

**SERIES:** CP14-M | **DESCRIPTION:** PELTIER MODULE**FEATURES**

- micro size (less than 10 x 10 mm)
- wide  $\Delta T$  max
- $Q_{max}$  up to 1.7 W
- Au plating available, suitable for soldering
- precise temperature control
- solid state construction

**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>$Q_{max}$ <sup>4</sup> |                                 | output<br>$\Delta T_{max}$ <sup>5</sup>          |                                                  |
|----------------------------|-----------------------------------------------|---------------------------------------------|---------------------------------------------------------------------|----------------------------------|---------------------------------|--------------------------------------------------|--------------------------------------------------|
|                            |                                               |                                             |                                                                     | $T_h = 27^\circ\text{C}$<br>[W]  | $T_h = 50^\circ\text{C}$<br>[W] | $T_h = 27^\circ\text{C}$<br>[ $^\circ\text{C}$ ] | $T_h = 50^\circ\text{C}$<br>[ $^\circ\text{C}$ ] |
| CP147660-195               | 2.0                                           | 1.4                                         | 1.17                                                                | 1.6                              | 1.7                             | 70                                               | 77                                               |
| CP147660-236P <sup>6</sup> | 2.0                                           | 1.4                                         | 1.17                                                                | 1.6                              | 1.7                             | 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. Gold plating on both sides.

**SOLDERABILITY<sup>7</sup>**

| parameter           | conditions/description     | min | typ | max | units            |
|---------------------|----------------------------|-----|-----|-----|------------------|
| soldering to plates | soldering iron temperature |     |     | 150 | $^\circ\text{C}$ |

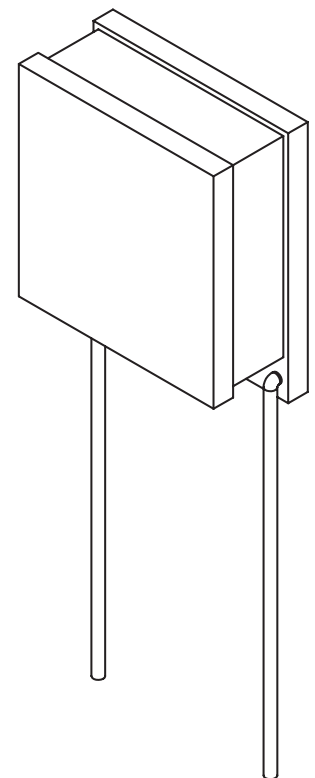
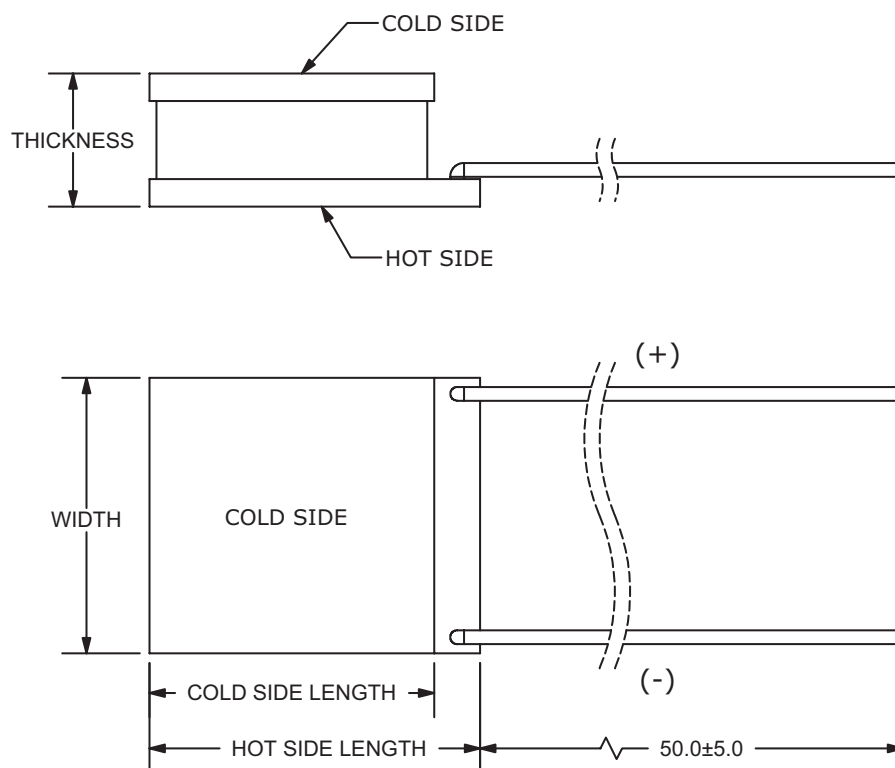
Note: 7. Only for gold plated models. The solder that holds the peltier together melts at  $235^\circ\text{C}$ . Caution must taken to not leave the soldering iron in contact with the surface too long, or damage to the peltier could occur.

