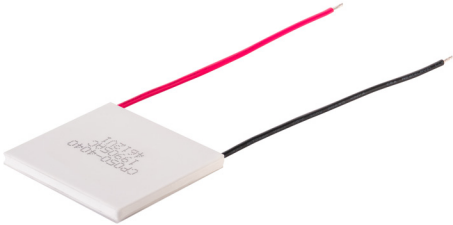




MODEL: CP050-4040 | DESCRIPTION: PELTIER MODULE

FEATURES

- arcTEC™ structure
- silicone sealed
- wide  $\Delta T$  max
- low profile
- precise temperature control
- solid state construction



SPECIFICATIONS

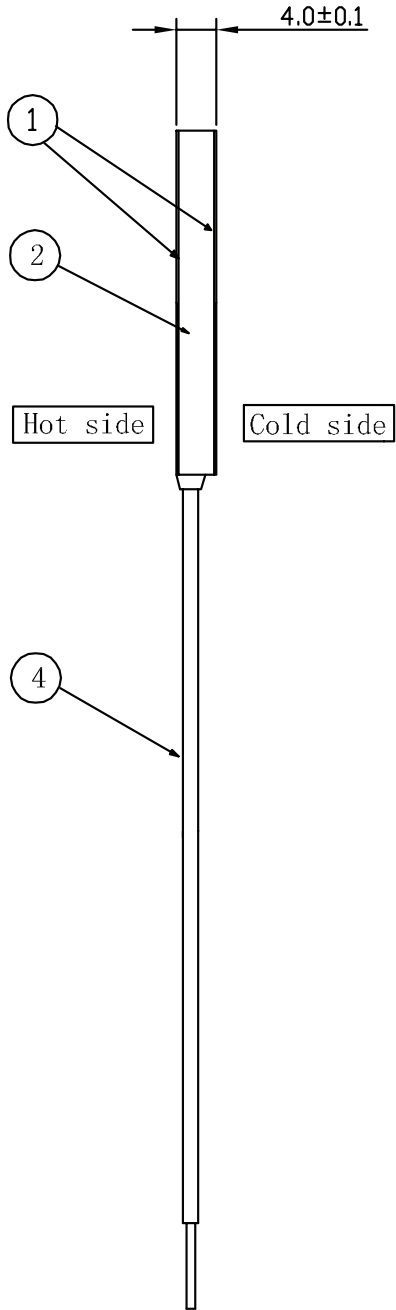
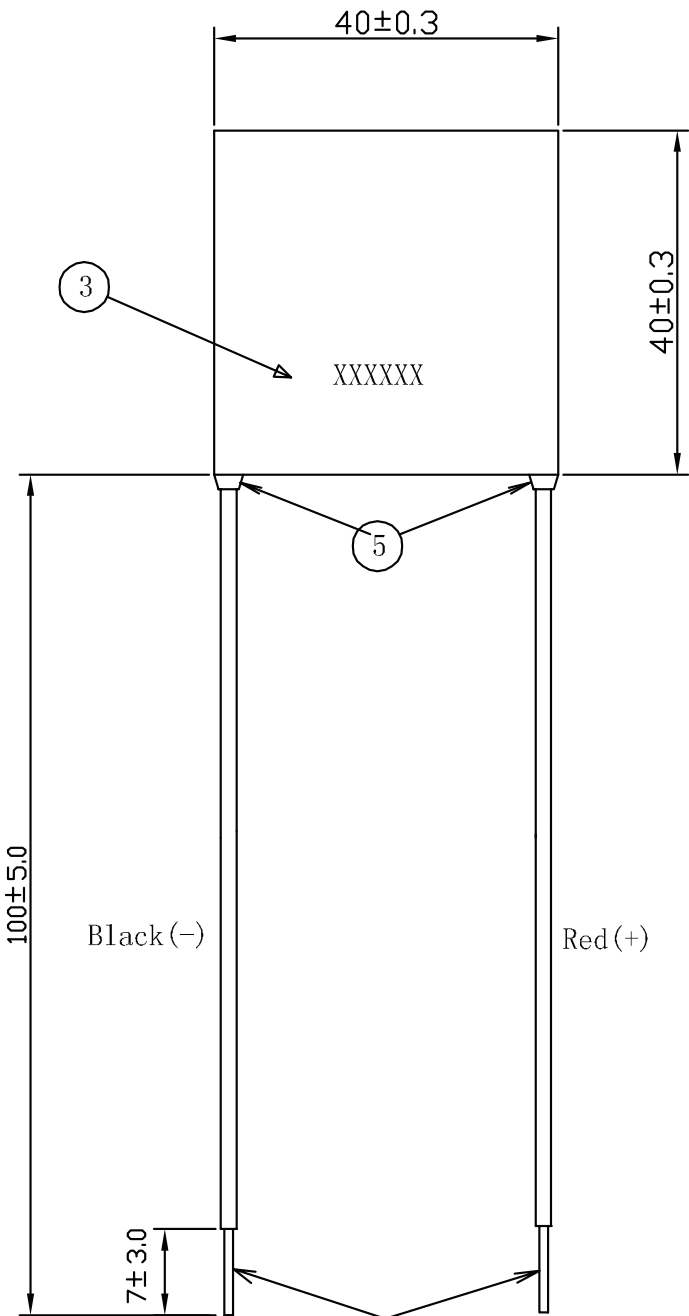
| parameter                        | conditions/description                  | min  | typ  | max  | units    |
|----------------------------------|-----------------------------------------|------|------|------|----------|
| input voltage <sup>1</sup>       |                                         |      |      | 24.1 | V        |
| input current <sup>2</sup>       |                                         |      |      | 5    | A        |
| internal resistance <sup>3</sup> |                                         | 3.26 | 3.62 | 3.98 | $\Omega$ |
| Qmax <sup>4</sup>                | Th = 27°C                               |      |      | 64.5 | W        |
|                                  | Th = 50°C                               |      |      | 70.9 | W        |
| $\Delta T$ max <sup>5</sup>      | Th = 27°C                               |      |      | 68   | °C       |
|                                  | Th = 50°C                               |      |      | 75   | °C       |
| solder melting temperature       | connection between thermoelectric pairs | 235  |      |      | °C       |
| assembly compression             |                                         |      |      | 1    | MPa      |
| hot side plate                   |                                         |      |      | 100  | °C       |
| RoHS                             | yes                                     |      |      |      |          |

