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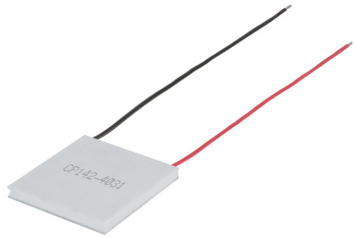
MODEL: CP142-4031 | DESCRIPTION: PELTIER MODULE

FEATURES

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



RoHS

SPECIFICATIONS

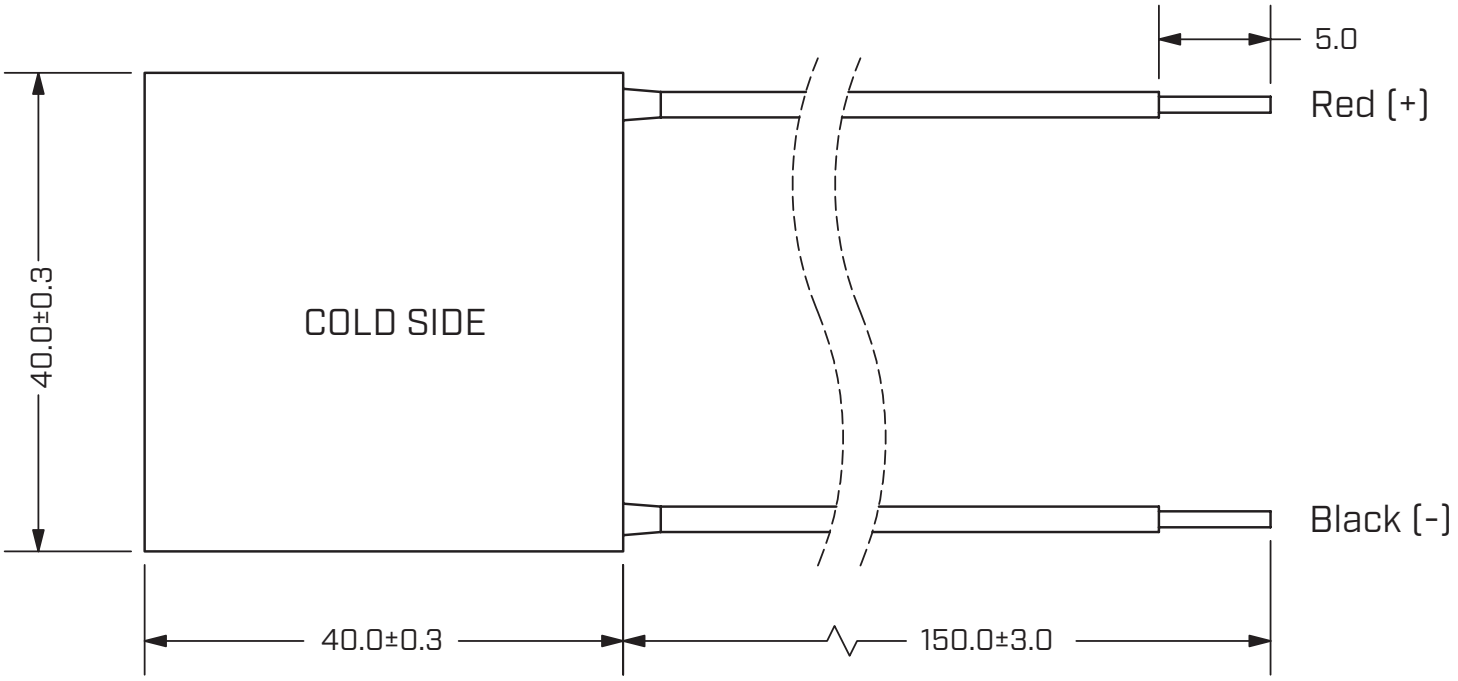
parameter	conditions/description	min	typ	max	units
input voltage[1]	Th = 27°C Th = 50°C			25.0 26.9	V V
input current[2]				14.2	A
internal resistance[3]	Th = 27°C Th = 50°C		1.35 1.45		Ω Ω
Qmax[4]	Th = 27°C Th = 50°C			222.9 243.5	W W
ΔTmax[5]	Th = 27°C Th = 50°C			70 79	°C °C
solder melting temperature	connection between thermoelectric pairs	240			°C
hot side plate				195	°C
cold side plate		-60			°C
assembly compression			0.49		MPa
RoHS	yes				

