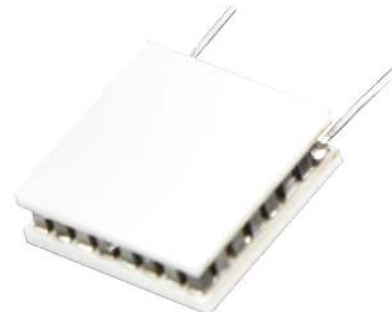


**SERIES:** CP18-M | **DESCRIPTION:** PELTIER MODULE

**FEATURES**

- micro size (less than 10 x 10 mm)
- wide  $\Delta T_{max}$
- $Q_{max}$  of 4.2 W
- Au plating available, suitable for soldering
- precise temperature control
- solid state construction


**MODEL**

|                          | input voltage <sup>1</sup> | input current <sup>2</sup> | internal resistance <sup>3</sup> | output $Q_{max}$ <sup>4</sup> |                               | output $\Delta T_{max}$ <sup>5</sup>           |  |
|--------------------------|----------------------------|----------------------------|----------------------------------|-------------------------------|-------------------------------|--|--|
|                          | max<br>[Vdc]               | max<br>[A]                 | typ<br>[ $\Omega \pm 10\%$ ]     | $T_h=27^\circ\text{C}$<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>[ $^\circ\text{C}$ ] |
| CP1881-222               | 3.8                        | 1.8                        | 1.62                             | 3.8                           | 4.2                           | 70   | 77   |
| CP1881-254P <sup>6</sup> | 3.8                        | 1.8                        | 1.62                             | 3.8                           | 4.2                           | 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. 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.

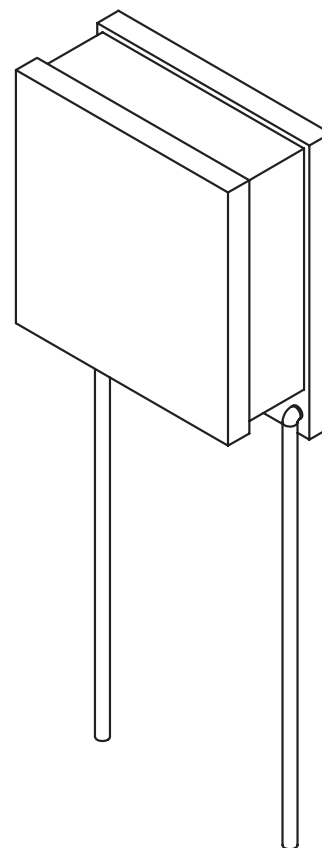
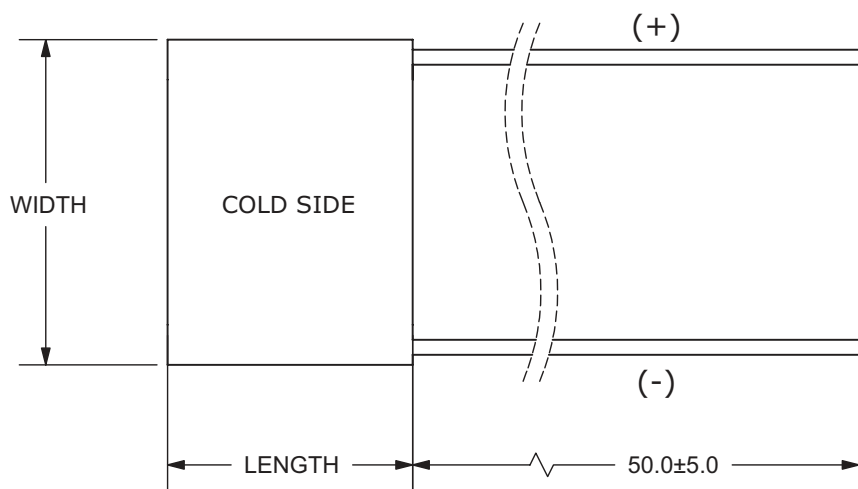
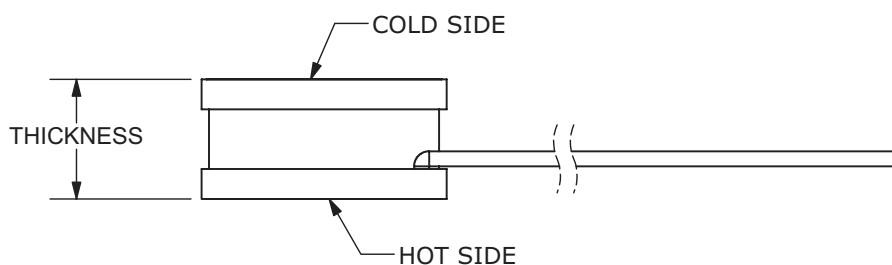
## SPECIFICATIONS