## SPECIFICATIONS

| parameter                  | conditions/description                  | min | typ | max | units |
|----------------------------|-----------------------------------------|-----|-----|-----|-------|
| solder melting temperature | connection between thermoelectric pairs | 235 |     |     | °C    |
| assembly compression       |                                         |     |     | 0.8 | MPa   |
| RoHS                       | yes                                     |     |     |     |       |

## MECHANICAL DRAWING

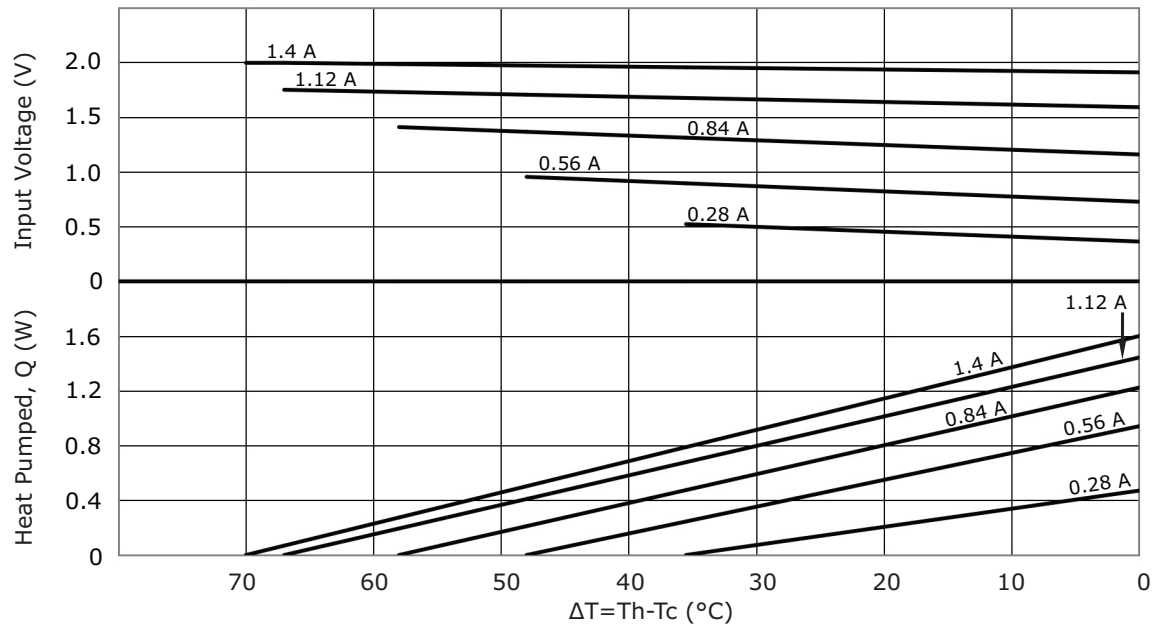
units: mm



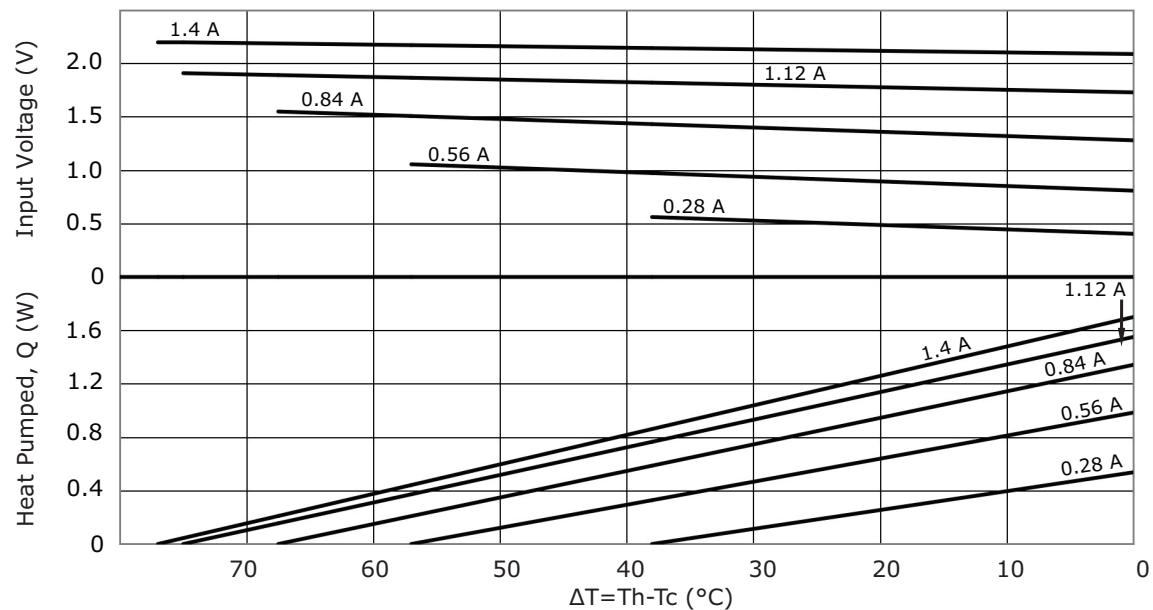
|                 | MATERIAL                           | PLATING |
|-----------------|------------------------------------|---------|
| ceramic plate   | 96% AL <sub>2</sub> O <sub>3</sub> |         |
| wire leads      | Ø0.25-0.3 mm<br>annealed copper    | tin     |
| sealer          | no sealing                         |         |
| ceramic surface | Au plating on select models        |         |

| MODEL NO.     | HOT SIDE LENGTH<br>[mm] | COLD SIDE LENGTH<br>[mm] | WIDTH<br>[mm] | THICKNESS<br>[mm] | GOLD<br>PLATING HOT/<br>COLD SIDES |
|---------------|-------------------------|--------------------------|---------------|-------------------|------------------------------------|
| CP147660-195  | 7.6±0.3                 | 6.0 ±0.3                 | 6.0 ±0.3      | 1.95 ±0.15        | NO                                 |
| CP147660-236P | 7.6±0.3                 | 6.0 ±0.3                 | 6.0 ±0.3      | 2.36 ±0.15        | YES                                |

