



MODEL: CP052-1540 | 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			2.16	V
	Th = 50°C			2.31	V
input current ²				5.2	A
internal resistance ³	Th = 27°C		0.35		Ω
	Th = 50°C		0.38		Ω
Qmax ⁴	Th = 27°C			6.9	W
	Th = 50°C			7.5	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				

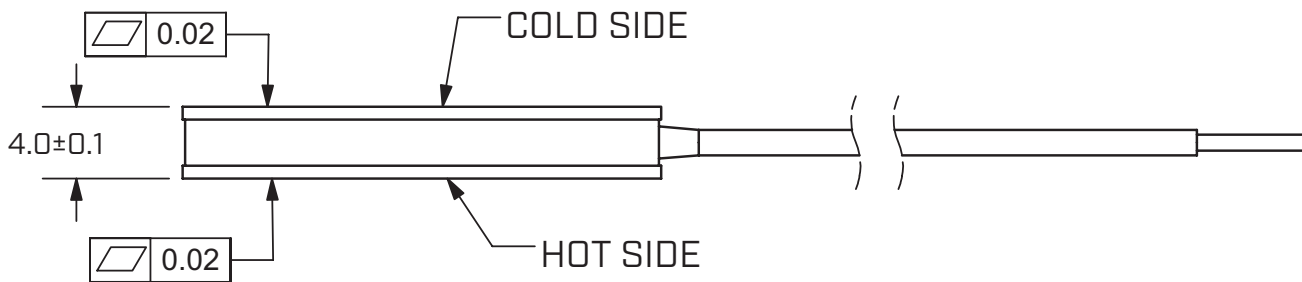
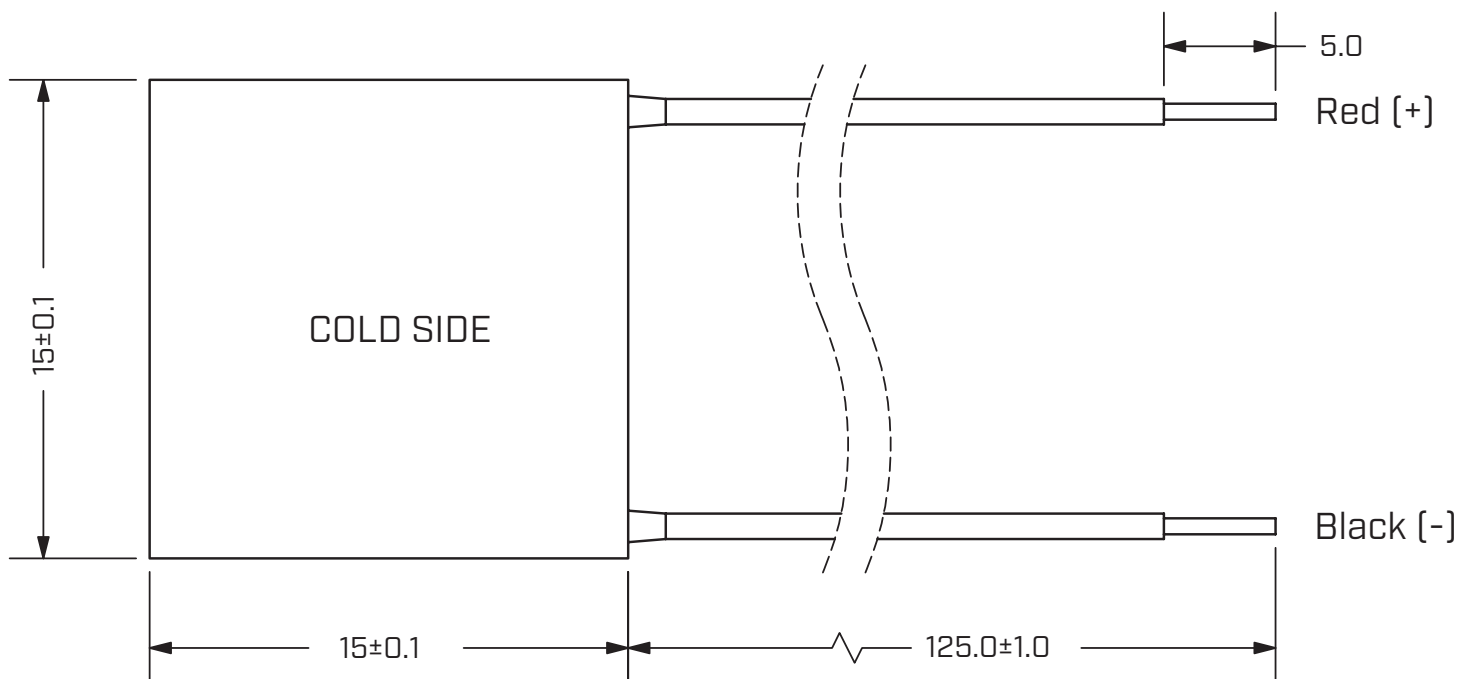
Notes:

