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# MODEL: CP049-3042-A | DESCRIPTION: PELTIER MODULE

## FEATURES

- arcTEC™ structure
- wide ΔT max
- precise temperature control
- low profile
- solid state construction
- silicone sealed option available

RoHS

## SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| input voltage[1] | Th = 27°C<br>Th = 50°C | | | 9.3<br>10.1 | V<br>V |
| input current[2] | | | | 4.9 | A |
| internal resistance[3] | Th = 27°C<br>Th = 50°C | | 1.45<br>1.61 | | Ω<br>Ω |
| Qmax[4] | Th = 27°C<br>Th = 50°C | | | 28.6<br>30.4 | W<br>W |
| ΔTmax[5] | Th = 27°C<br>Th = 50°C | | | 74<br>83 | °C<br>°C |
| solder melting temperature | connection between thermoelectric pairs | 240 | | | °C |
| hot side plate | | | | 195 | °C |
| cold side plate | | -60 | | | °C |
| assembly compression | | | | 0.34 | MPa |
| RoHS | yes | | | | |

Notes:
1. Maximum voltage at ΔT max and $T_h$=27°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 ΔT=0°C
5. Maximum temperature difference occurs at $I_{max}$, $V_{max}$, and Q=0 W (ΔT max measured in a vacuum at 1.3 Pa)
6. Tolerance for all thermal and electrical parameters is ±10%.

