

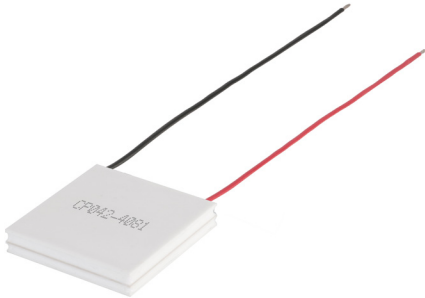


MODEL: CP042-4081

| DESCRIPTION: PELTIER MODULE

FEATURES

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



SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
input voltage ¹	Th = 27°C			14.4	V
	Th = 50°C			16.4	V
input current ²				4.2	A
internal resistance ³	Th = 27°C		3.25		Ω
	Th = 50°C		3.60		Ω
Qmax ⁴	Th = 27°C			27.7	W
	Th = 50°C			31.1	W
ΔT max ⁵	Th = 27°C			91	°C
	Th = 50°C			104	°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 $T_h=27^\circ\text{C}$

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 $\Delta T=0^\circ\text{C}$

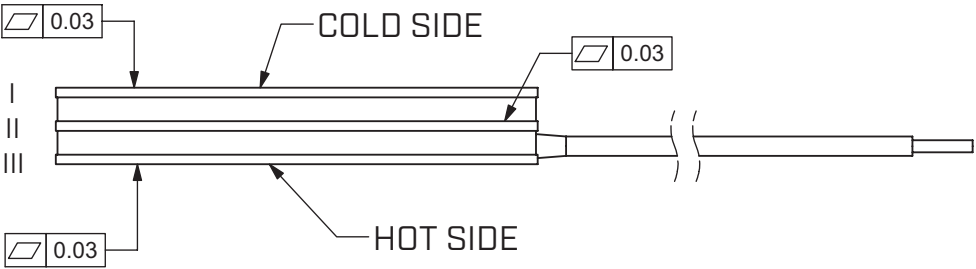
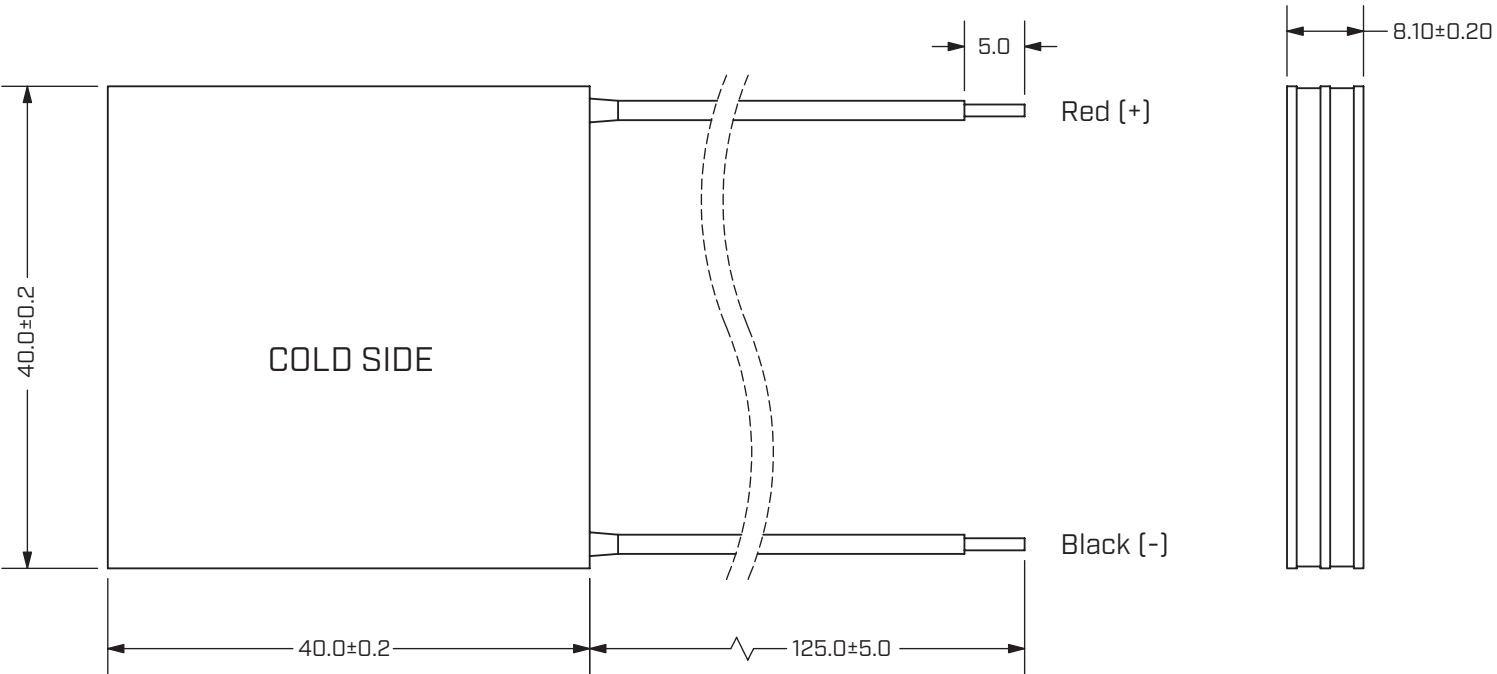
5. Maximum temperature difference occurs at I_{max} , V_{max} , and $Q=0$ W (ΔT max measured in a vacuum at 1.3 Pa)

