



**MODEL:** CP040-1542 | **DESCRIPTION:** PELTIER MODULE

**FEATURES**

- silicon sealed
- wide  $\Delta T_{max}$
- precise temperature control
- maximum hot side temperature of 195°C
- solid state construction



**SPECIFICATIONS**

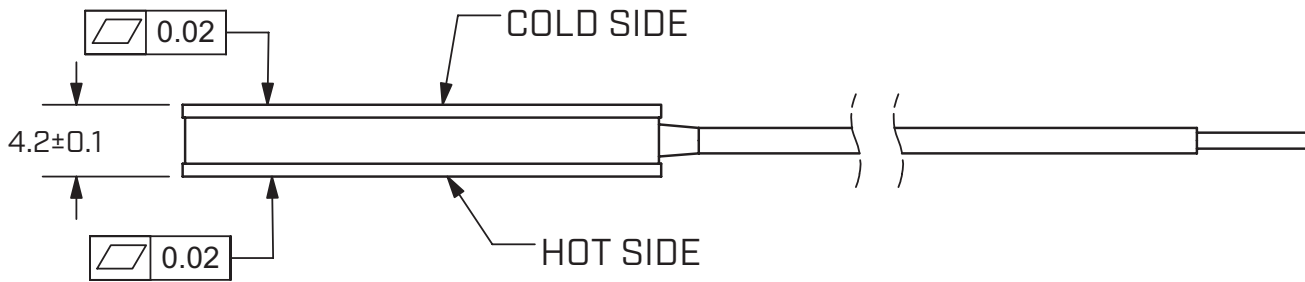
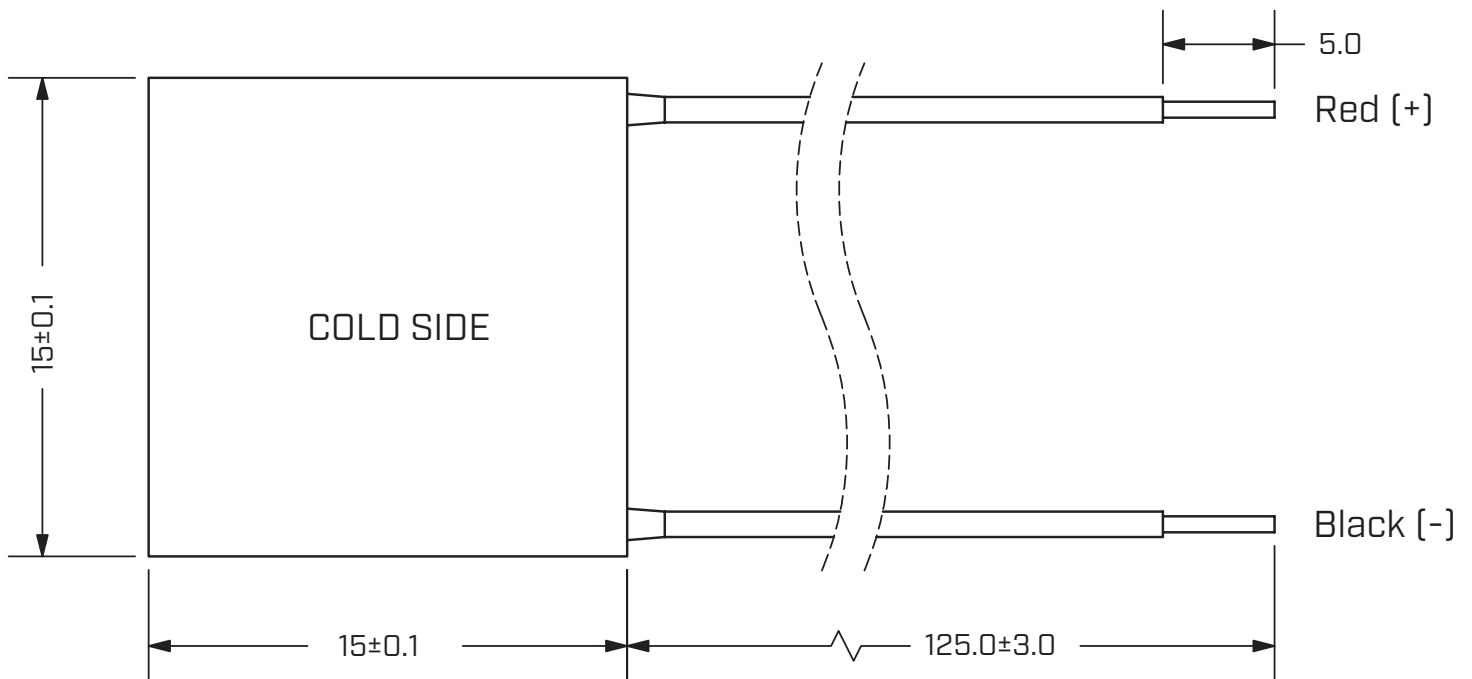
parameter	conditions/description	min	typ	max	units
input voltage <sup>1</sup>	Th = 27°C			2.16	V
	Th = 50°C			2.31	V
input current <sup>2</sup>				4.07	A
internal resistance <sup>3</sup>	Th = 27°C	0.3		0.5	$\Omega$
	Th = 50°C	0.33		0.55	$\Omega$
Qmax <sup>4</sup>	Th = 27°C			5.45	W
	Th = 50°C			5.91	W
$\Delta T_{max}$ <sup>5</sup>	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  $\Delta T_{max}$  and  $T_c=27^\circ\text{C}$
  2. Maximum current to achieve  $\Delta T_{max}$
  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  $Q=0\text{ W}$  ( $\Delta T_{max}$  measured in a vacuum at 1.3 Pa)
  6. Tolerance for all thermal and electrical parameters is  $\pm 10\%$ .