## PART NUMBER KEY

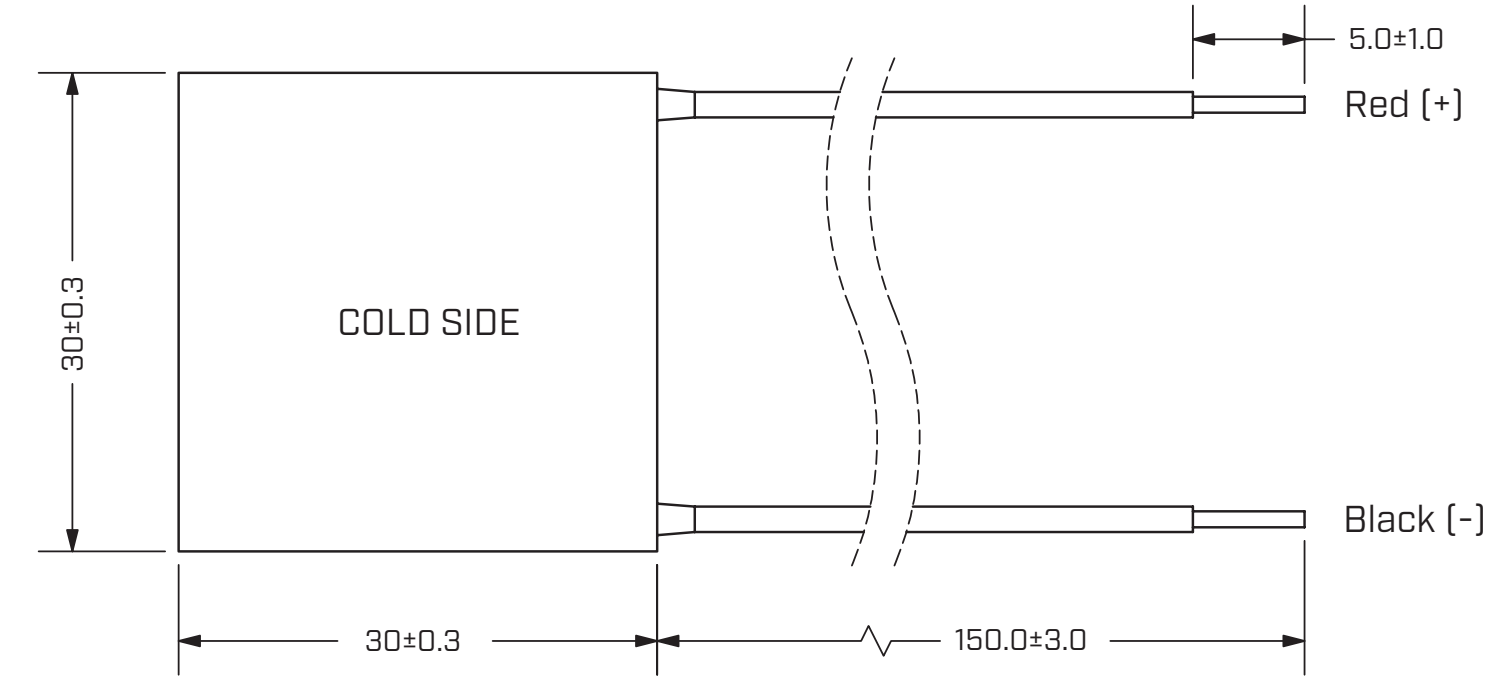
CP049 - 3042 - A **X**

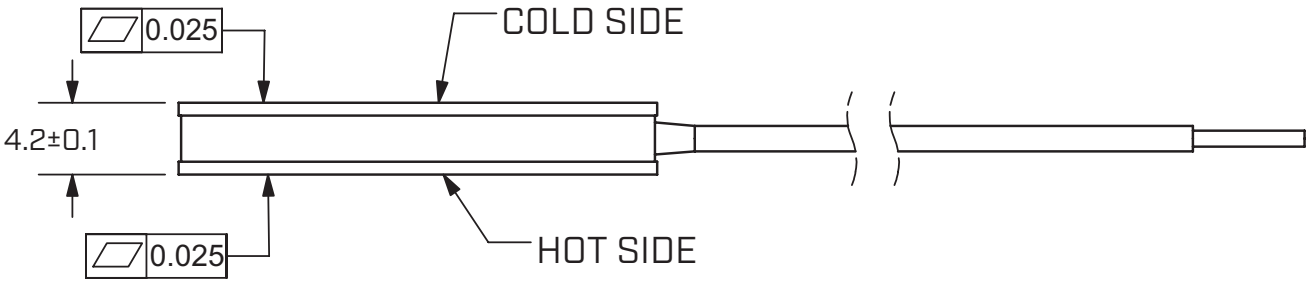
- CP049 - 3042 - A: Base Number
- **X**: Silicone Sealed:
  "blank" = not included
  S = with silicone sealant

## MECHANICAL DRAWING

units: mm

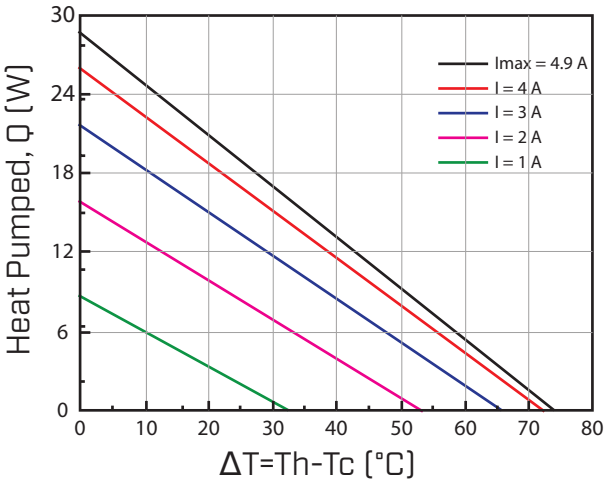
| | MATERIAL | PLATING |
|---|---|---|
| ceramic plate | 96% $AL_2O_3$ | |
| wire leads | UL1726 20 AWG | tin |
| sealer (optional) | 704 silicone sealant (between cold and hot side plates) | |
| marking | P/N printed on cold side surface | |



