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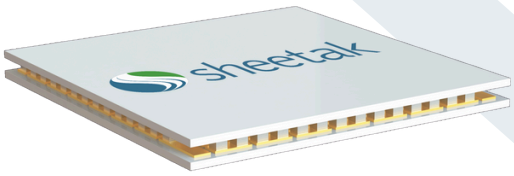
CENTUM® C3-38-38-07

2-Stage Thermoelectric Cooler Chip



The C3-38-38-7 provides a maximum of 3.7 watts of cooling and a 97 °C maximum temperature differential in a 13×16×2.8 mm footprint, making it well suited for LiDAR, IR imaging systems, and portable medical devices.

Features

- Compact footprint
- 3.7 W maximum cooling
- Patented multi-stage design
- Fanless operation
- Thin profile

Applications

- LiDAR robotics
- IR imaging
- Medical diagnostics
- Factory automation
- Portable electronics

Performance Specification Sheet

Hot Side Temperature T_h (°C)	**27**	**50**
ΔT_{max} (°C)	98.1	110.1
Q_{max} (Watts)	6.1	7.0
I_{max} (Amps)	7.0	7.4
V_{max} (DC Volts)	3.4	3.7
R_{AC} (Ω)	0.39	
Mass (Grams)	3	

*For product support, sales or technical support, please contact info@sheetak.com or visit sheetak.com.

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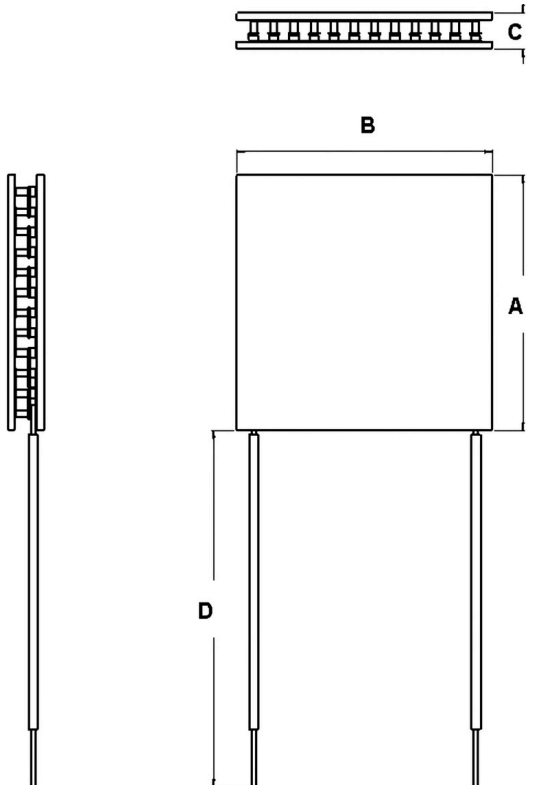
Dimensions



Model #	A
A	16 +/- 0.1 mm
B	13 +/- 0.1 mm
C	2.8 +/- 0.2 mm
D	50 mm

Standard lapping is +/- 0.025 mm

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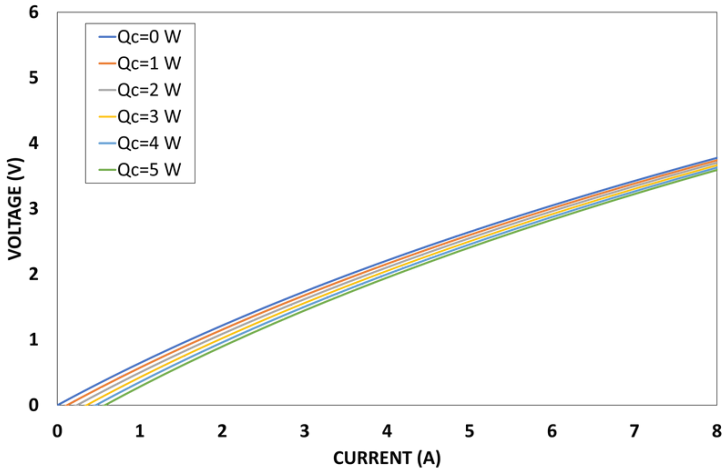
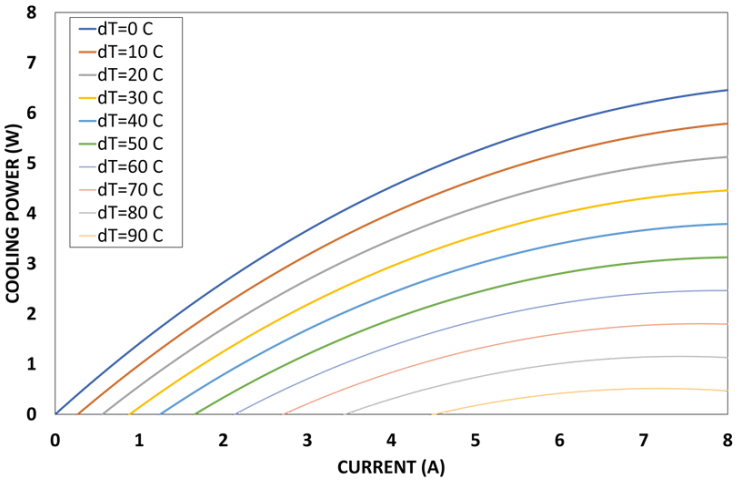
Performance curves at T_{hot} = 27°C