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

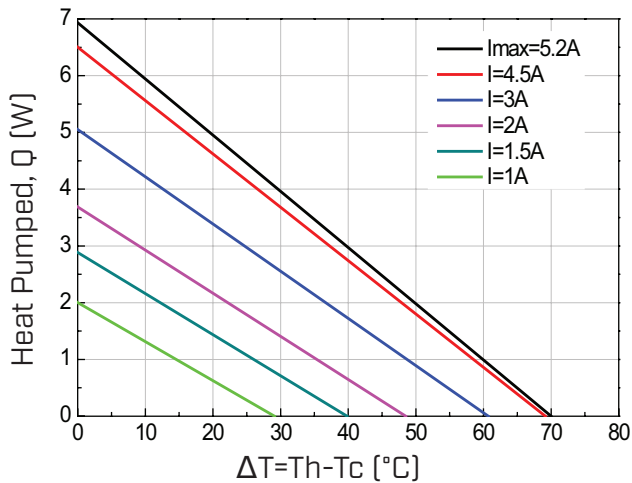
units: mm

	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	

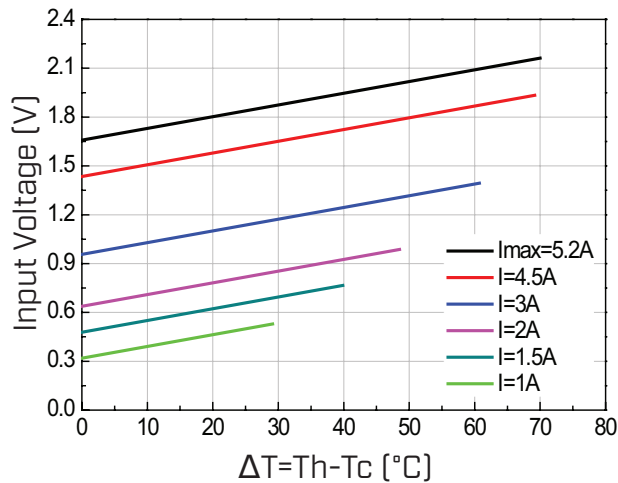


PERFORMANCE (Th=27°C)