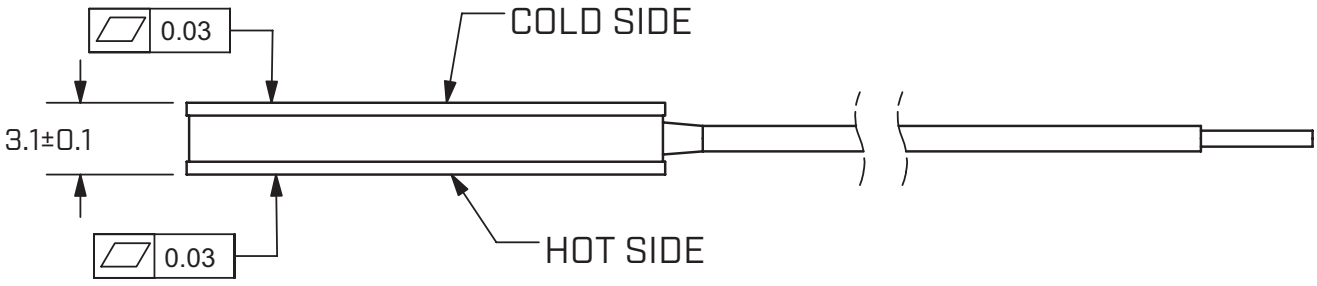
Notes:
1. Maximum voltage at ΔT max and T_h=27°C
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at I_{max}, V_{max}, and ΔT=0°C
5. Maximum temperature difference occurs at I_{max}, V_{max}, and Q=0 W (ΔT max measured in a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

MECHANICAL DRAWING

units: mm

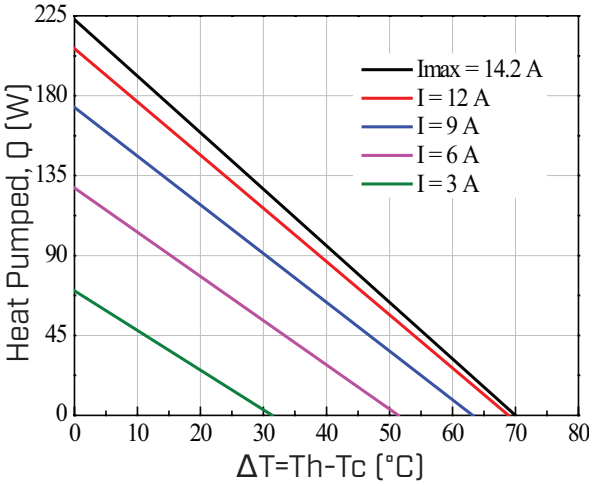
	MATERIAL	PLATING
ceramic plate	96% AL_2O_3	
wire leads	UL1726 18 AWG	tin
sealer	704 silicone sealant (between cold and hot side plates)	
marking	P/N printed on cold side surface	



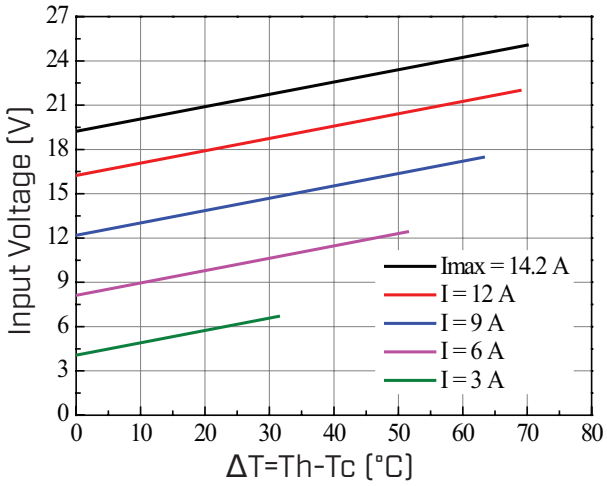


PERFORMANCE (Th=27°C)

