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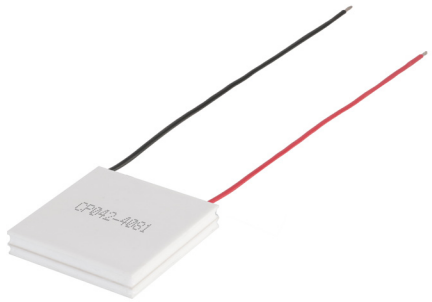
MODEL: CP042-4081 | DESCRIPTION: PELTIER MODULE

FEATURES

- 2-stage TEC module
- wide ΔT max
- precise temperature control
- silicone sealed
- solid state construction



RoHS

SPECIFICATIONS

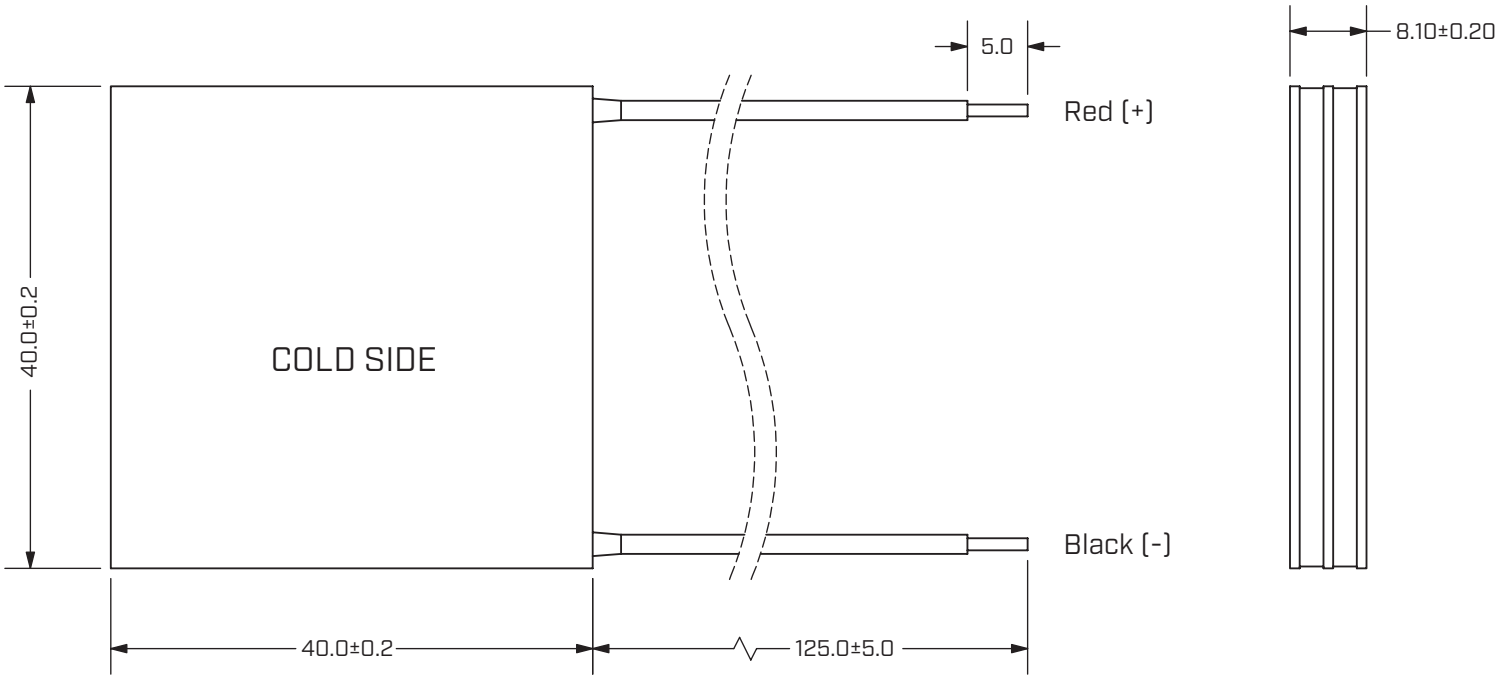
parameter	conditions/description	min	typ	max	units
input voltage[1]	Th = 27°C Th = 50°C			14.4 16.4	V V
input current[2]				4.2	A
internal resistance[3]	Th = 27°C Th = 50°C		3.25 3.60		Ω Ω
Qmax[4]	Th = 27°C Th = 50°C			27.7 31.1	W W
ΔTmax[5]	Th = 27°C Th = 50°C			91 104	°C °C
solder melting temperature	connection between thermoelectric pairs	240			°C
hot side plate				195	°C
cold side plate		-60			°C
assembly compression				0.3	MPa
RoHS	yes				