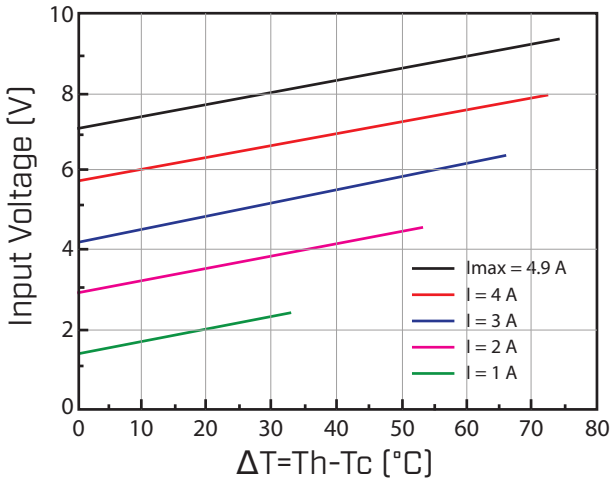



## PERFORMANCE (Th=27°C)

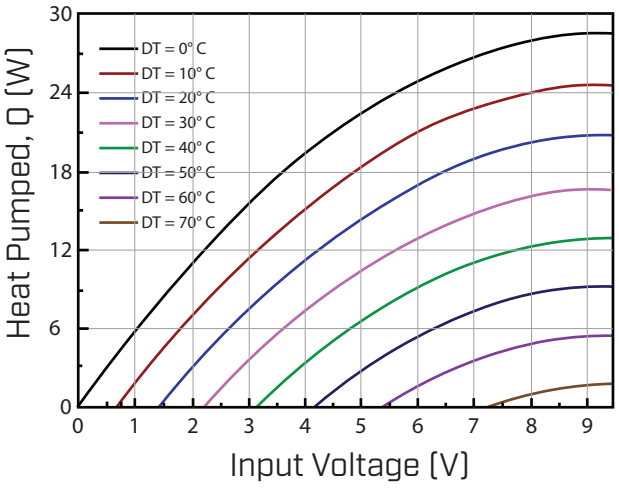
### Heat Pumped, Q Vs. ΔT



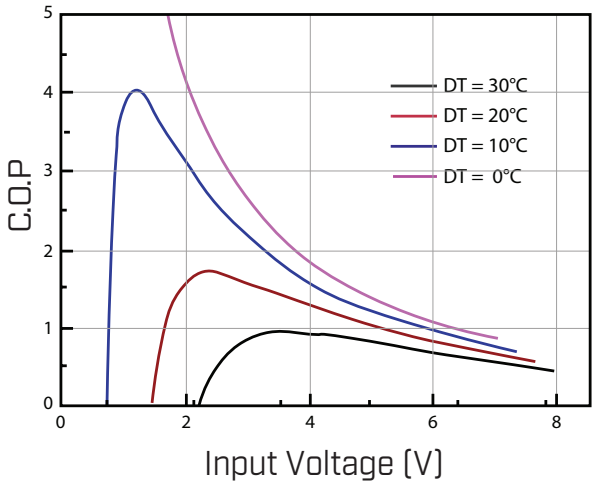

### Input Voltage, V Vs. ΔT



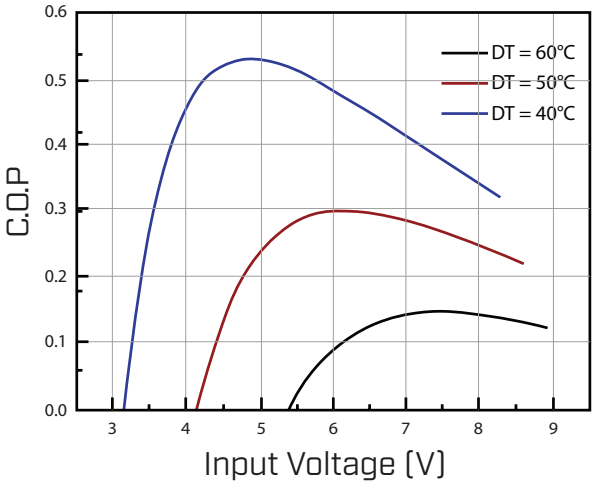

### Heat Pumped, Q Vs. Input Voltage, V




### COP Vs. Input Voltage, V (ΔT=0~30°C)

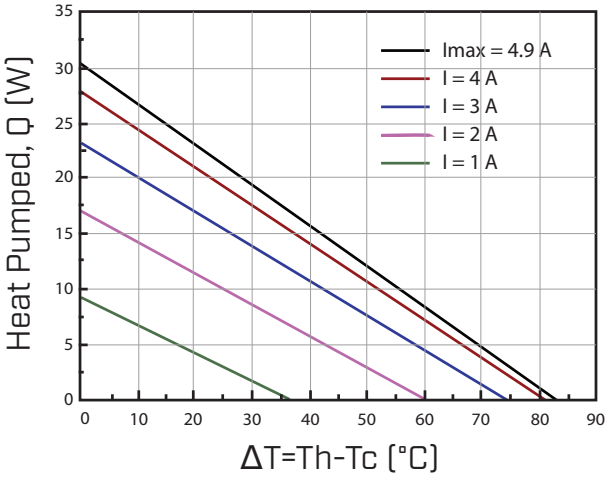



### COP Vs. Input Voltage, V (ΔT=40-60°C)

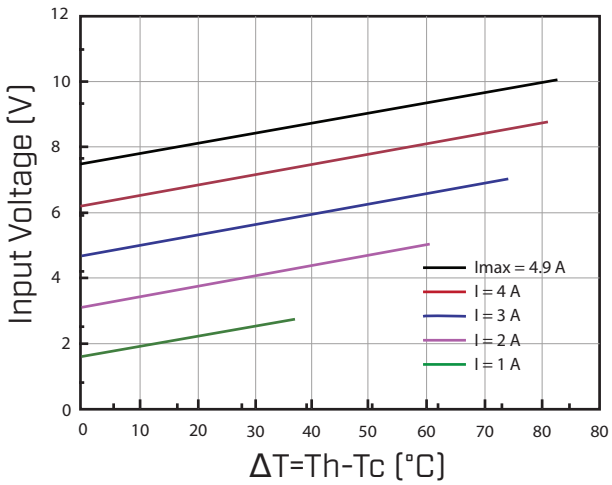