- Notes:
1. Maximum voltage at  $\Delta T$  max and  $T_c=27^\circ\text{C}$
  2. Maximum current to achieve  $\Delta T$  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  $\Delta T=0^\circ\text{C}$
  5. Maximum temperature difference occurs at  $I_{max}$ ,  $V_{max}$ , and  $Q=0$  W ( $\Delta T$  max measured in a vacuum at 1.3 Pa)

MECHANICAL DRAWING

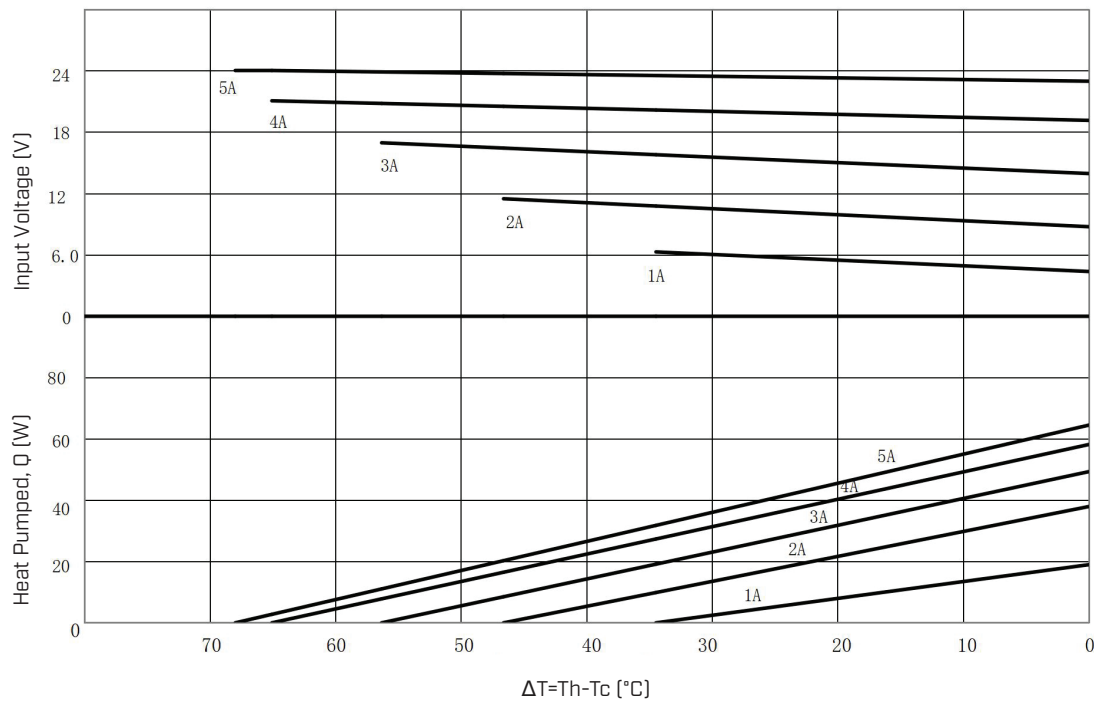
units: mm

| ITEM | DESCRIPTION   | MATERIAL                                                  | PLATING/COLOR |
|------|---------------|-----------------------------------------------------------|---------------|
| 1    | ceramic plate | 96% AL <sub>2</sub> O <sub>3</sub>                        | white         |
| 2    | sealer        | silicon rubber 703 RTV (between cold and hot side plates) |               |
| 3    | marking       | P/N & S/N printed on cold side surface                    |               |
| 4    | wire leads    | 20 AWG (105°C max)                                        | tin           |
| 5    | joint cover   | silicon rubber 703 RTV                                    |               |

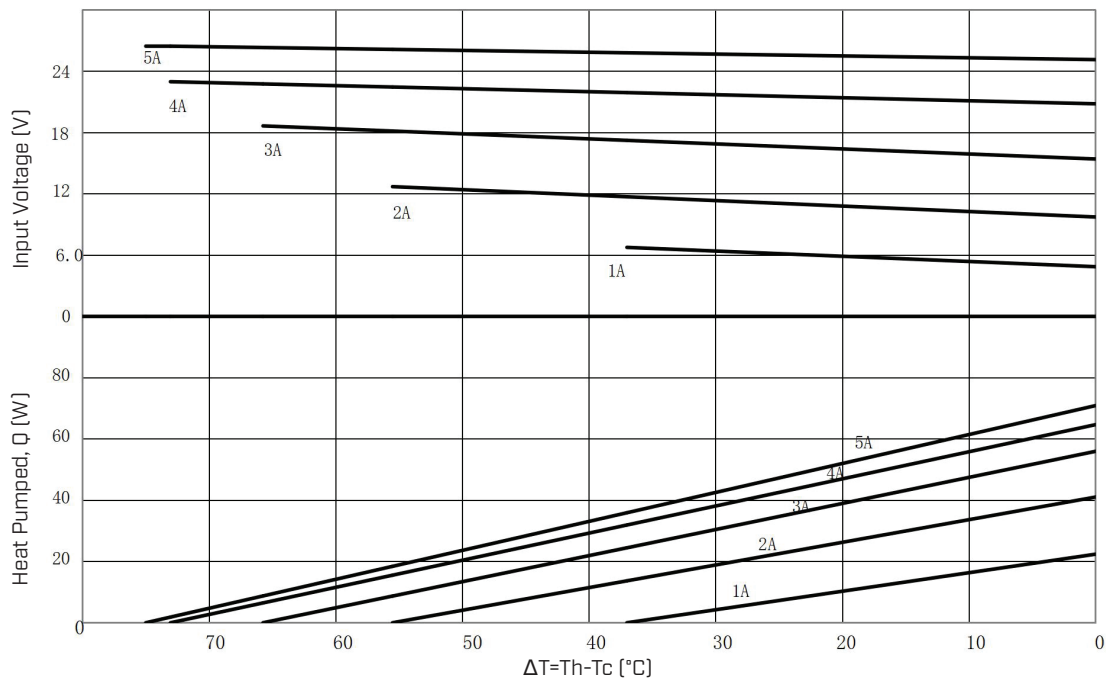


Strip and tin with BiSn solder

## PERFORMANCE (Th=27°C)



## PERFORMANCE (Th=50°C)



REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 10/24/2024 |

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.

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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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