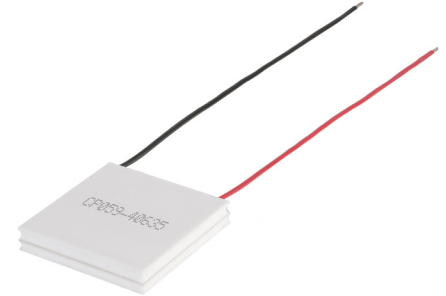




**MODEL:** CP059-40635 | **DESCRIPTION:** PELTIER MODULE

**FEATURES**

- 2-stage TEC module
- wide  $\Delta T$  max
- precise temperature control
- silicone sealed
- solid state construction



**SPECIFICATIONS**

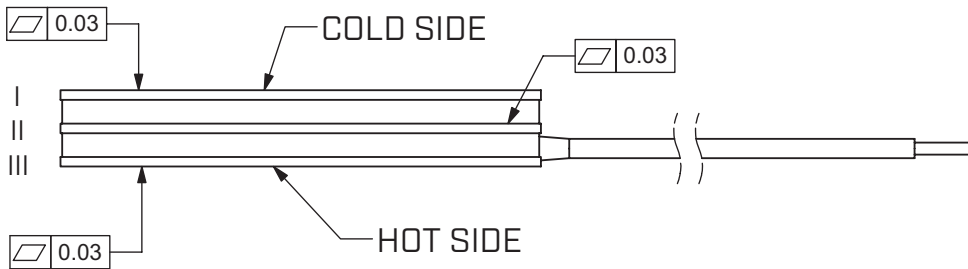
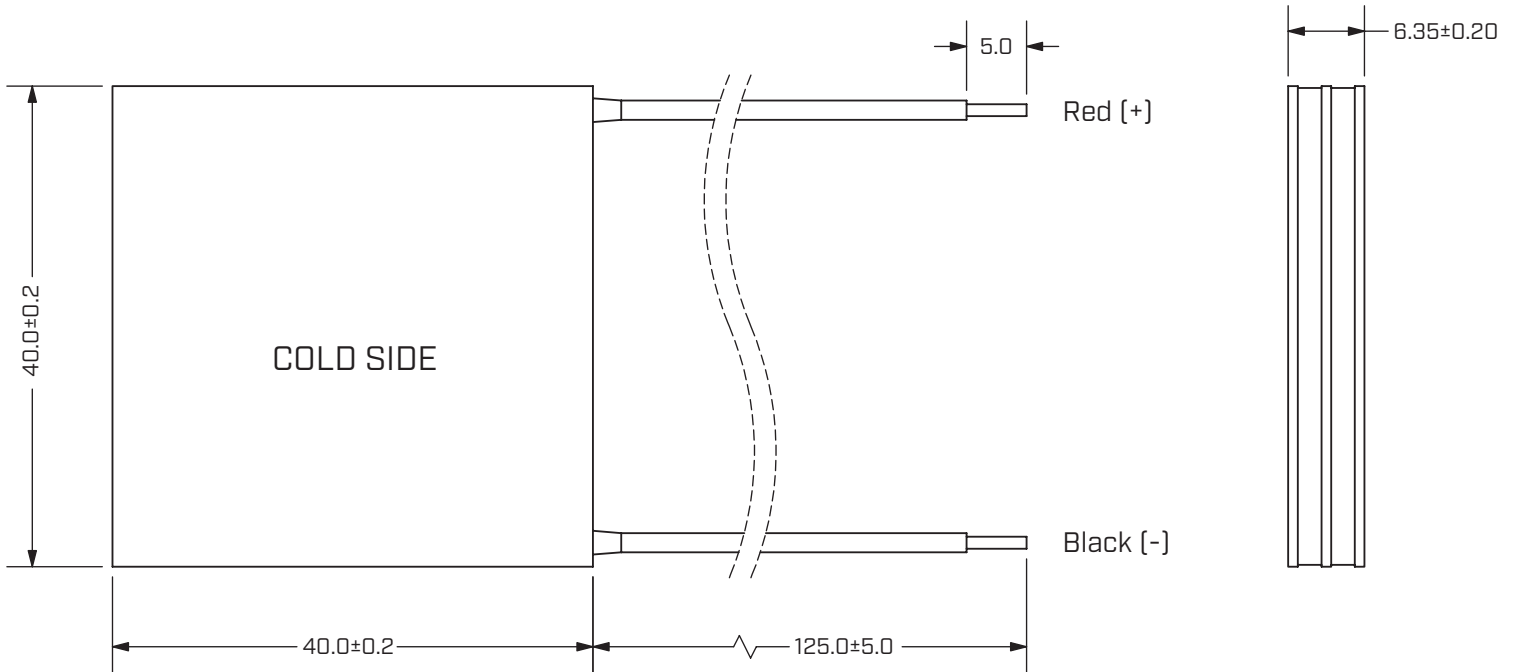
parameter	conditions/description	min	typ	max	units
input voltage <sup>1</sup>	Th = 27°C			14.6	V
	Th = 50°C			16.4	V
input current <sup>2</sup>				5.9	A
internal resistance <sup>3</sup>	Th = 27°C		2.3		$\Omega$
	Th = 50°C		2.55		$\Omega$
Qmax <sup>4</sup>	Th = 27°C			36.0	W
	Th = 50°C			38.8	W
$\Delta T$ max <sup>5</sup>	Th = 27°C			90	°C
	Th = 50°C			100	°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  $\Delta T$  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