## MECHANICAL DRAWING

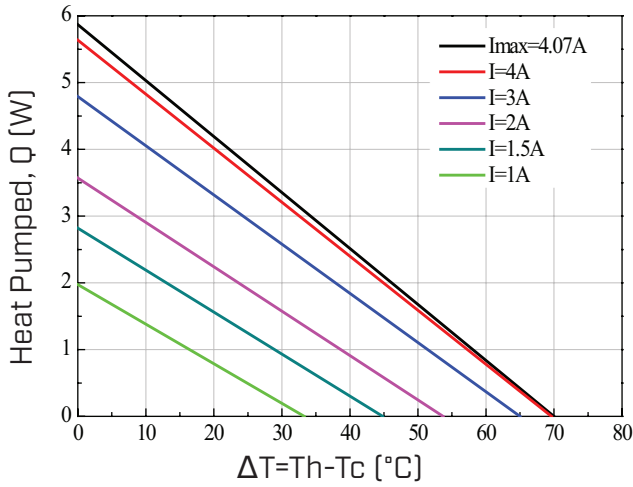
units: mm

	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	

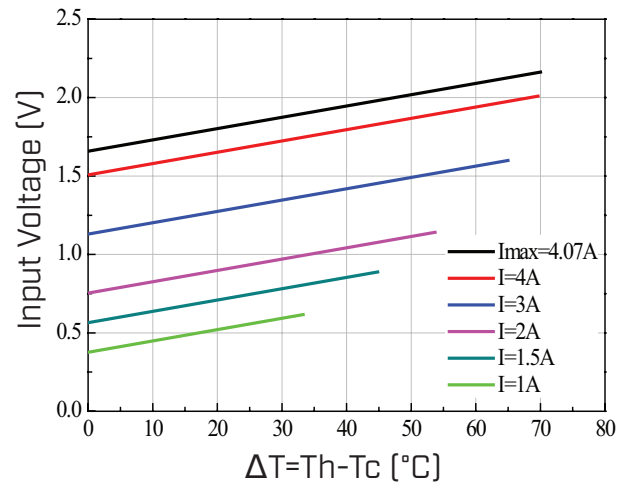


## PERFORMANCE (Th=27°C)

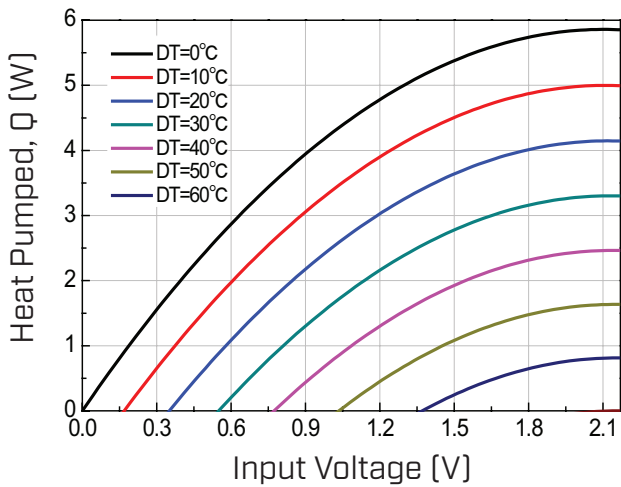
### Heat Pumped, Q Vs. ΔT



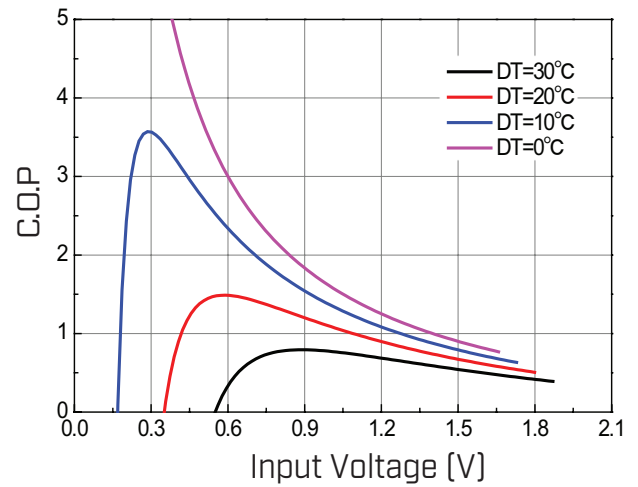