| 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

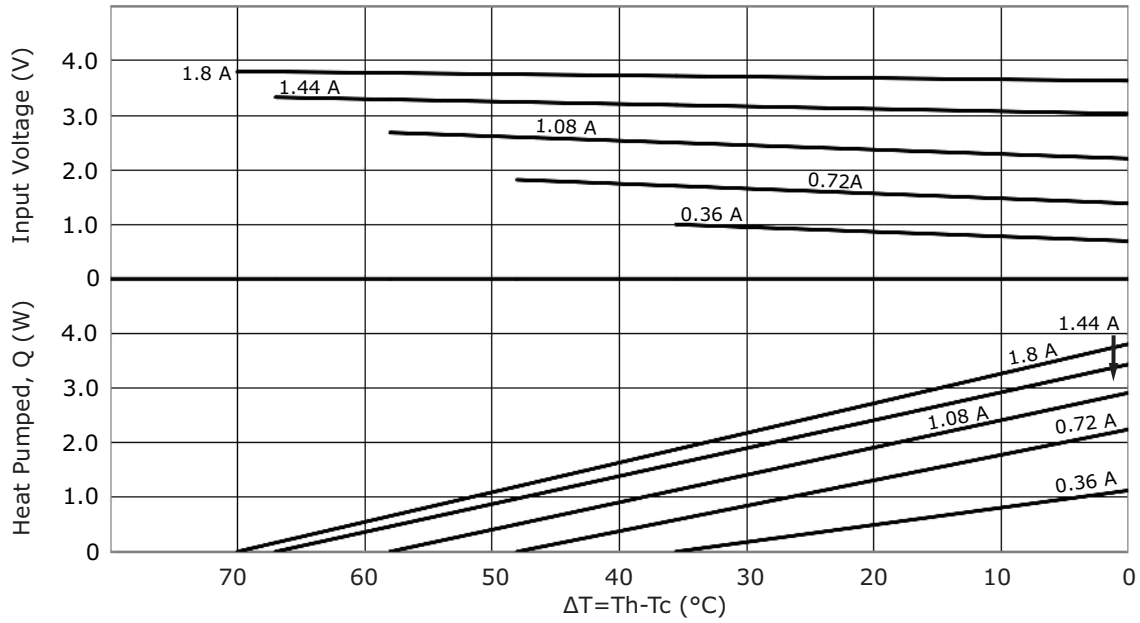
units: mm

|                 | 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        |         |

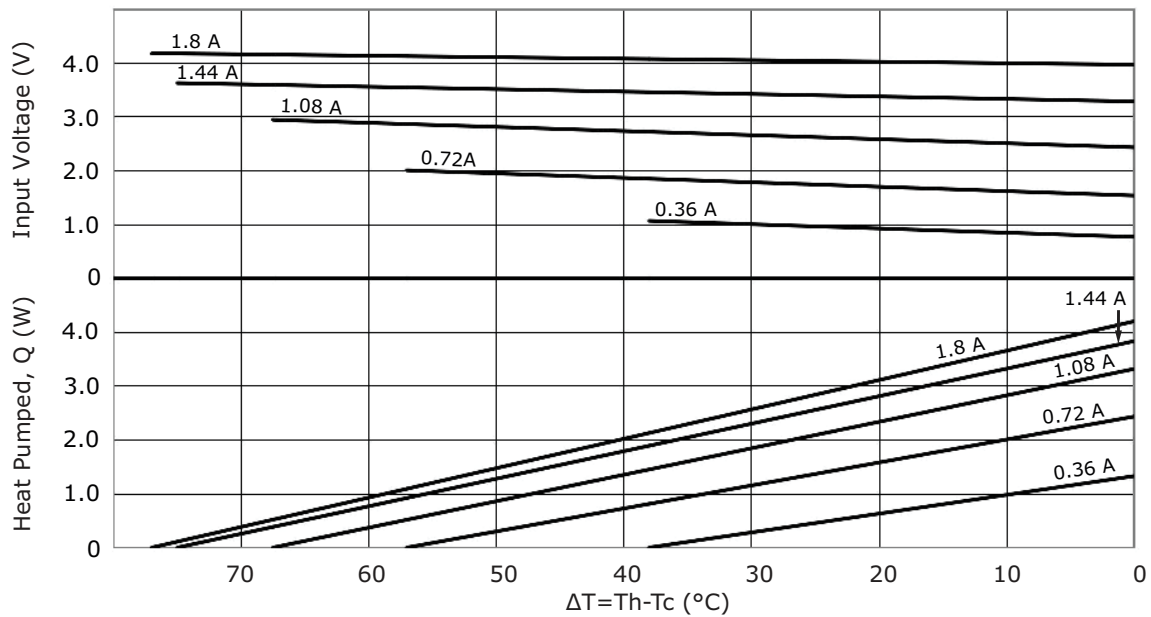


| MODEL NO.   | LENGTH [mm] | WIDTH [mm] | THICKNESS [mm] | GOLD PLATING HOT/ COLD SIDES |
|-------------|-------------|------------|----------------|------------------------------|
| CP1881-222  | 8.1 ±0.3    | 8.1 ±0.3   | 2.22 ±0.15     | NO                           |
| CP1881-254P | 8.1 ±0.3    | 8.1 ±0.3   | 2.54 ±0.15     | YES                          |

