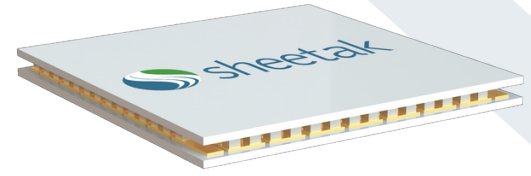


CENTUM[®] C3-21-21-07

2-Stage Thermoelectric Cooler Chip



This compact multi-stage thermoelectric cooler delivers up to 3 watts of cooling power with a maximum temperature difference of 97 °C in a 10×12.8×2.8 mm form factor. It is ideal for wearables, image sensors, and other miniaturized electronics.

Features

- Ultra-compact size
- Up to 3 W pumping
- Patented multi-stage design
- Fast response
- Low-profile chip

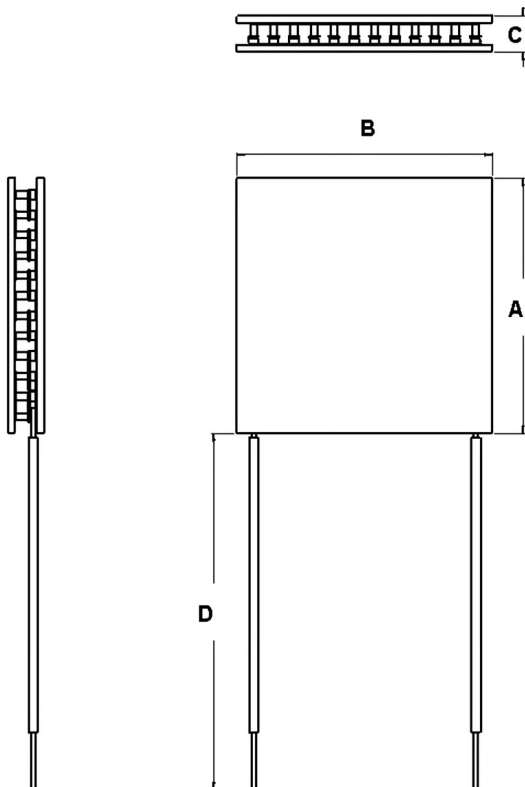
Applications

- Optical transceivers
- Wearable sensors
- AR/VR optics
- UAV avionics
- Miniaturized cooling

Performance Specification Sheet

Hot Side Temperature T_h (°C)	27	50
$\Delta T_{\max}$ (°C)	98.1	110.1
$Q_{\max}$ (Watts)	3.4	3.9
$I_{\max}$ (Amps)	7.0	7.4
$V_{\max}$ (DC Volts)	1.89	2.0
R_{AC} (Ω)	0.21	
Mass (Grams)	2.5	