### Input Voltage, V Vs. ΔT



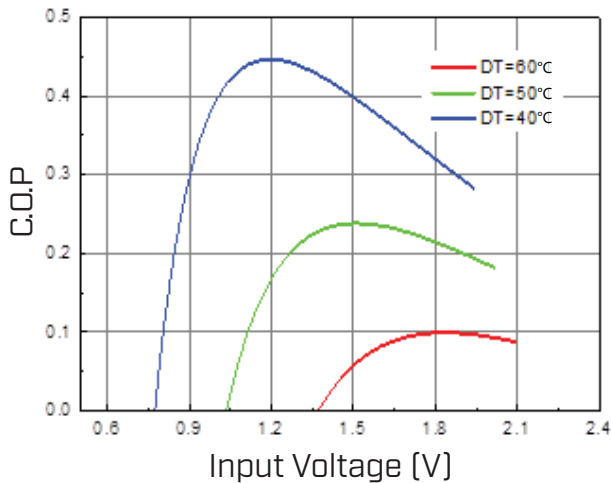
### Heat Pumped, Q Vs. Input Voltage, V



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

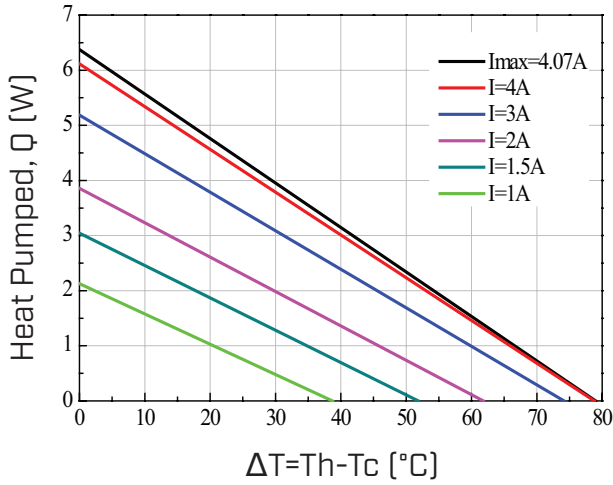


### COP Vs. Input Voltage, V (ΔT=40~60°C)

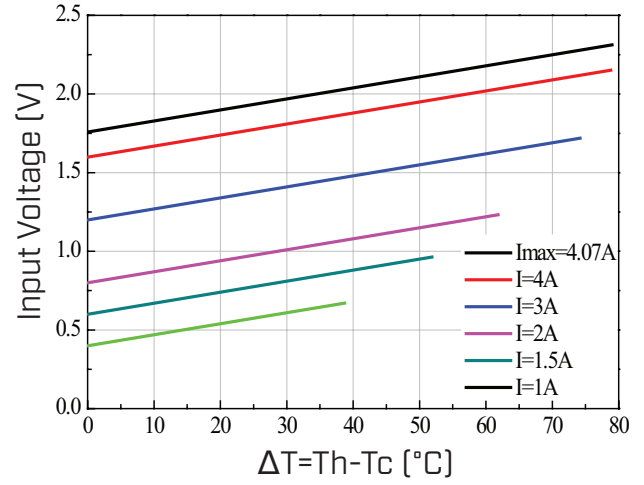


## PERFORMANCE (Th=50°C)

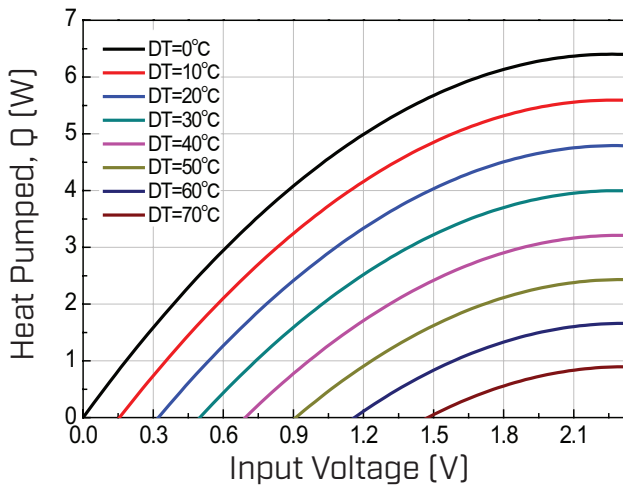