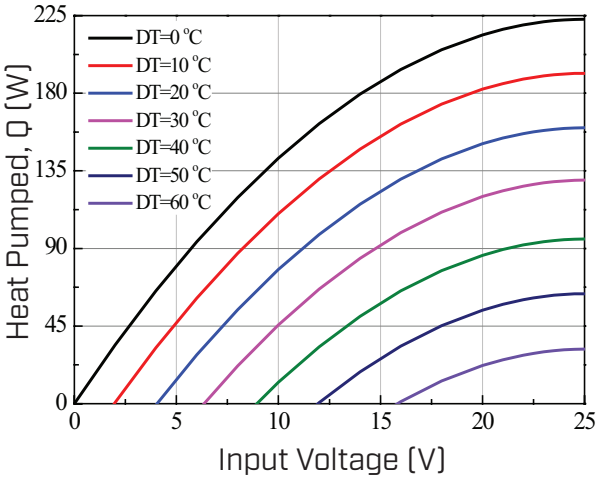
Heat Pumped, Q Vs. ΔT



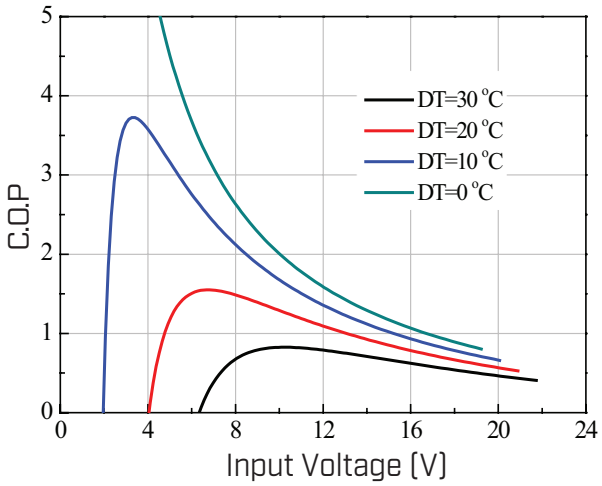
Input Voltage, V Vs. ΔT



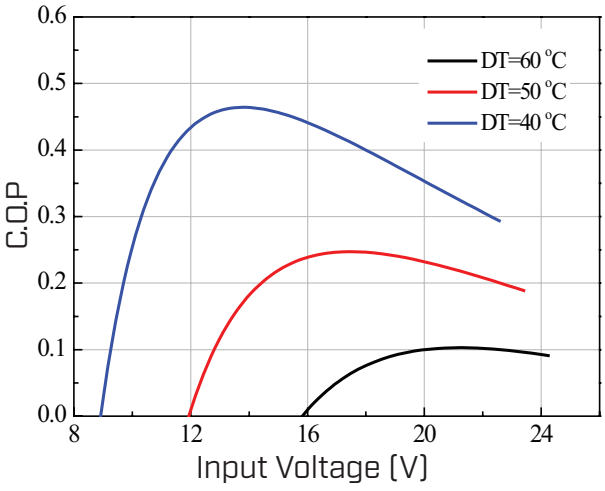
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V (ΔT=0~30°C)

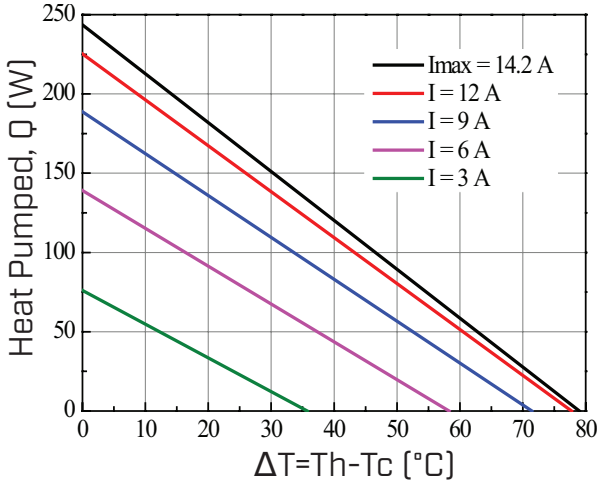


COP Vs. Input Voltage, V (ΔT=40~60°C)

