



MODEL: CP050-153031 | DESCRIPTION: PELTIER MODULE

FEATURES

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



SPECIFICATIONS

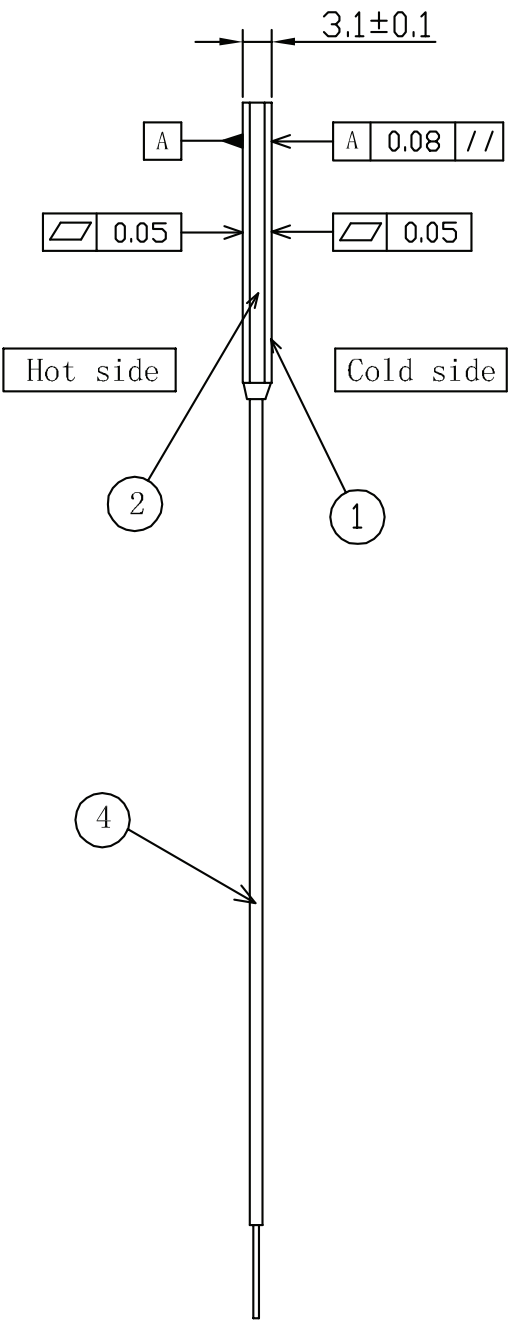
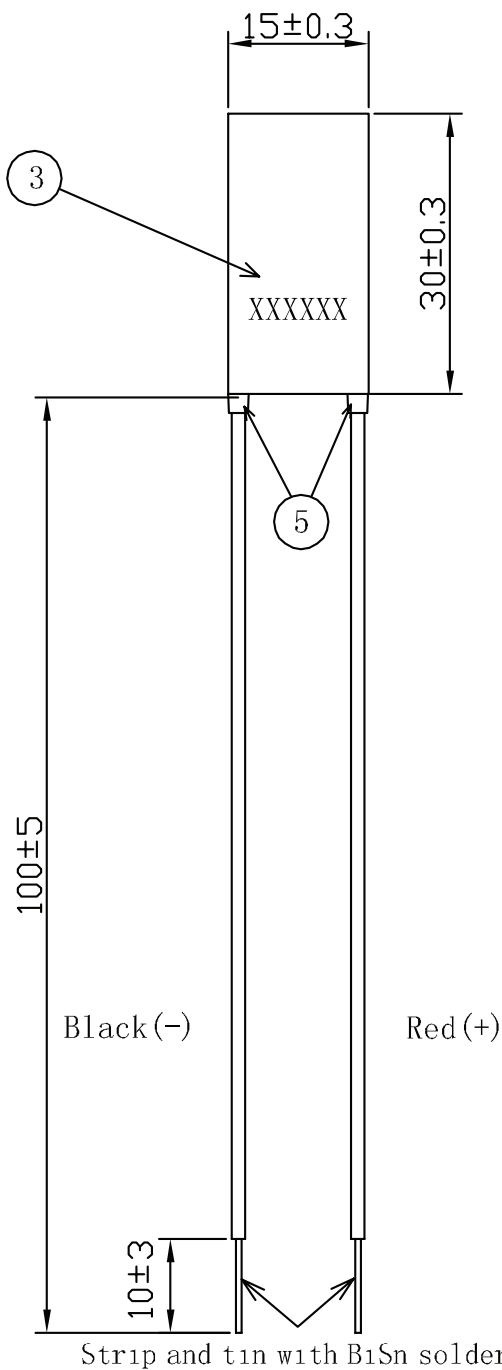
| parameter                        | conditions/description                  | min  | typ  | max  | units    |
|----------------------------------|-----------------------------------------|------|------|------|----------|
| input voltage <sup>1</sup>       |                                         |      |      | 12   | V        |
| input current <sup>2</sup>       |                                         |      |      | 5    | A        |
| internal resistance <sup>3</sup> |                                         | 1.65 | 1.83 | 2.01 | $\Omega$ |
| Qmax <sup>4</sup>                | Th = 27°C                               |      |      | 34.6 | W        |
|                                  | Th = 50°C                               |      |      | 38   | 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)

