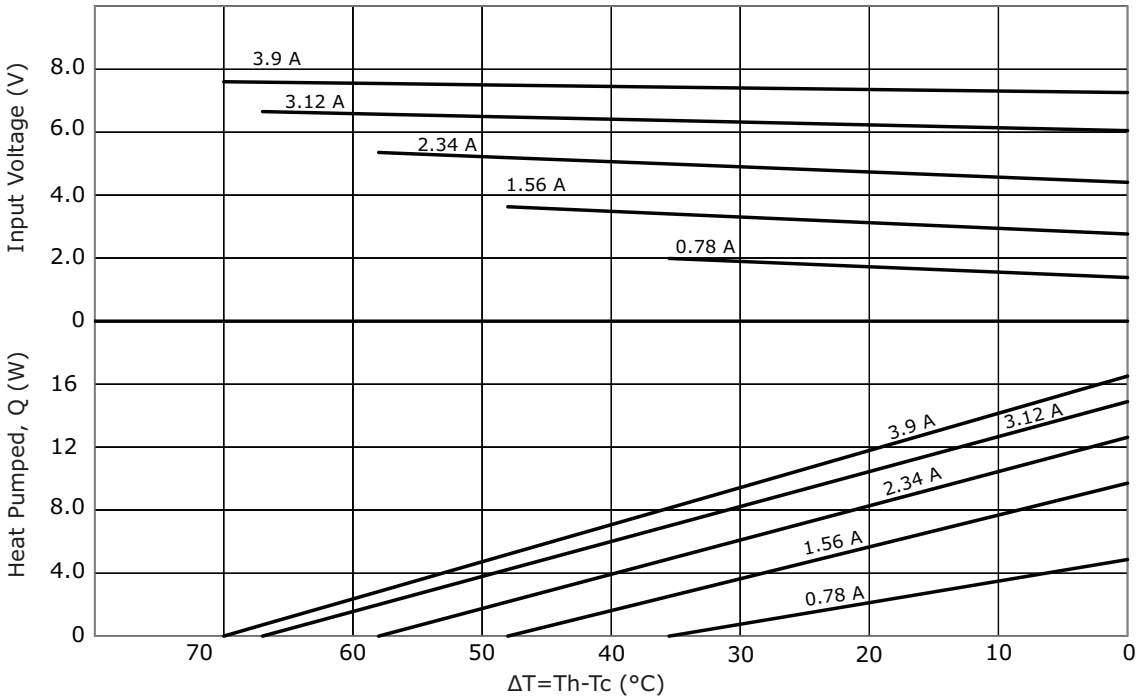
## CP39234030H PERFORMANCE (Th=27°C)