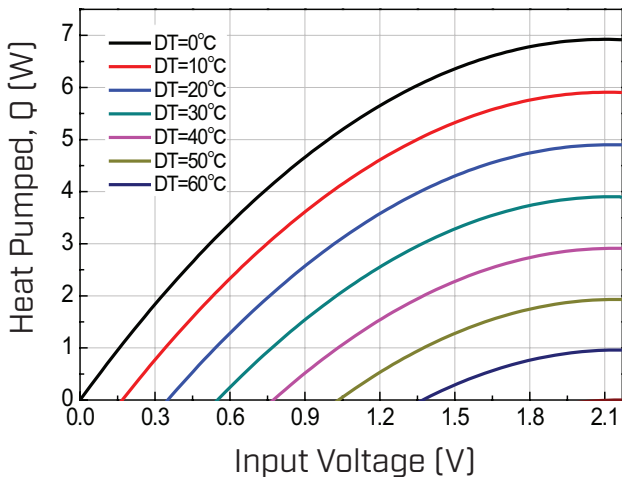
Heat Pumped, Q Vs. ΔT



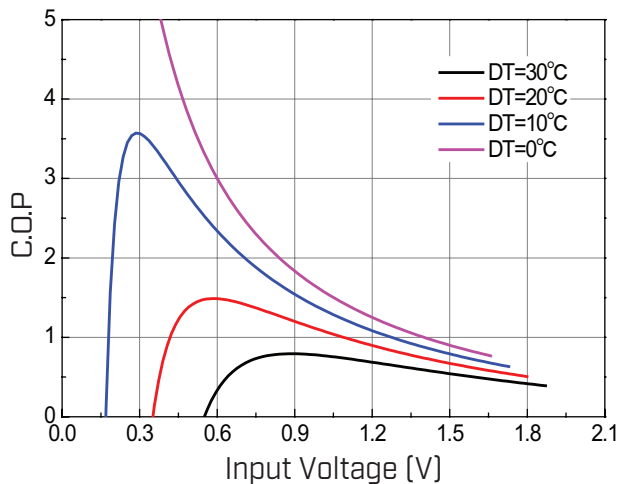
Input Voltage, V Vs. ΔT



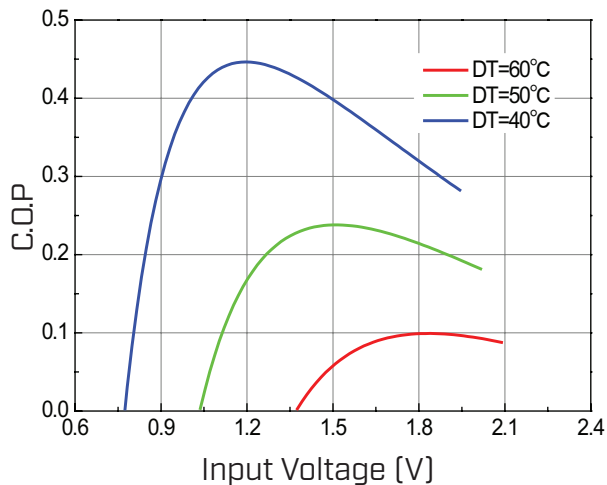
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V (ΔT=0~30°C)

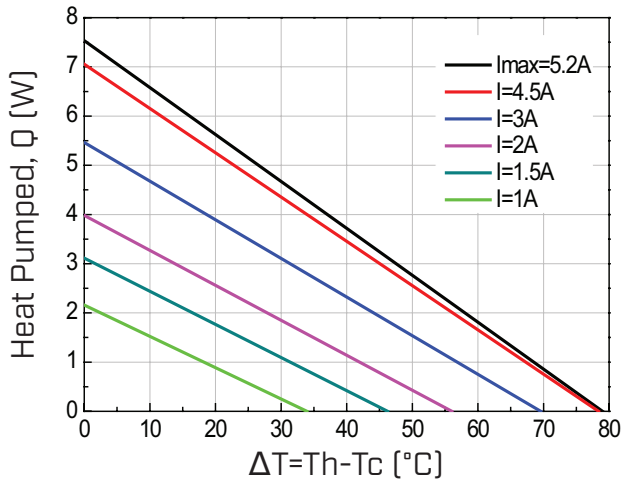


COP Vs. Input Voltage, V (ΔT=40~60°C)

