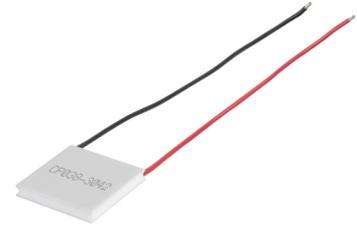




MODEL: CP038-3042 | **DESCRIPTION:** PELTIER MODULE

FEATURES

- silicon sealed
- wide ΔT max
- precise temperature control
- maximum hot side temperature of 195°C
- solid state construction



SPECIFICATIONS

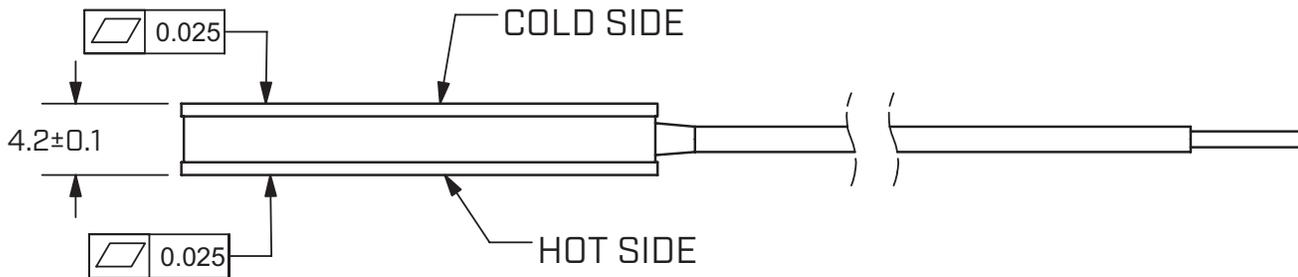
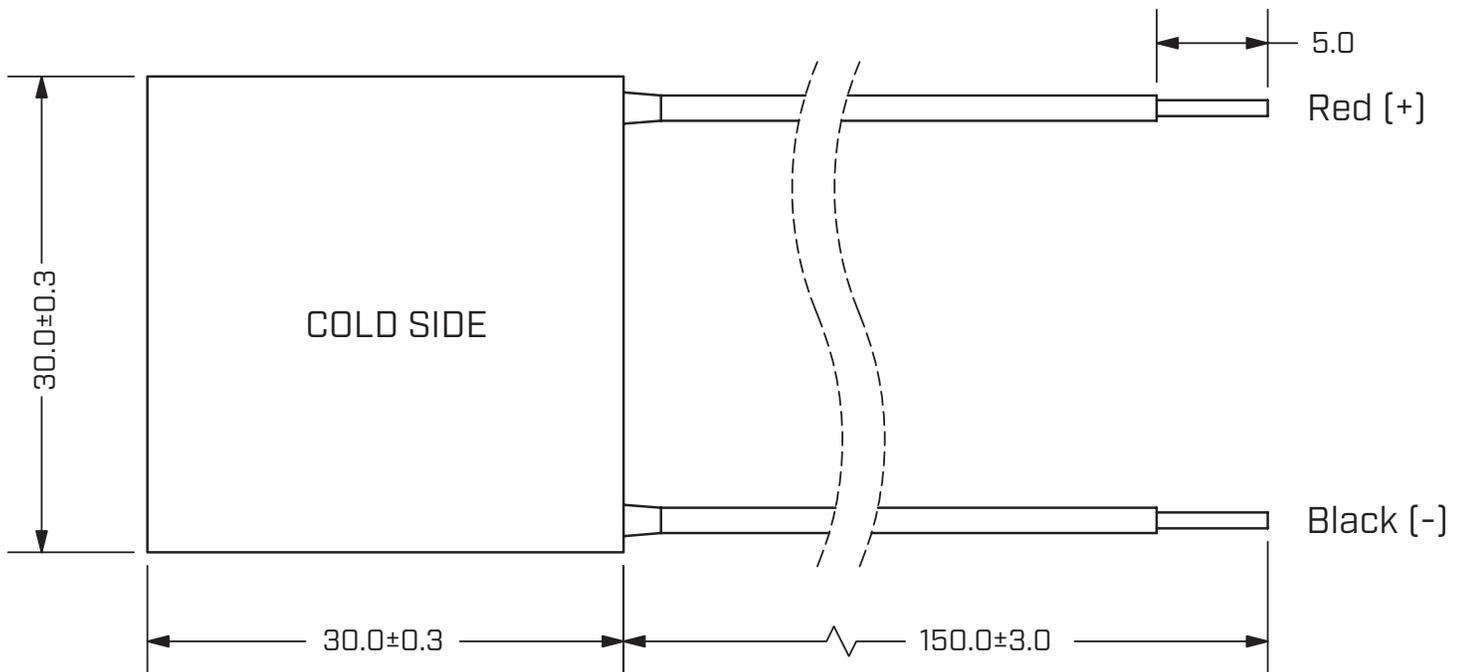
| parameter | conditions/description | min | typ | max | units |
|----------------------------------|---|-----|------|------|----------|
| input voltage ¹ | Th = 27°C | | | 8.9 | V |
| | Th = 50°C | | | 9.6 | V |
| input current ² | | | | 3.8 | A |
| internal resistance ³ | Th = 27°C | | 1.79 | | Ω |
| | Th = 50°C | | 1.92 | | Ω |
| Qmax ⁴ | Th = 27°C | | | 21.3 | W |
| | Th = 50°C | | | 23.2 | W |
| ΔT max ⁵ | Th = 27°C | | | 70 | °C |
| | Th = 50°C | | | 79 | °C |
| solder melting temperature | connection between thermoelectric pairs | 240 | | | °C |
| hot side plate | | | | 195 | °C |
| cold side plate | | -60 | | | °C |
| assembly compression | | | 0.49 | | MPa |
| RoHS | yes | | | | |