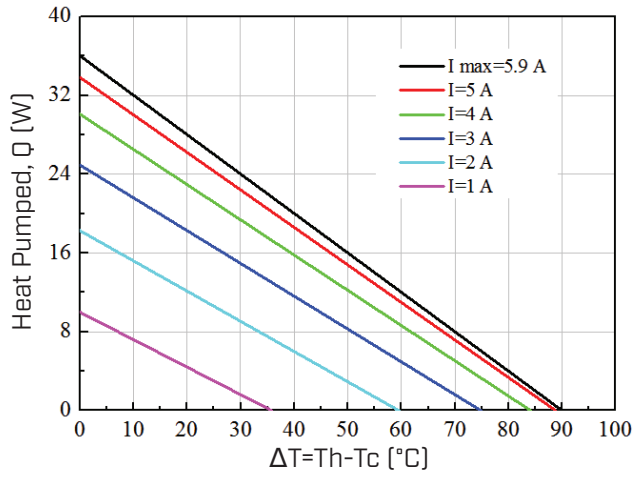
units: mm

	MATERIAL	PLATING
ceramic plate	96% $Al_2O_3$	
wire leads	UL3443 20 AWG	tin
sealer	704 silicone sealant (between cold and hot side plates)	
marking	P/N printed on cold side surface	

