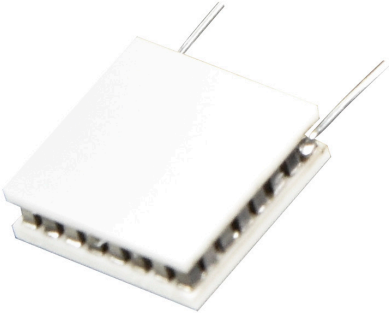




SERIES: CP18-M | DESCRIPTION: PELTIER MODULE

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<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>[ $^\circ\text{C}$ ] |
| 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.

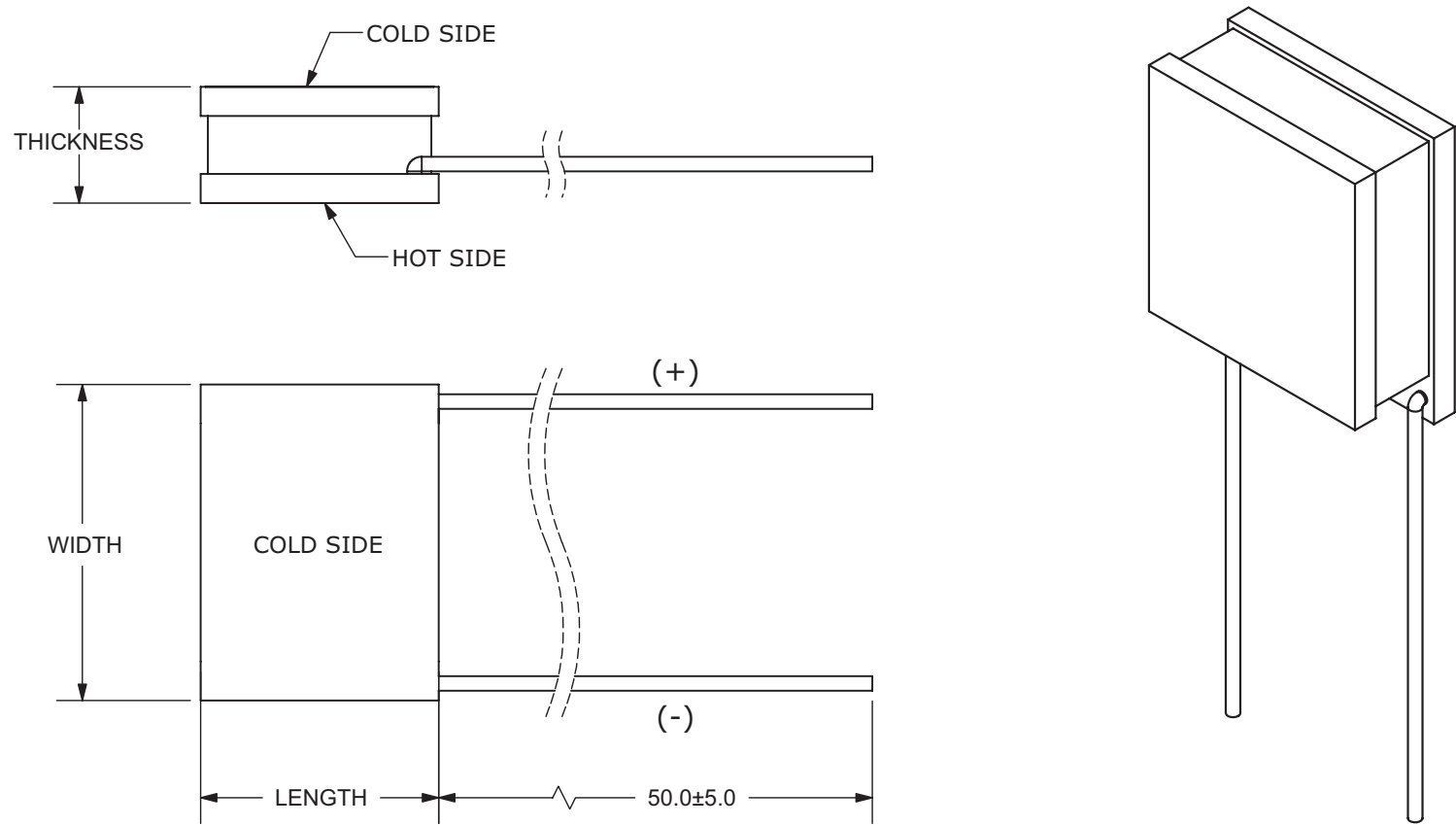
SPECIFICATIONS

| 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

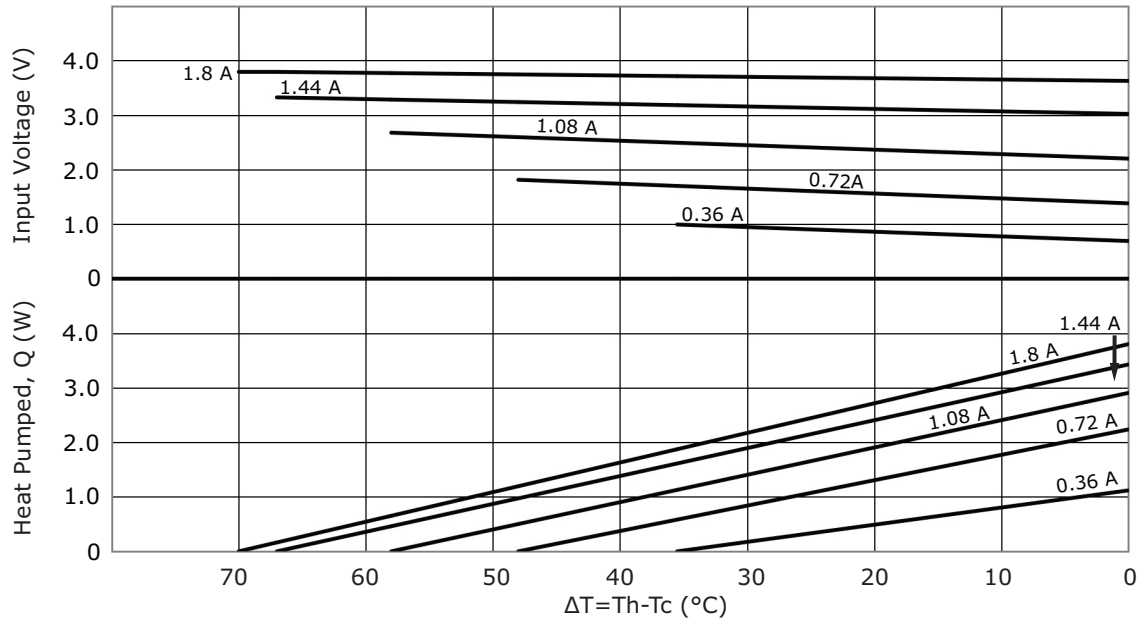
units: mm

|                 | MATERIAL                                            | PLATING |
|-----------------|-----------------------------------------------------|---------|
| ceramic plate   | 96% $\text{Al}_2\text{O}_3$                         |         |