- Notes:
1. Maximum voltage at ΔT max and $T_c=27^\circ\text{C}$
 2. Maximum current to achieve ΔT 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 $Q=0\text{ W}$ (ΔT max measured in a vacuum at 1.3 Pa)
 6. Tolerance for all thermal and electrical parameters is $\pm 10\%$.

MECHANICAL DRAWING

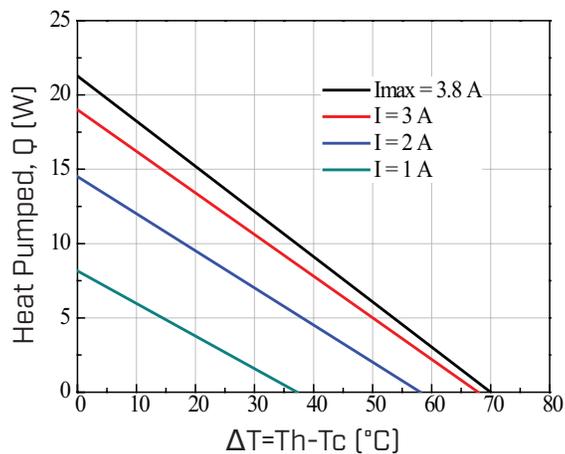
units: mm

| | MATERIAL | PLATING |
|---------------|---|---------|
| ceramic plate | 96% Al_2O_3 | |
| wire leads | UL1726 20 AWG | tin |
| sealer | 704 silicone sealant (between cold and hot side plates) | |
| marking | P/N printed on cold side surface | |

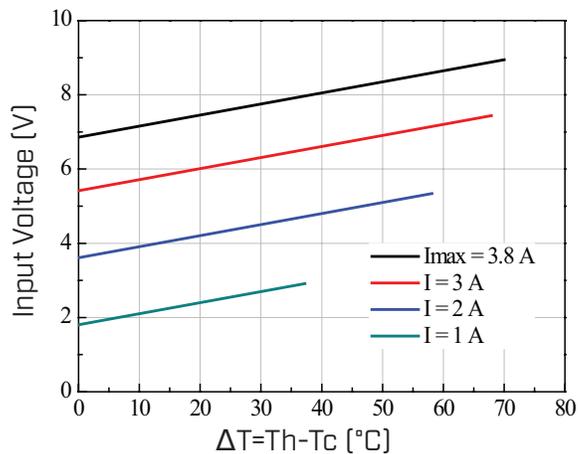


PERFORMANCE (Th=27°C)