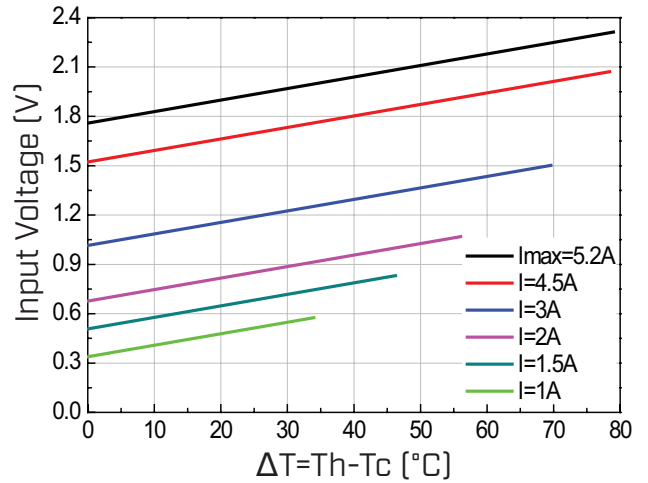


PERFORMANCE (Th=50°C)

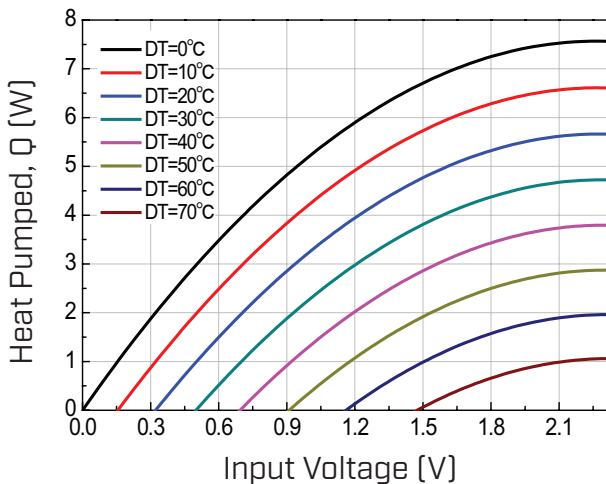
Heat Pumped, Q Vs. ΔT



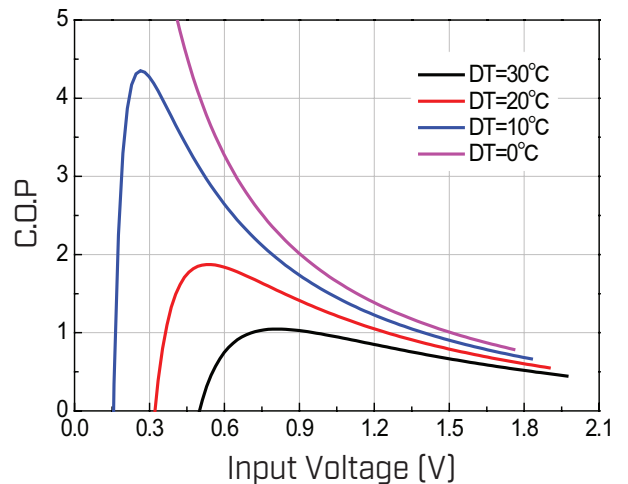
Input Voltage, V Vs. ΔT



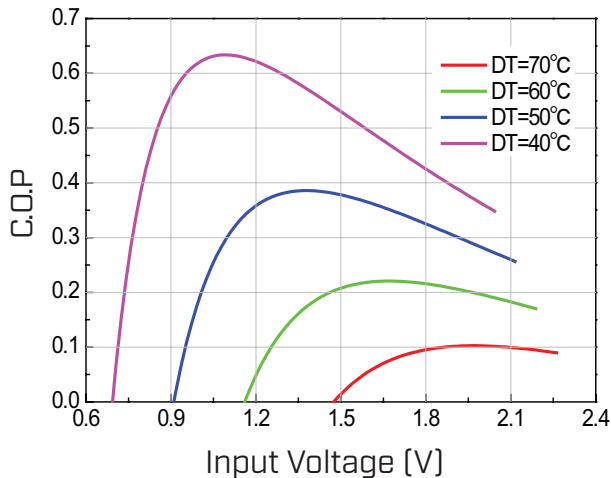
Heat Pumped, Q Vs. Input Voltage, V



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



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



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.



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