| wire leads      | $\varnothing 0.25\text{-}0.3$ mm<br>annealed copper | tin     |
| sealer          | no sealing                                          |         |
| ceramic surface | Au plating on select models                         |         |

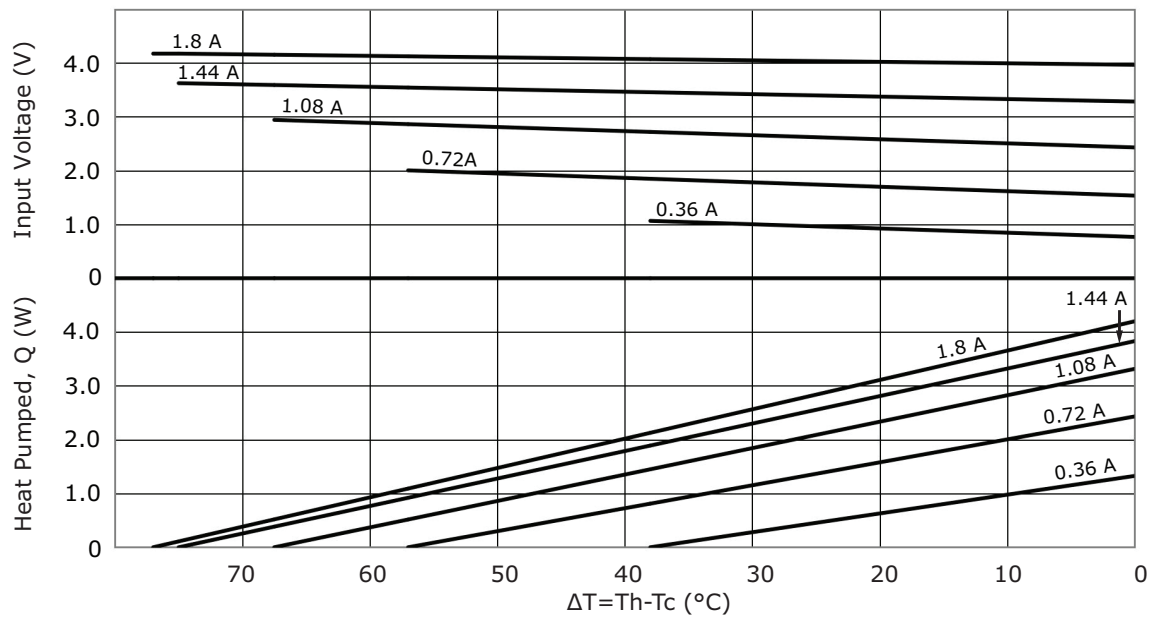


| MODEL NO.   | LENGTH [mm]   | WIDTH [mm]    | THICKNESS [mm]  | GOLD PLATING HOT/ COLD SIDES |
|-------------|---------------|---------------|-----------------|------------------------------|
| CP1881-222  | $8.1 \pm 0.3$ | $8.1 \pm 0.3$ | $2.22 \pm 0.15$ | NO                           |
| CP1881-254P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