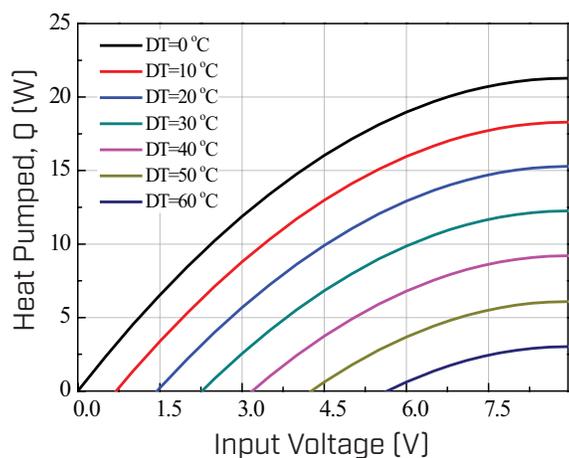
Heat Pumped, Q Vs. ΔT



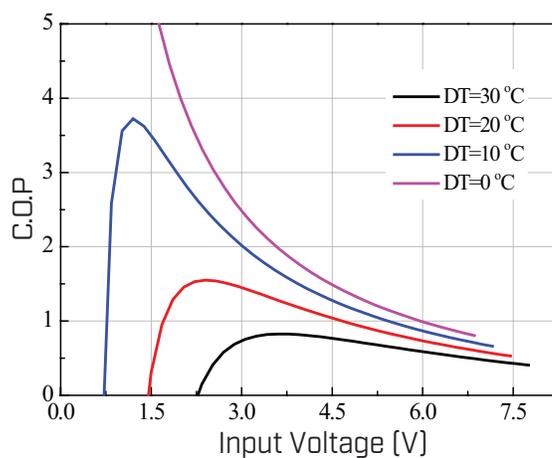
Input Voltage, V Vs. ΔT



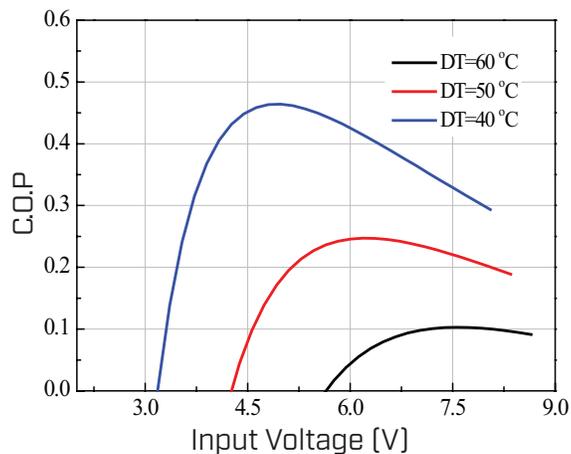
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V (ΔT=0~30°C)

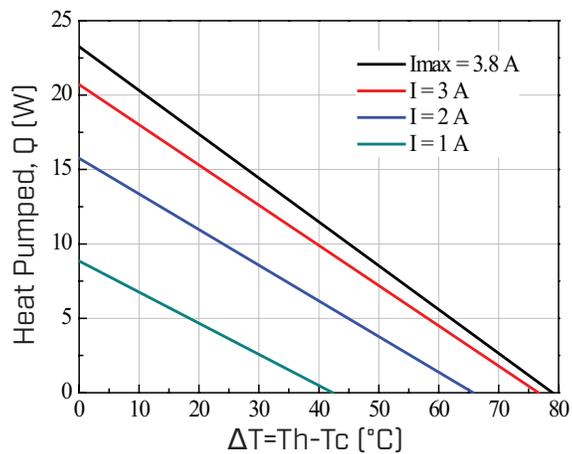


COP Vs. Input Voltage, V (ΔT=40~60°C)