Dimensions

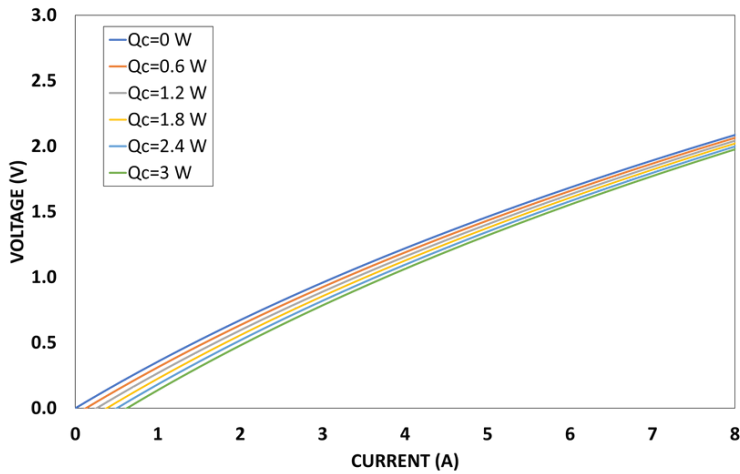


Model #	A
A	12 +/- 0.1 mm
B	10 +/- 0.1 mm
C	2.8 +/- 0.2 mm
D	50 mm

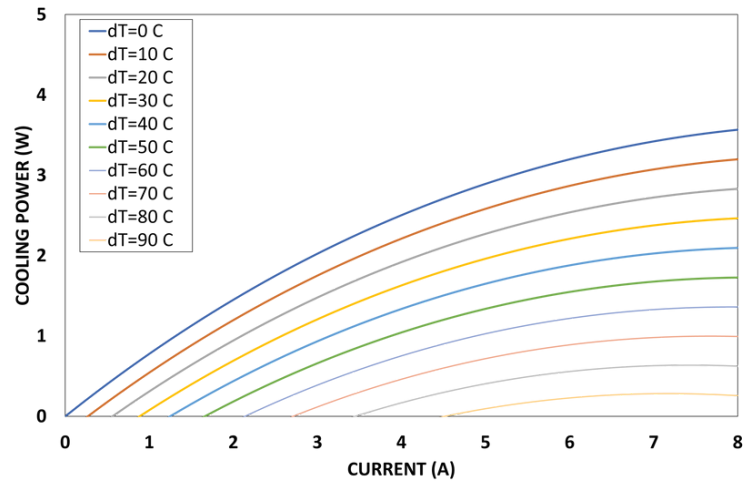
Standard lapping is +/- 0.025 mm

► Performance curves at $T_{hot} = 27^{\circ}\text{C}$

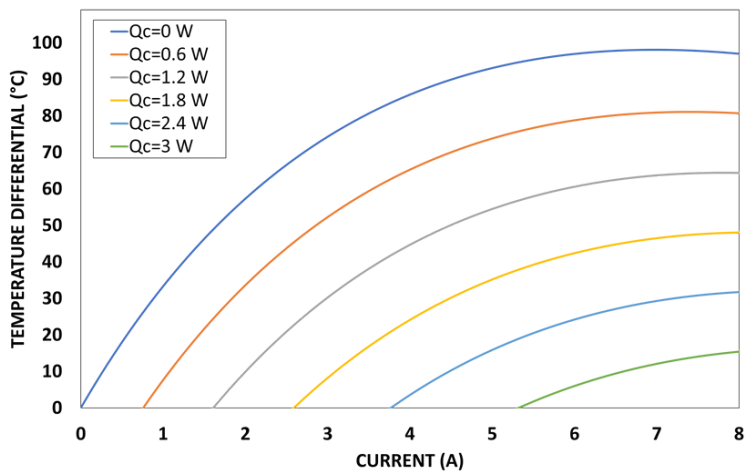
Current vs. Voltage



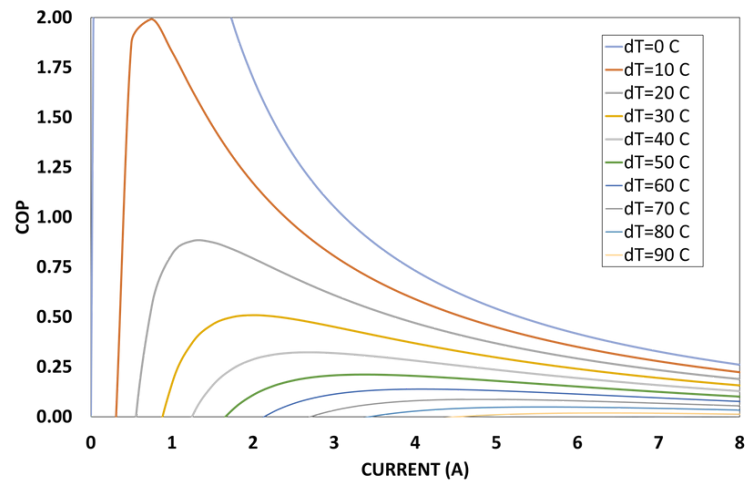
Current vs. Cooling Power



Current vs. Temperature Differential

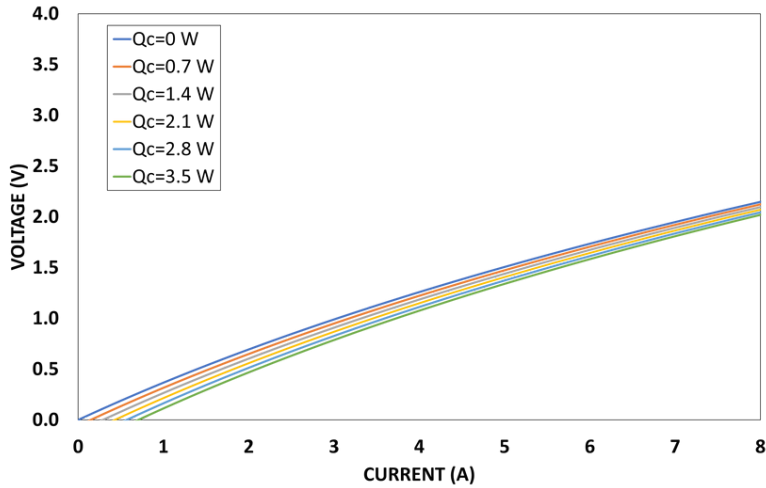


Current vs. COP

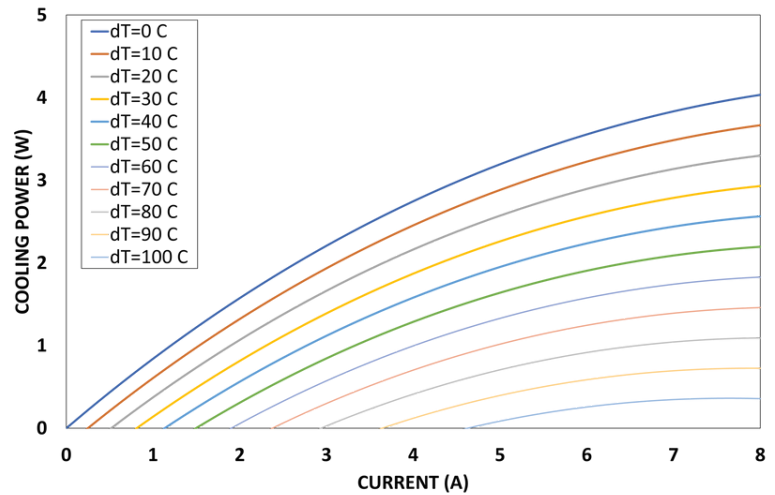


► Performance curves at $T_{hot} = 50^{\circ}\text{C}$

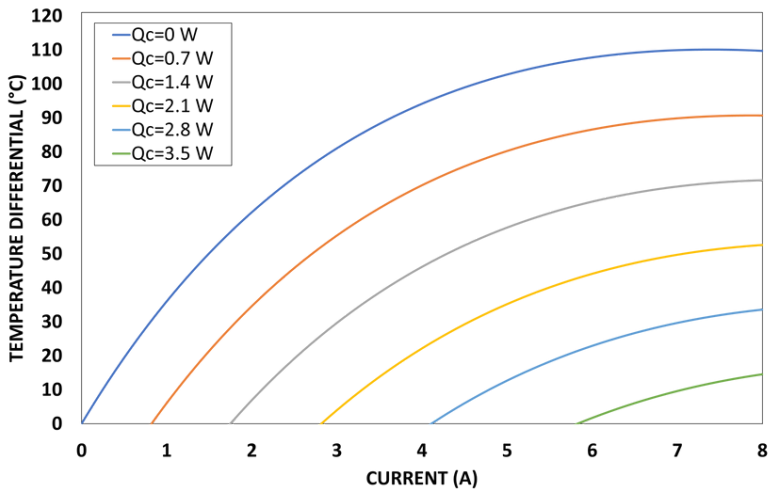
Current vs. Voltage



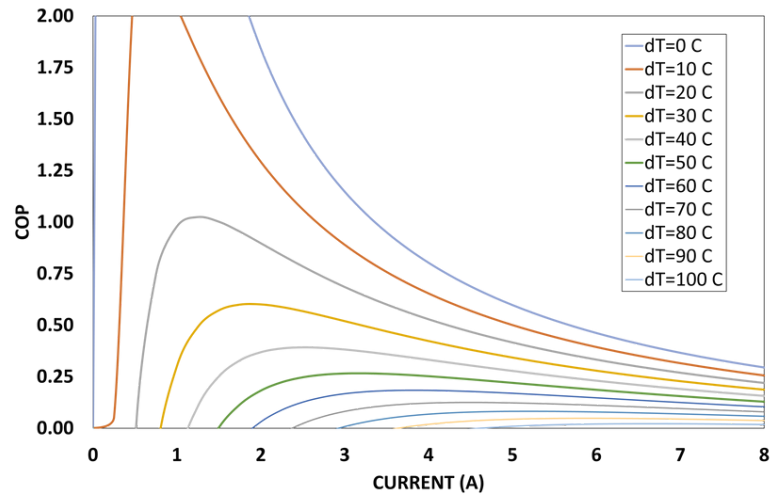
Current vs. Cooling Power



Current vs. Temperature Differential



Current vs. COP



➤ Other Standard Models

Model Number	Dimensions (mm)	T _h (°C)	ΔT _{max} (°C)	Q _{max} (Watts)	I _{max} (Amps)	V _{max} (DC Volts)	R _{AC} (Ω)	Mass (Grams)
C3-38-38-07	13x16x2.8	27	98.1	6.1	7.0	3.4	0.39	3
C3-71-71-07	22x22x2.8	27	98.1	11.4	7.0	6.4	0.72	5
C3-127-127-07	29x29x3.3	27	98.1	18	7.0	11.4	1.3	8
C3-238-238-07	40x40x3.7	27	98.1	38.2	7.0	21.4	2.43	17

Model Number	Dimensions (mm)	T _h (°C)	ΔT _{max} (°C)	Q _{max} (Watts)	I _{max} (Amps)	V _{max} (DC Volts)	Mass (Grams)
C3-38-38-07	13x16x2.8	50	110.1	7.0	7.4	3.7	3
C3-71-71-07	22x22x2.8	50	110.1	13.2	7.4	6.9	5
C3-127-127-07	29x29x3.3	50	110.1	23.5	7.4	12.3	8
C3-238-238-07	40x40x3.7	50	110.1	44.1	7.4	23.0	17

Headquartered in Austin, Texas, Sheetak brings together deep expertise in material science, device engineering, and scalable manufacturing. By pushing the limits of thermoelectric performance, we help our customers meet today's toughest thermal challenges and enable the systems that power tomorrow.

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