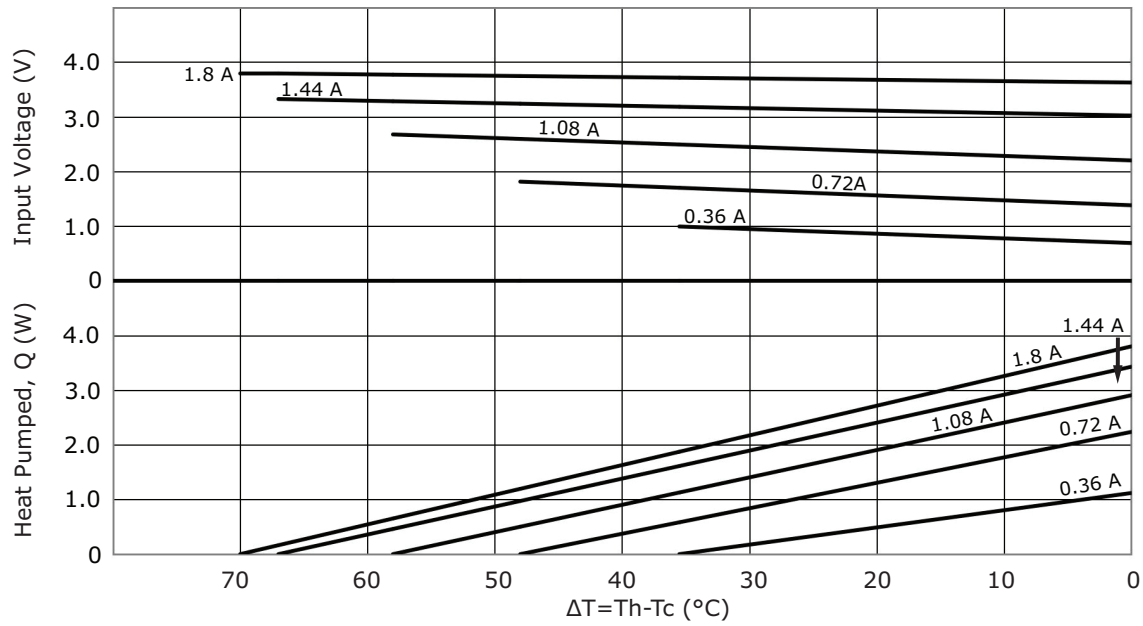
## CP1881-222 PERFORMANCE (Th=27°C)



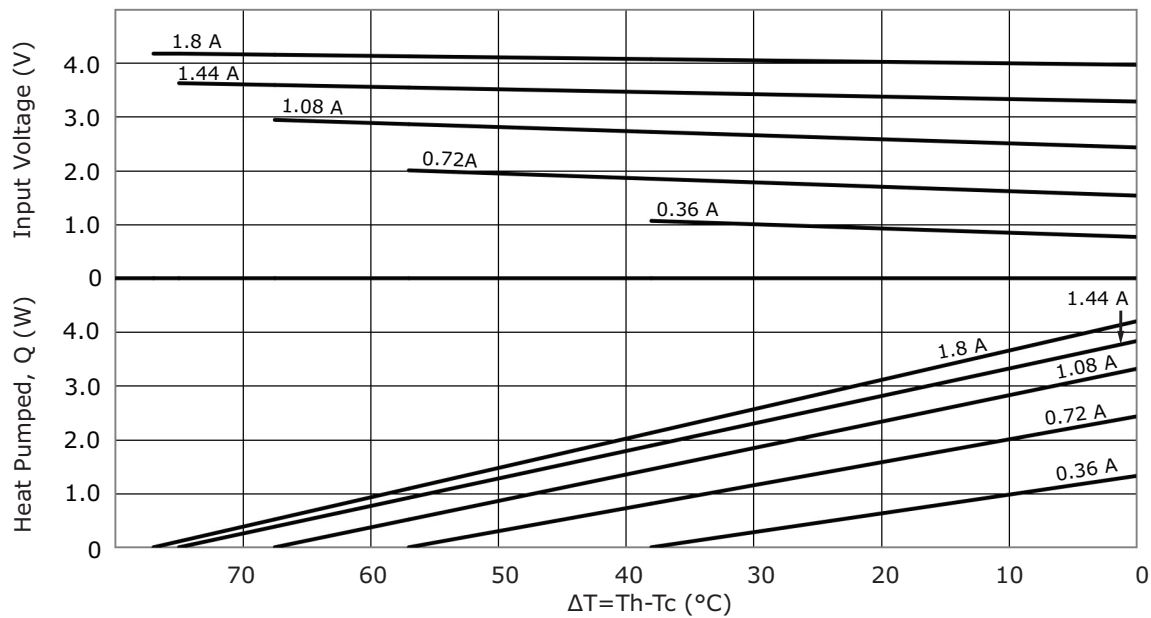
## CP1881-222 PERFORMANCE (Th=50°C)



## 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 |
| 1.02 | CUI Devices rebranded to Same Sky | 09/12/2024 |

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



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

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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