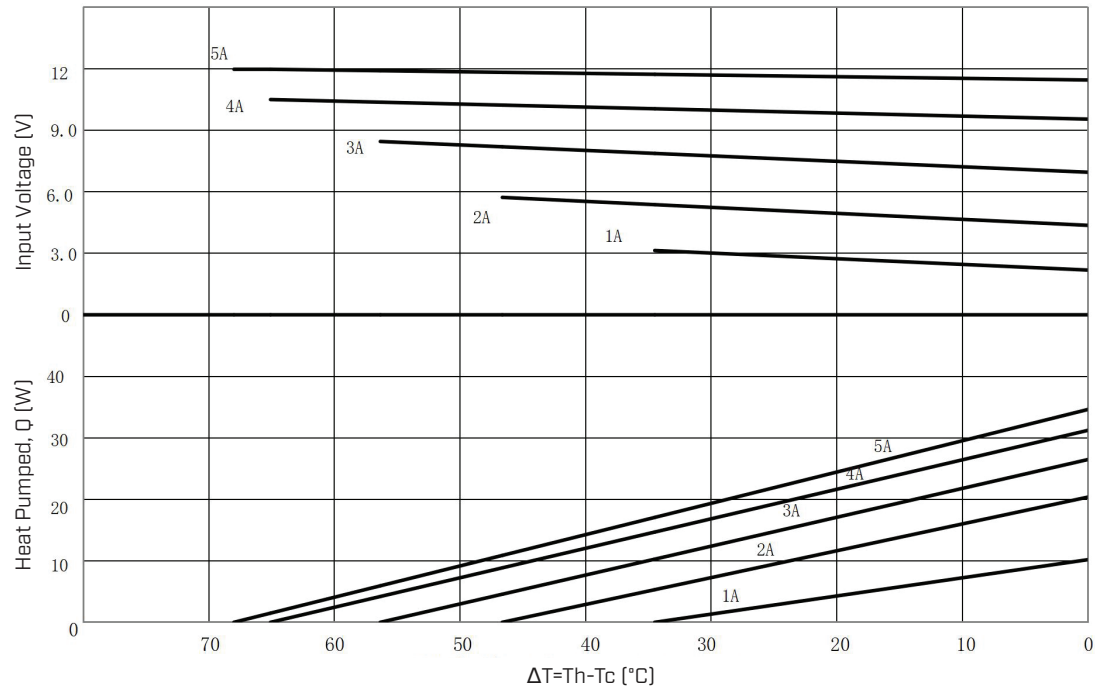
MECHANICAL DRAWING

units: mm

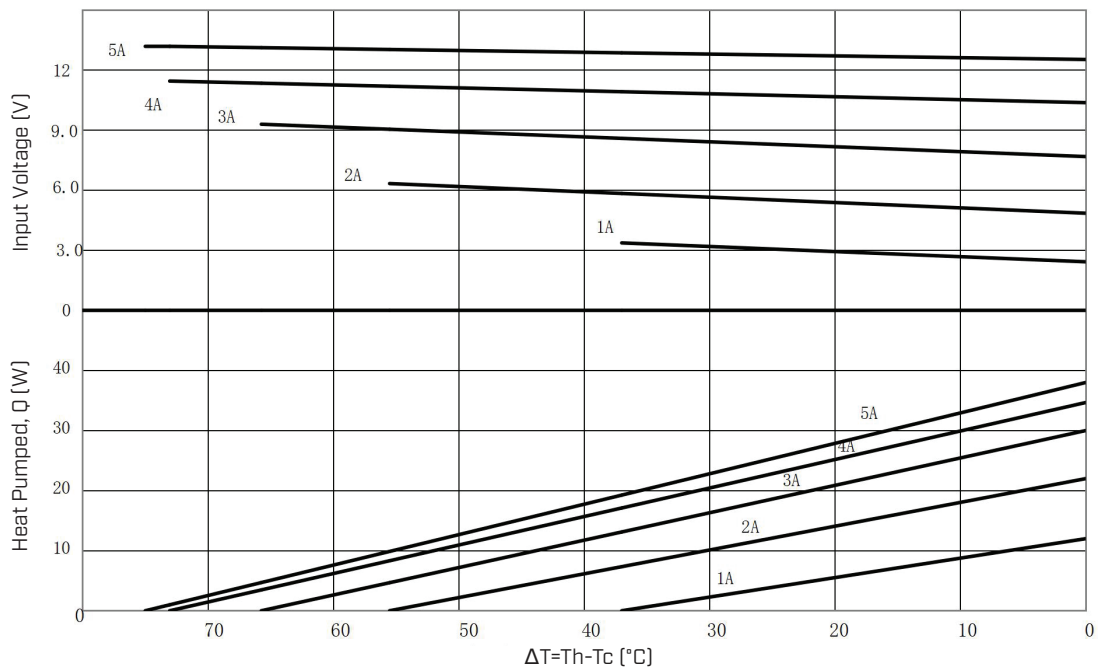
| ITEM | DESCRIPTION   | MATERIAL                                                  | PLATING/COLOR |
|------|---------------|-----------------------------------------------------------|---------------|
| 1    | ceramic plate | 96% $\text{Al}_2\text{O}_3$                               | white         |
| 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    | 24 AWG (105°C max)                                        | tin           |
| 5    | joint cover   | silicon rubber 703 RTV                                    |               |



## 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.



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