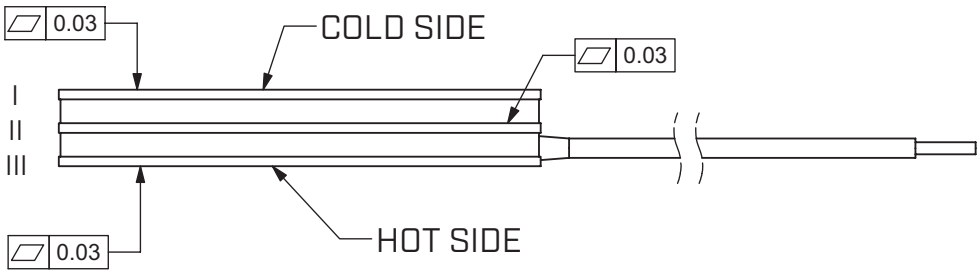
Notes:
1. Maximum voltage at ΔT max and T_h=27°C
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at I_{max}, V_{max}, and ΔT=0°C
5. Maximum temperature difference occurs at I_{max}, V_{max}, and Q=0 W (ΔT max measured in a vacuum at 1.3 Pa)
6. Tolerance for all thermal and electrical parameters is ±10%.

MECHANICAL DRAWING

units: mm

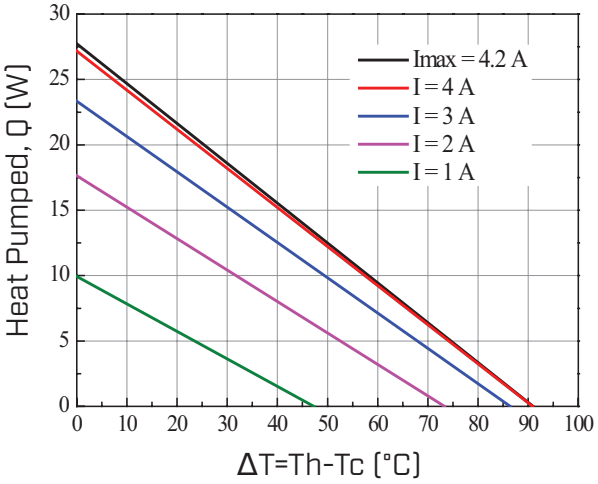
	MATERIAL	PLATING
ceramic plate	96% AL_2O_3	
wire leads	UL3443 20 AWG	tin
sealer	704 silicone sealant (between cold and hot side plates)	
marking	P/N printed on cold side surface	



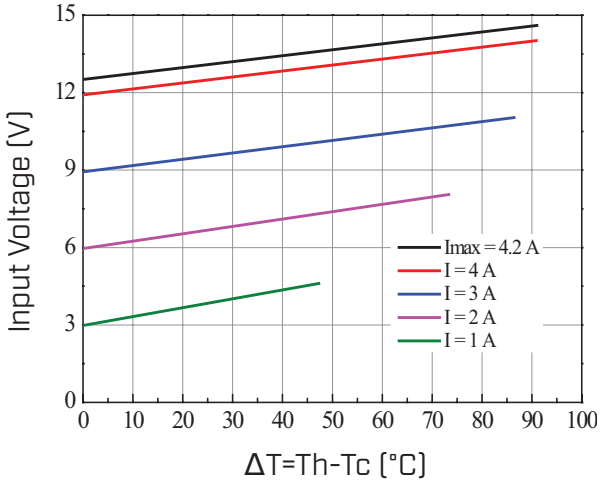


PERFORMANCE (Th=27°C)