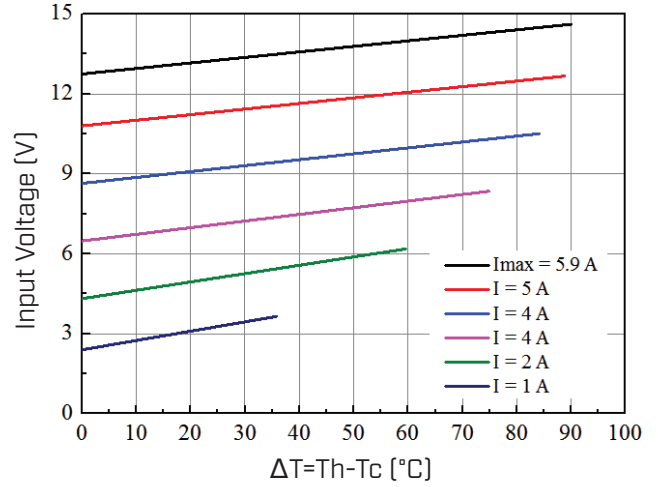


## PERFORMANCE (Th=27°C)

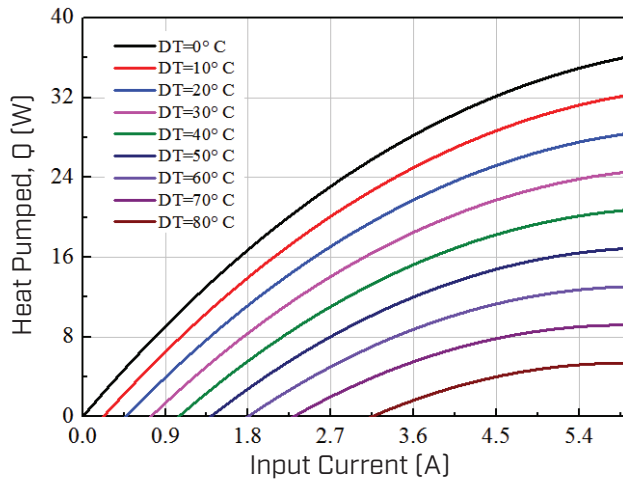
Heat Pumped, Q Vs.  $\Delta T$



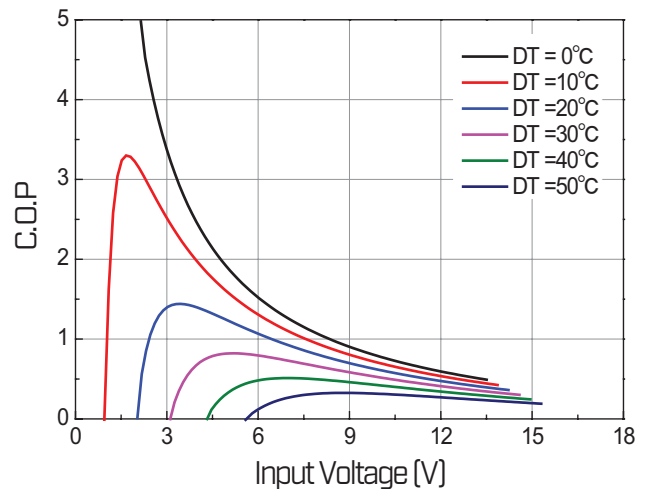
Input Voltage, V Vs.  $\Delta T$



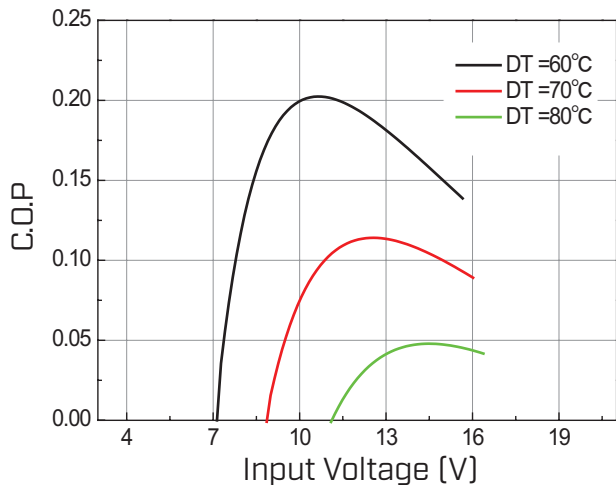
Heat Pumped, Q Vs. Input Current, I



COP Vs. Input Voltage, V [ $\Delta T = 0 \sim 50^\circ\text{C}$ ]

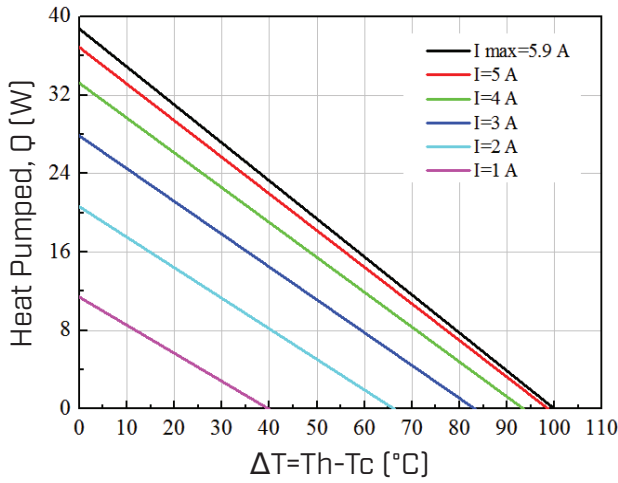


COP Vs. Input Voltage, V [ $\Delta T = 60 \sim 80^\circ\text{C}$ ]