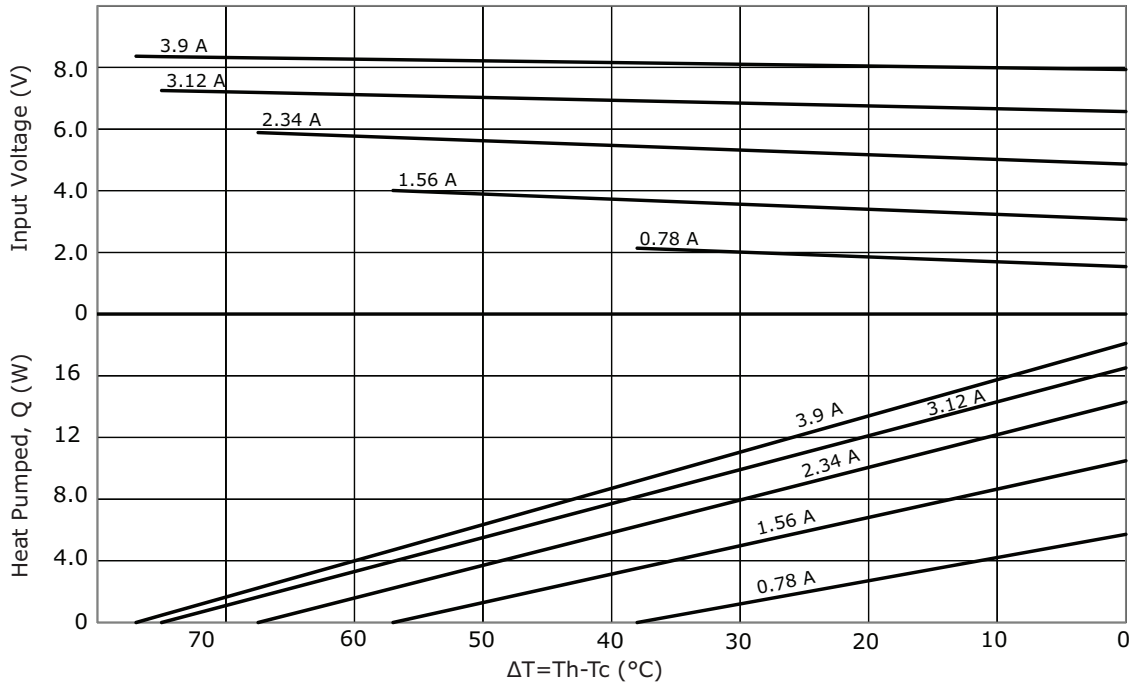

## CP39234030H PERFORMANCE (Th=50°C)



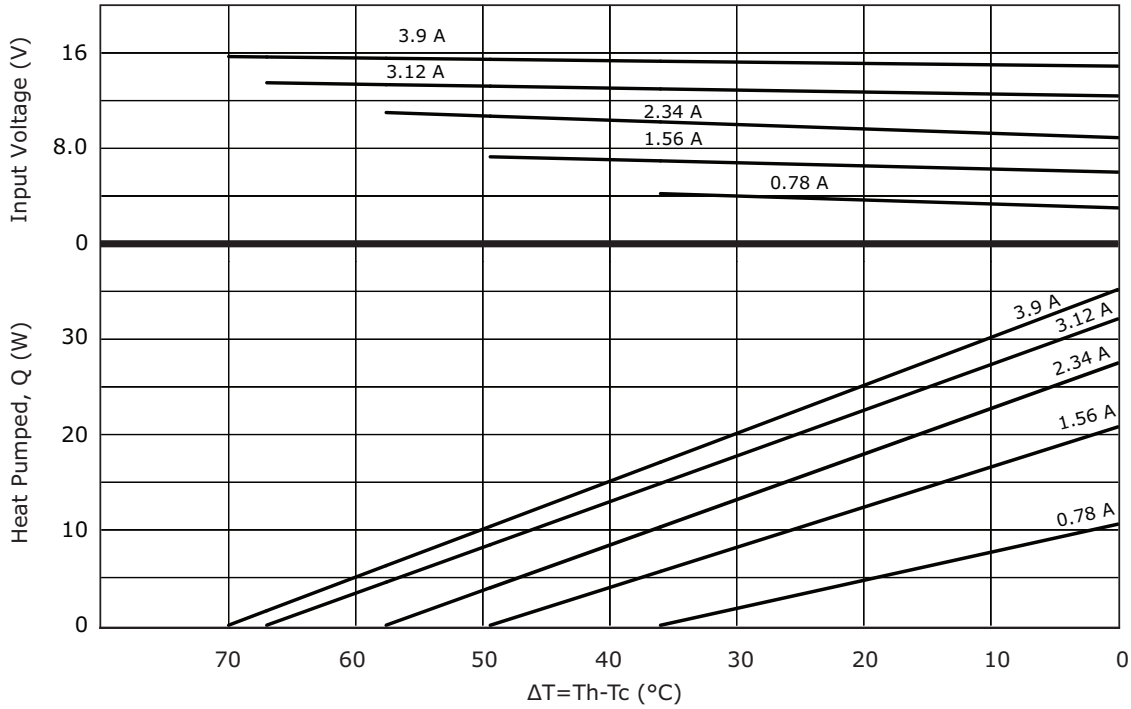
## CP39301536H PERFORMANCE (Th=27°C)