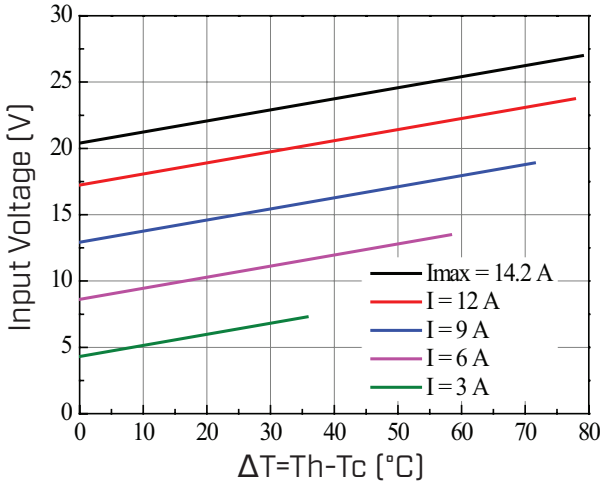


PERFORMANCE (Th=50°C)

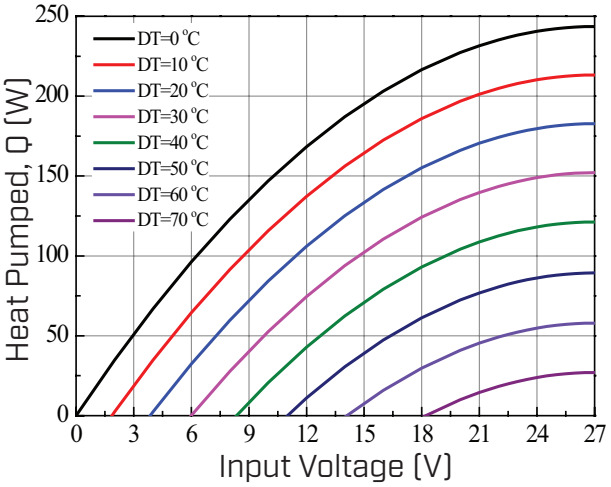
Heat Pumped, Q Vs. ΔT



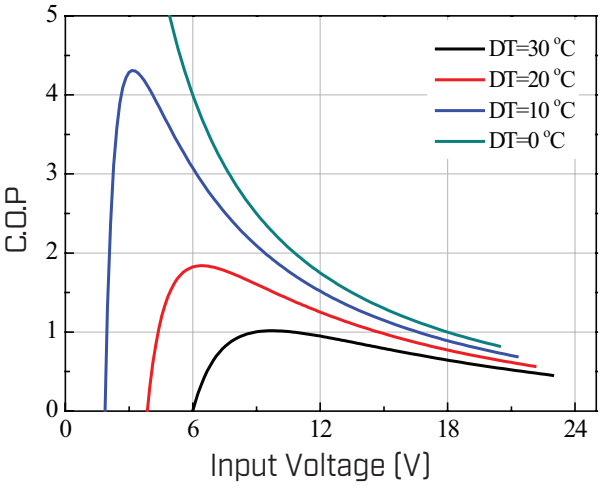
Input Voltage, V Vs. ΔT



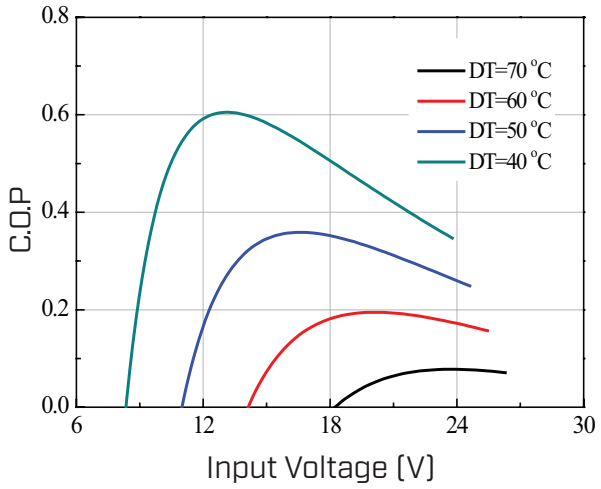
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V (ΔT=0~30°C)



COP Vs. Input Voltage, V (ΔT=40~70°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

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