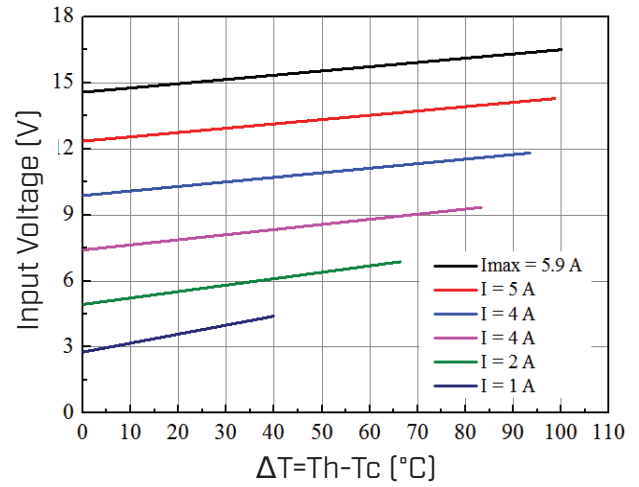


## PERFORMANCE (Th=50°C)

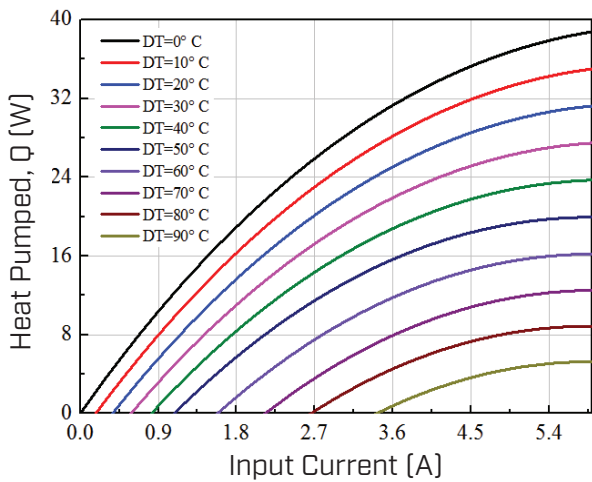
### Heat Pumped, Q Vs. ΔT



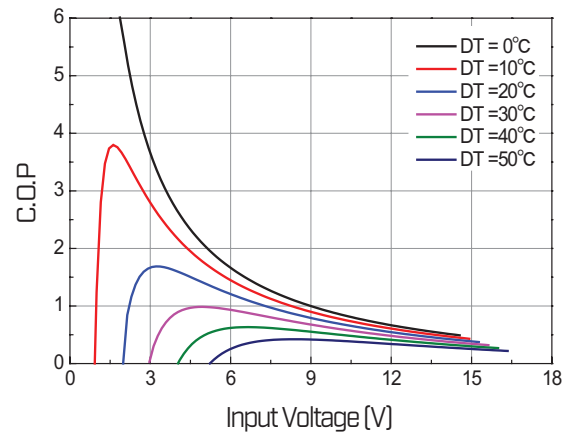
### Input Voltage, V Vs. ΔT



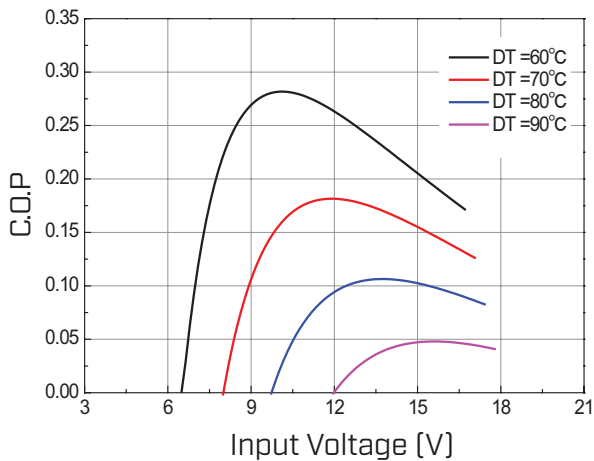
### Heat Pumped, Q Vs. Input Current, I



### COP Vs. Input Voltage, V (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 offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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