Heat Pumped, Q Vs. ΔT



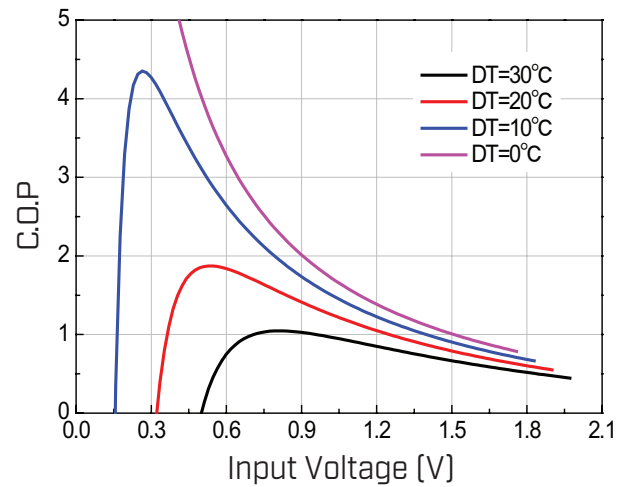
Input Voltage, V Vs. ΔT



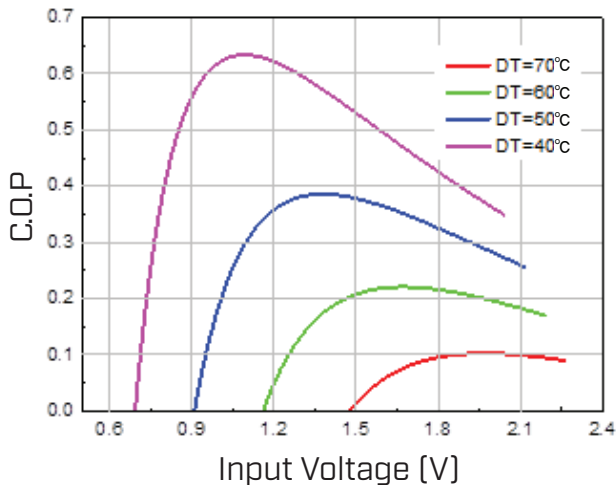
Heat Pumped, Q Vs. Input Voltage, V



COP Vs. Input Voltage, V (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.



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