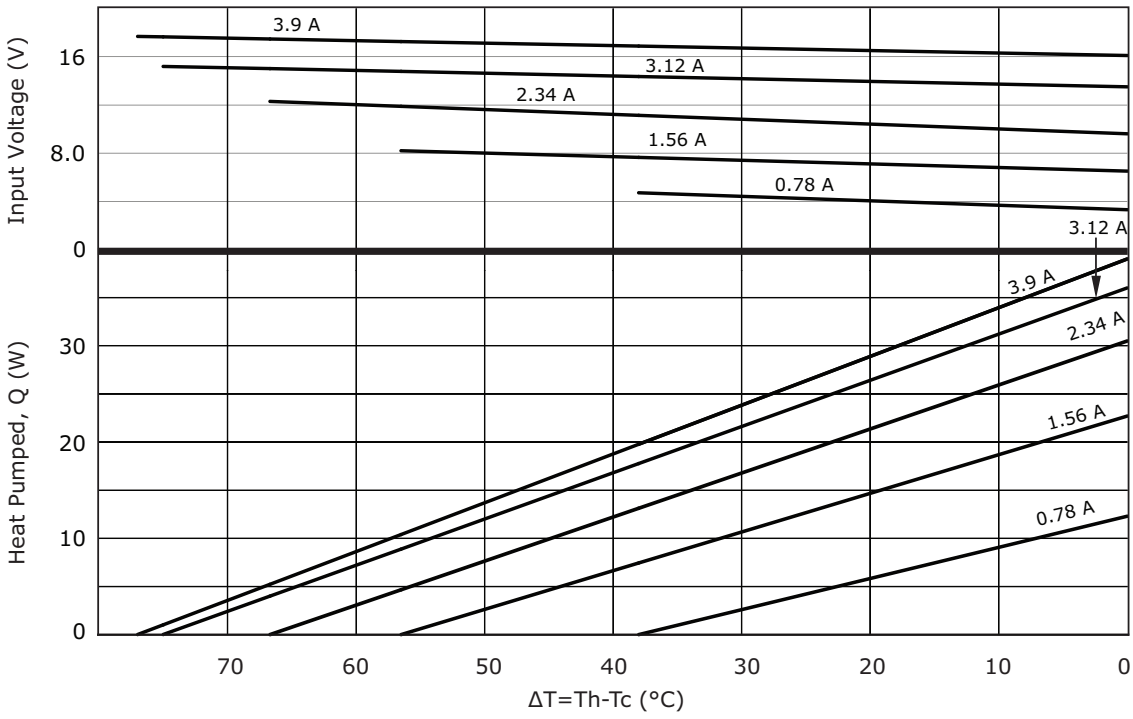

## CP39301536H PERFORMANCE (Th=50°C)



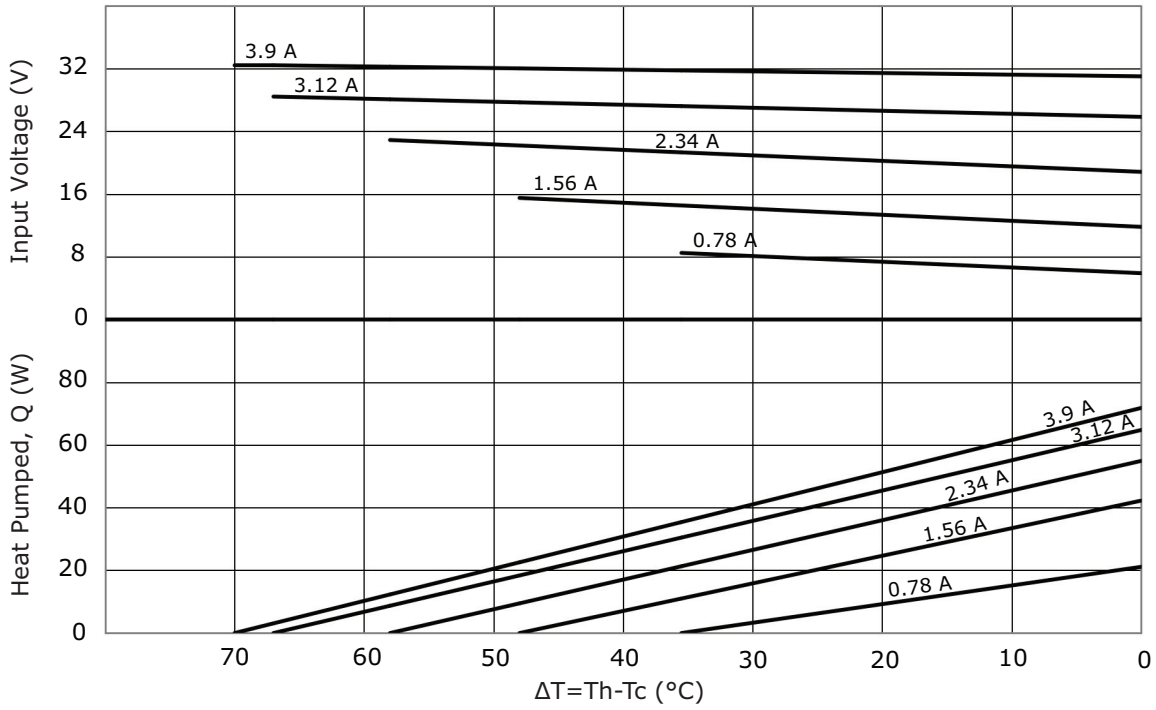
## CP393365H PERFORMANCE (Th=27°C)