## PERFORMANCE (Th=50°C)

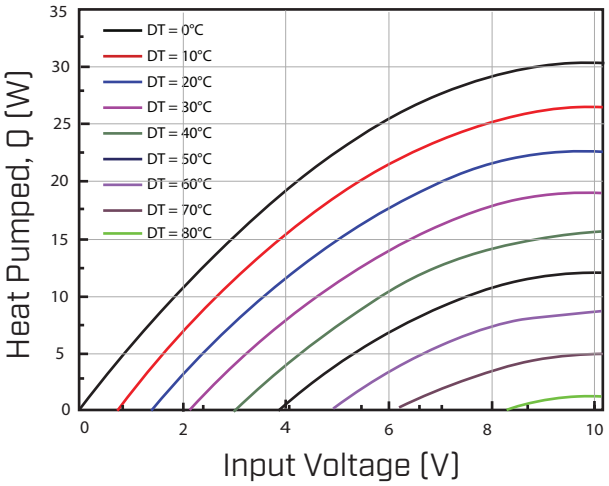
### Heat Pumped, Q Vs. ΔT



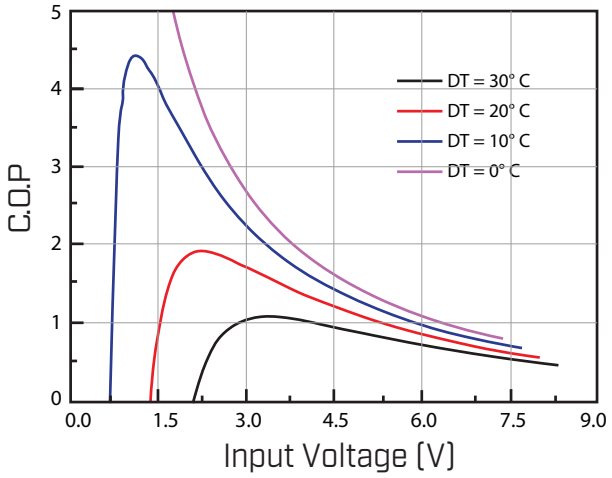

### Input Voltage, V Vs. ΔT



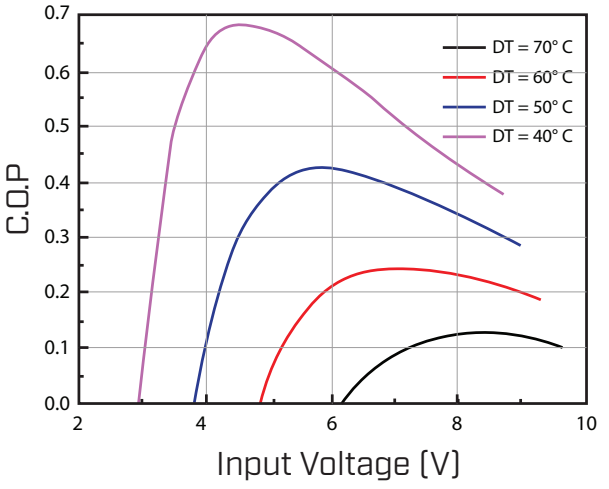

### Heat Pumped, Q Vs. Input Voltage, V




### COP Vs. Input Voltage, V (ΔT=0~30°C)




### COP Vs. Input Voltage, V (ΔT=40-70°C)



## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 07/24/2026 |

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

same sky

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