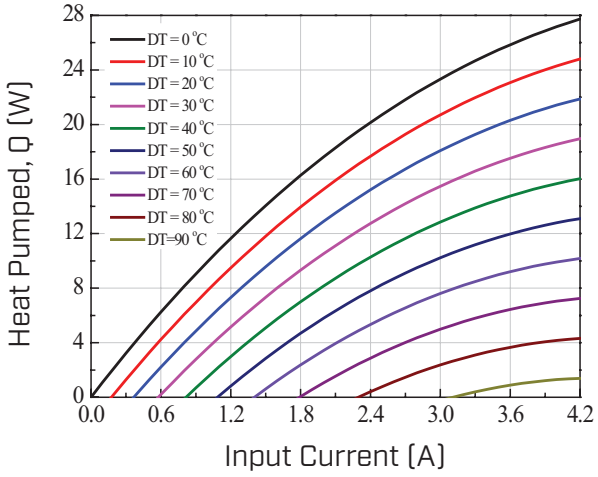
Heat Pumped, Q Vs. ΔT



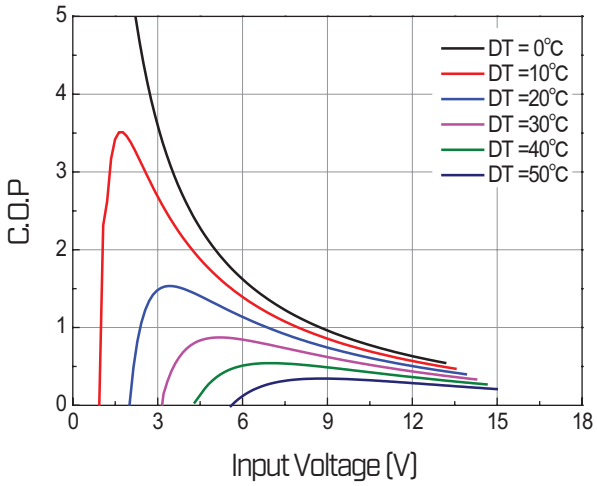
Input Voltage, V Vs. ΔT



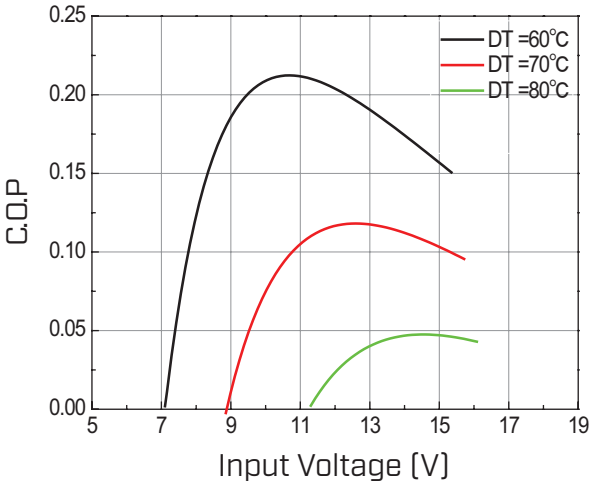
Heat Pumped, Q Vs. Input Current, I



COP Vs. Input Voltage, V (ΔT=0~50°C)

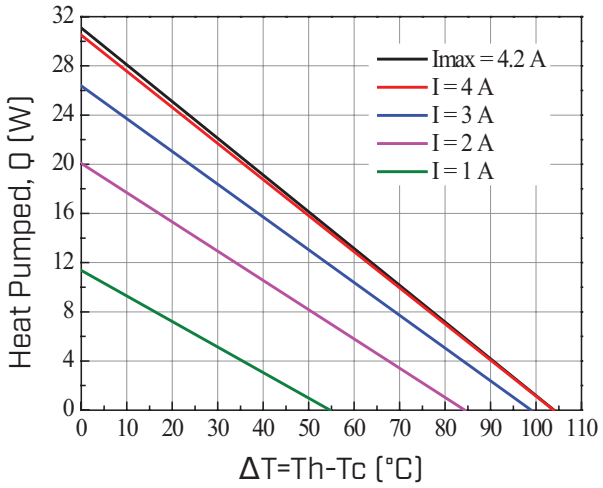


COP Vs. Input Voltage, V (ΔT=60~80°C)