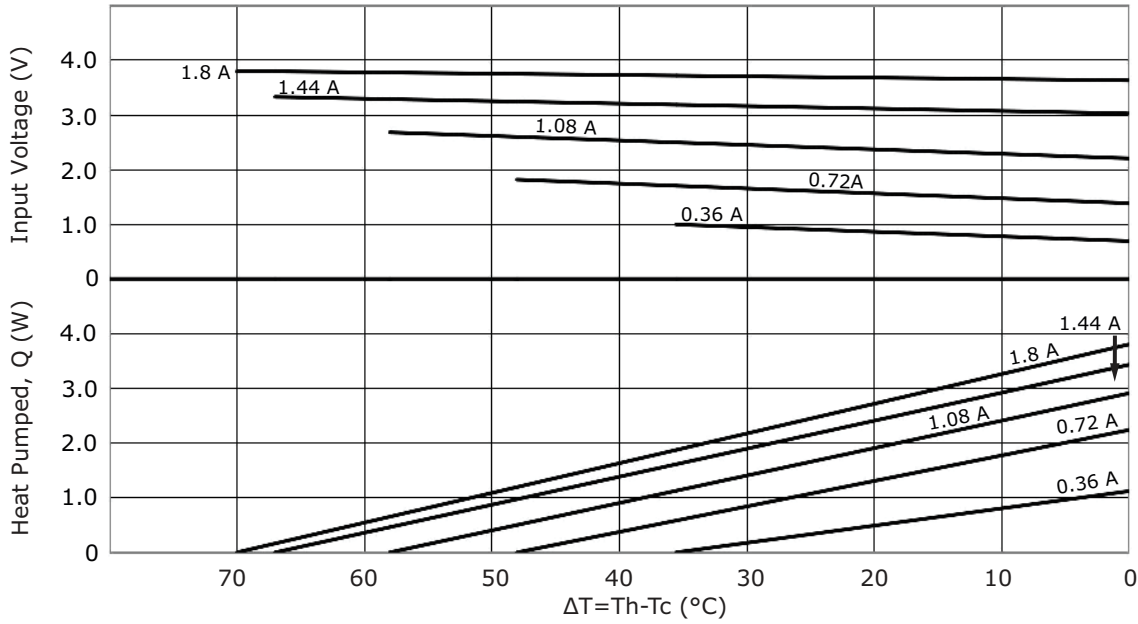
## CP1881-222 PERFORMANCE (Th=27°C)



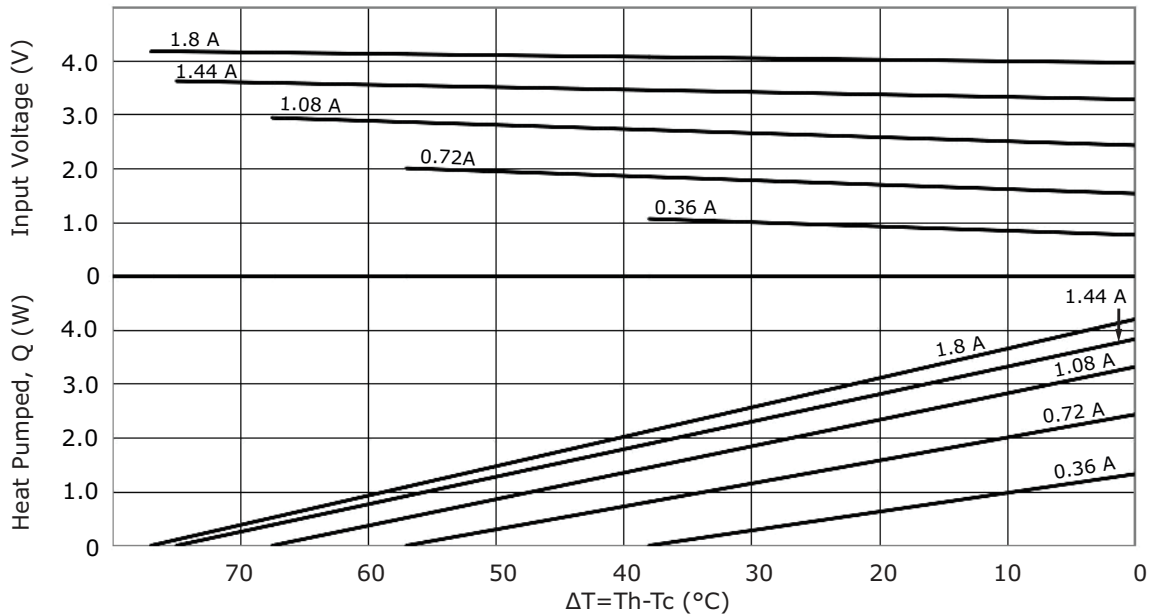
## CP1881-222 PERFORMANCE (Th=50°C)



## CP1881-254P PERFORMANCE (Th=27°C)



## CP1881-254P 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.



CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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