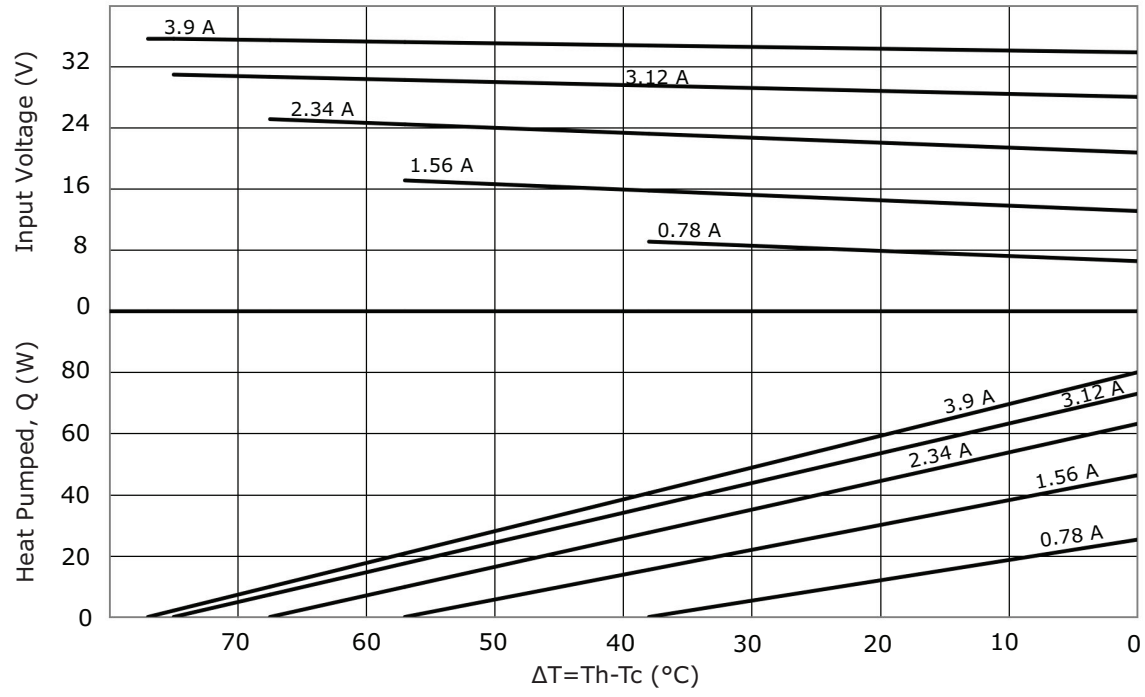

## CP393365H PERFORMANCE (Th=50°C)



## CP394044365 PERFORMANCE (Th=27°C)




## CP394044365 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 model | 05/21/2018 |
| 1.03 | added model CP394044365, brand update | 10/16/2019 |
| 1.04 | added model CP39234030H | 11/12/2020 |
| 1.05 | logo, datasheet style update | 08/05/2022 |

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