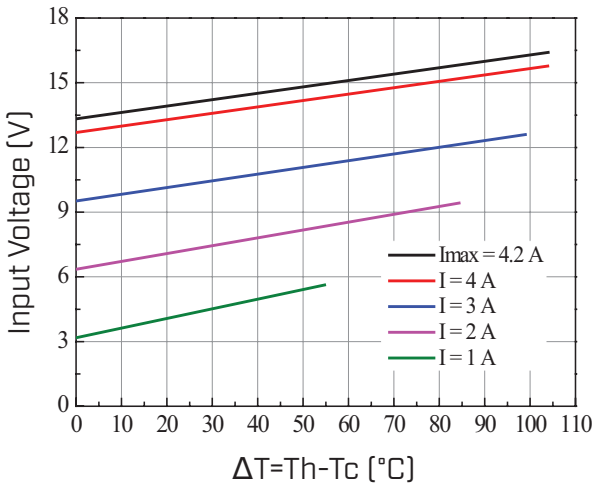


PERFORMANCE (Th=50°C)

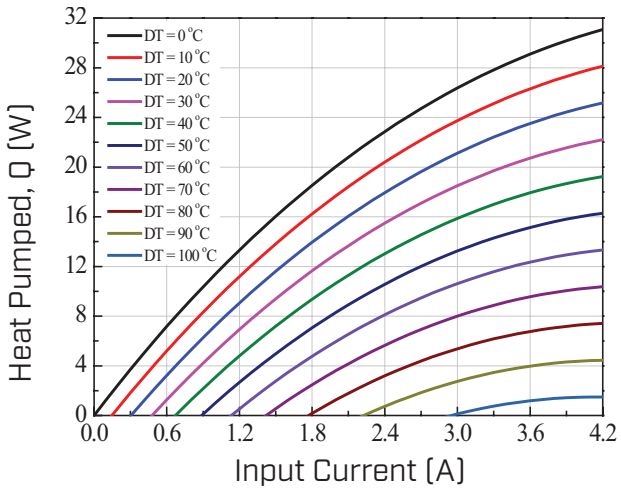
Heat Pumped, Q Vs. ΔT



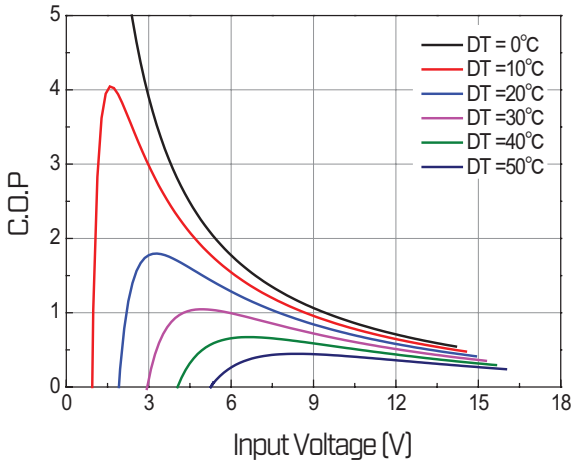
Input Voltage, V Vs. ΔT



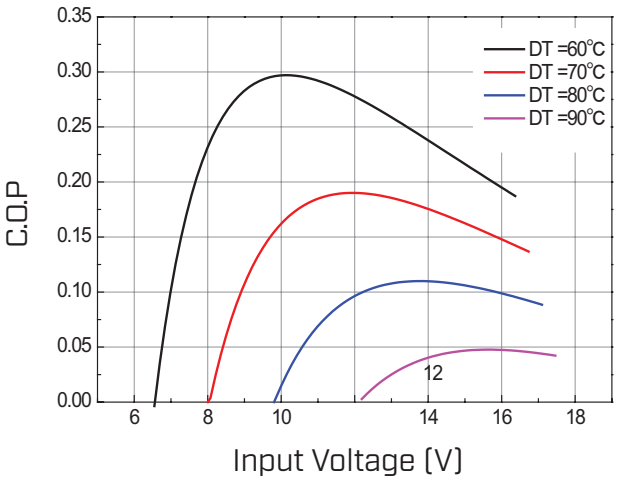
Heat Pumped, Q Vs. Input Current, I



COP Vs. Input Voltage, V (ΔT=0~50°C)



COP Vs. Input Voltage, V (ΔT=60~90°C)



REVISION HISTORY

rev.	description	date
1.0	initial release	12/09/2024

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

same sky

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