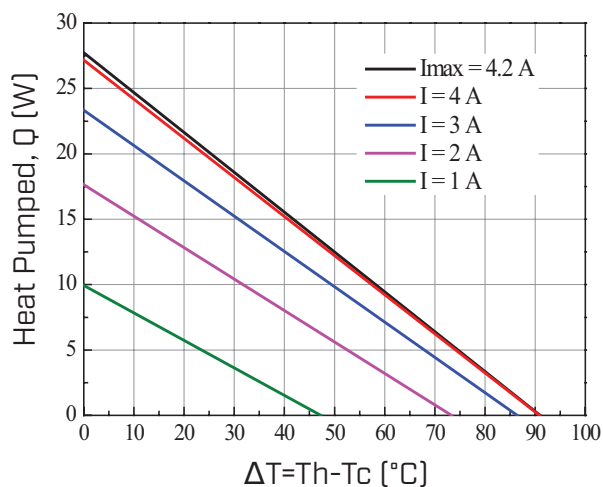
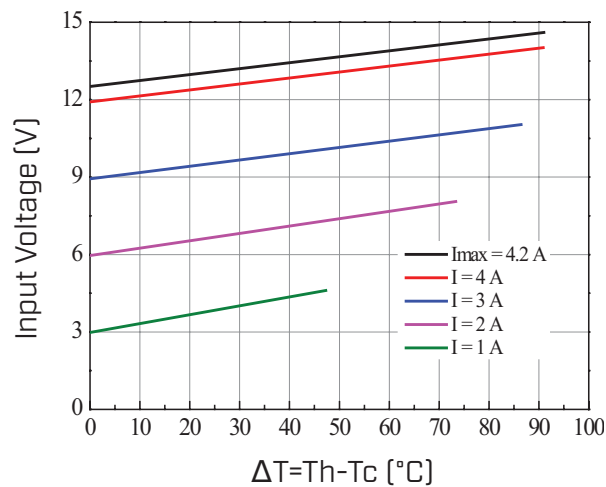
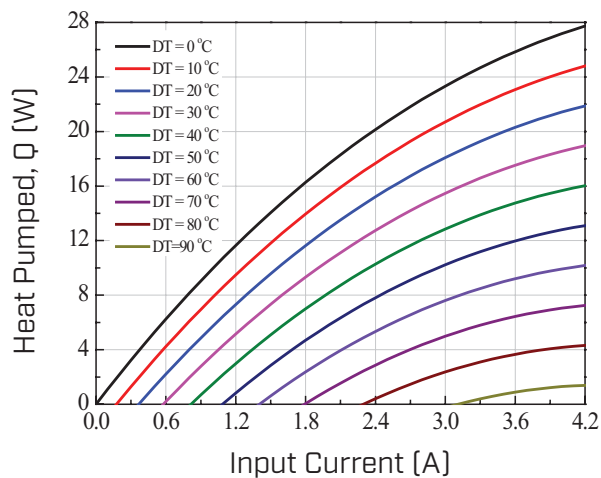
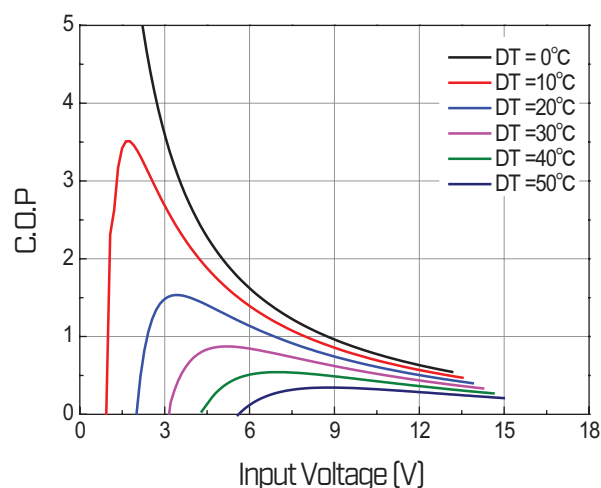
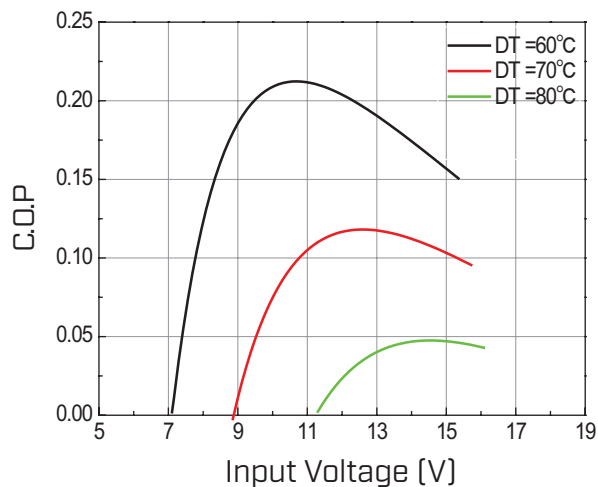
6. Tolerance for all thermal and electrical parameters is $\pm 10\%$.