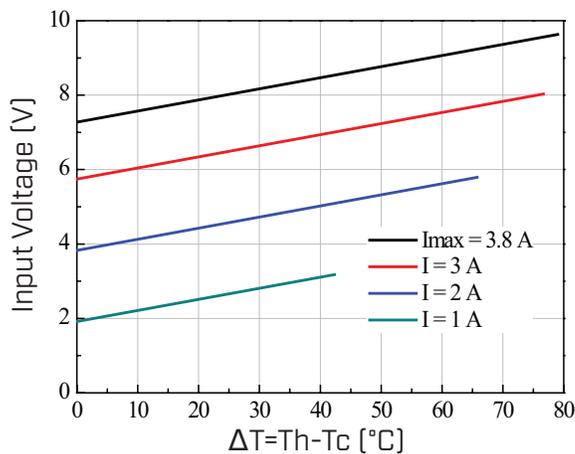


PERFORMANCE (Th=50°C)

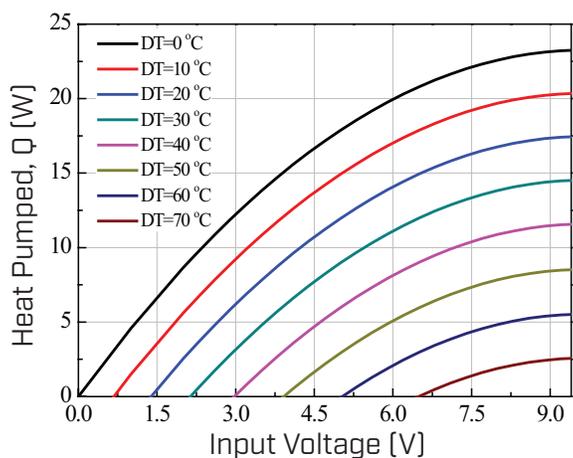
Heat Pumped, Q Vs. ΔT



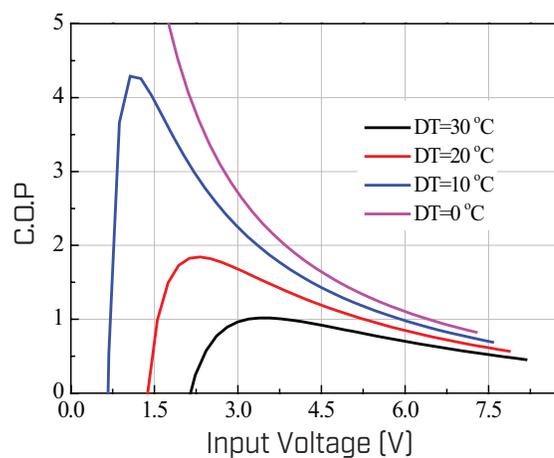
Input Voltage, V Vs. ΔT



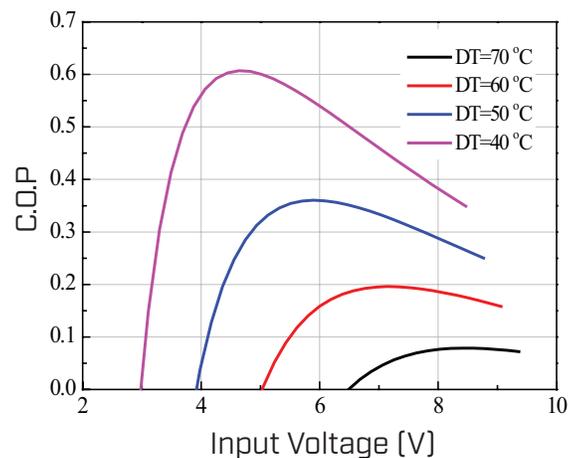
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V ($\Delta T=0\sim 30^\circ\text{C}$)



COP Vs. Input Voltage, V ($\Delta T=40\sim 70^\circ\text{C}$)



REVISION HISTORY

| rev. | description | date |
|------|-----------------|------------|
| 1.0 | initial release | 03/28/2025 |

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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