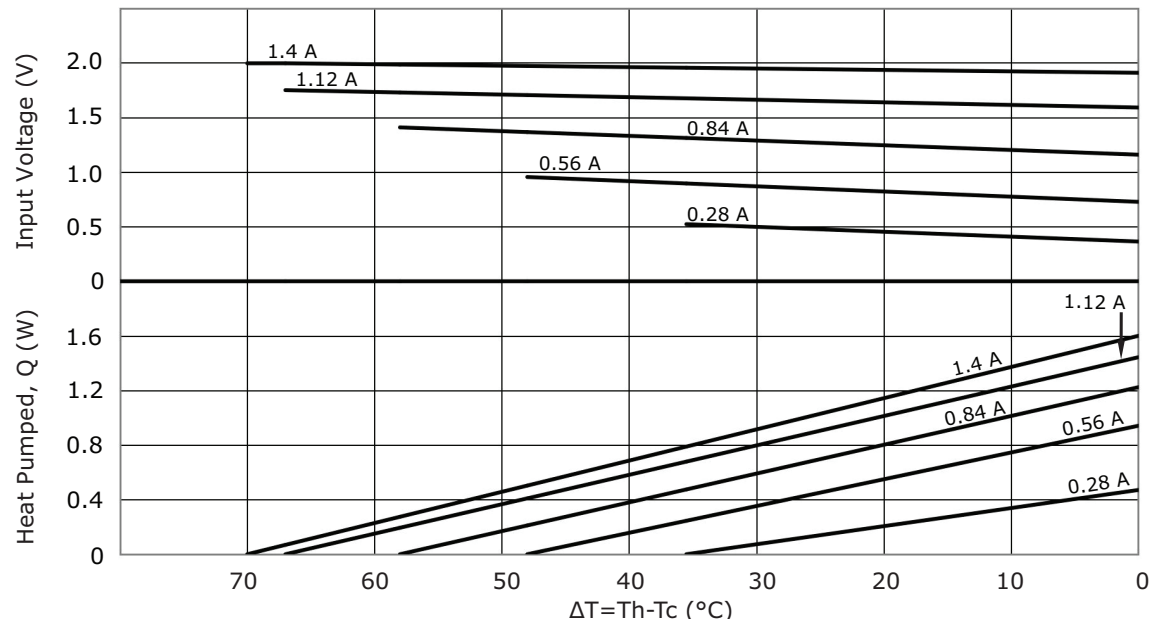
## CP147660-195 PERFORMANCE (Th=27°C)



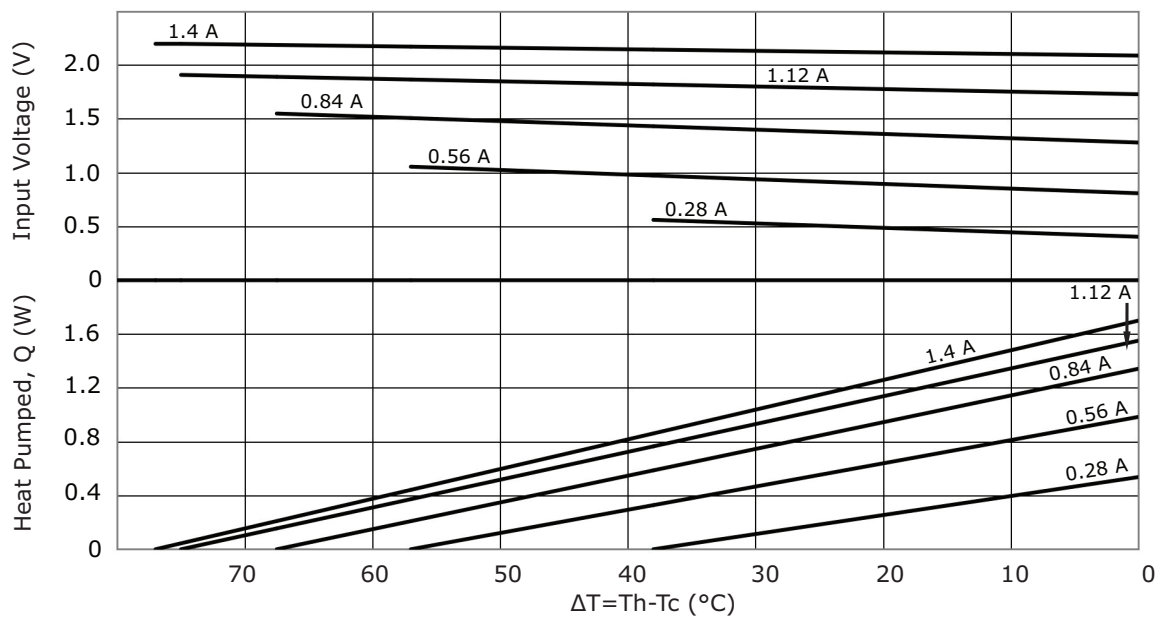
## CP147660-195 PERFORMANCE (Th=50°C)



## CP147660-236P PERFORMANCE (Th=27°C)



## CP147660-236P PERFORMANCE (Th=50°C)



## REVISION HISTORY

| rev. | description                  | date       |
|------|------------------------------|------------|
| 1.0  | initial release              | 07/08/2020 |
| 1.01 | logo, datasheet style update | 08/05/2022 |

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



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