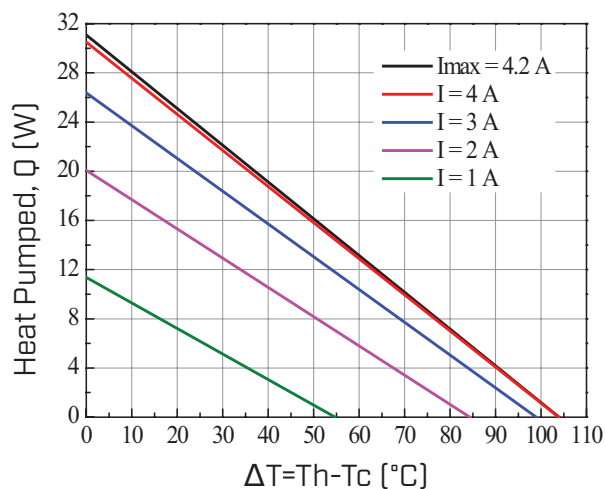
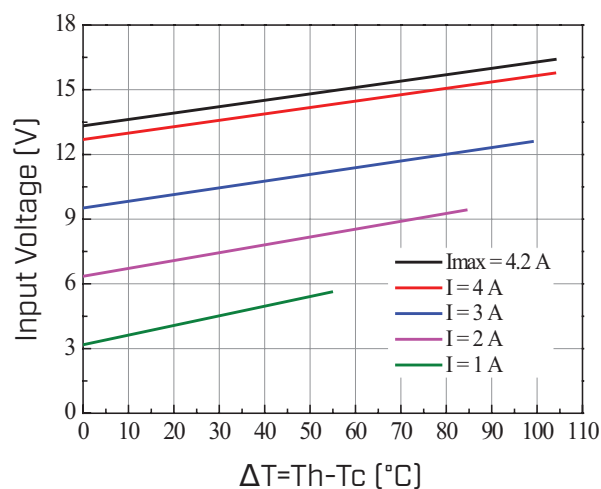
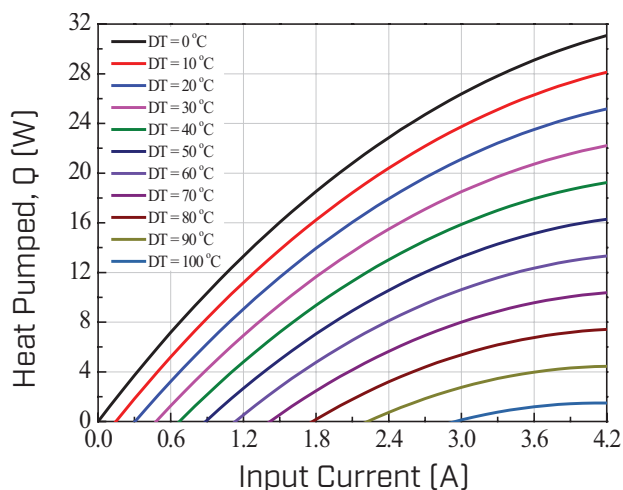
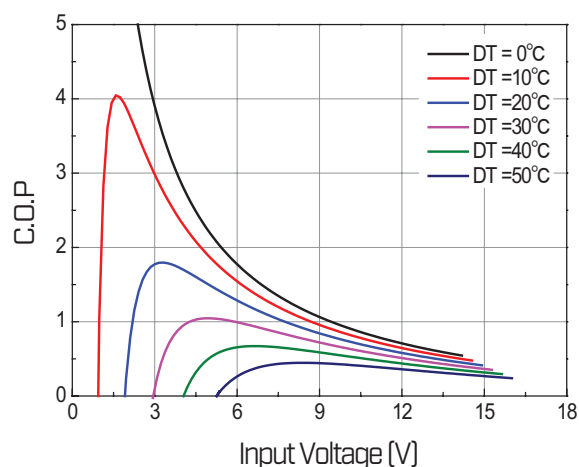
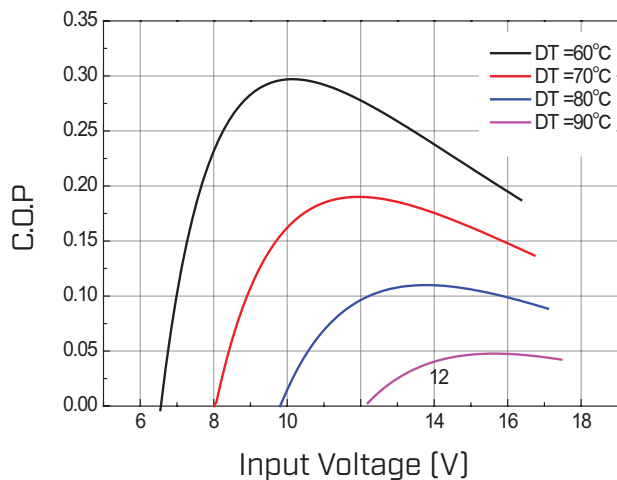
MECHANICAL DRAWING

units: mm

	MATERIAL	PLATING
ceramic plate	96% AL_2O_3	
wire leads	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 ($\Delta T = 0 \sim 50^\circ\text{C}$)****COP Vs. Input Voltage, V ($\Delta T = 60 \sim 80^\circ\text{C}$)**

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 ($\Delta T = 0 \sim 50^\circ\text{C}$)****COP Vs. Input Voltage, V ($\Delta T = 60 \sim 90^\circ\text{C}$)**

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 offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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