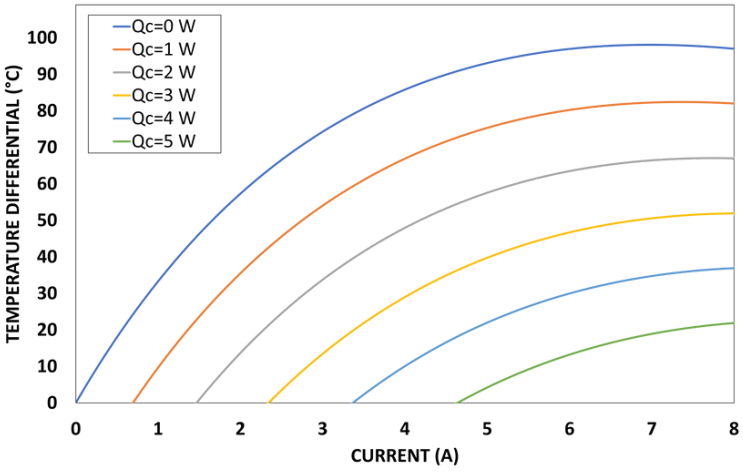
Current vs. Voltage



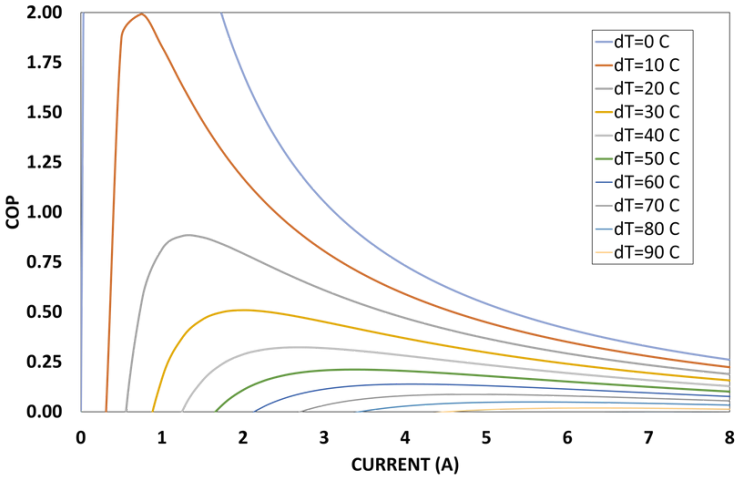
Current vs. Cooling Power



Current vs. Temperature Differential



Current vs. COP



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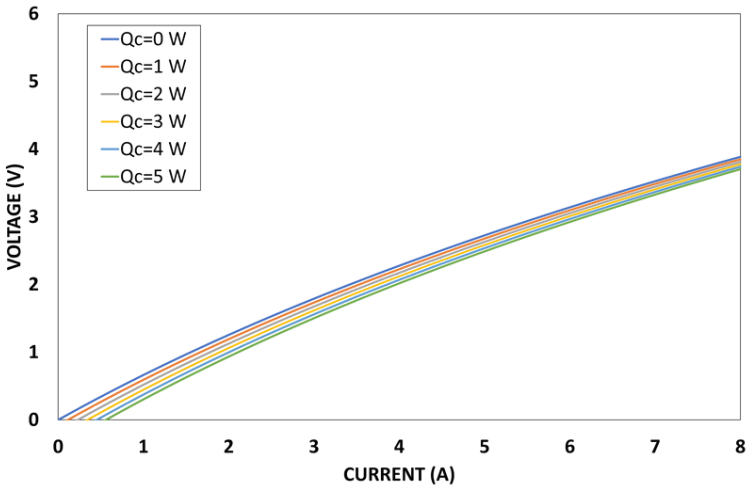
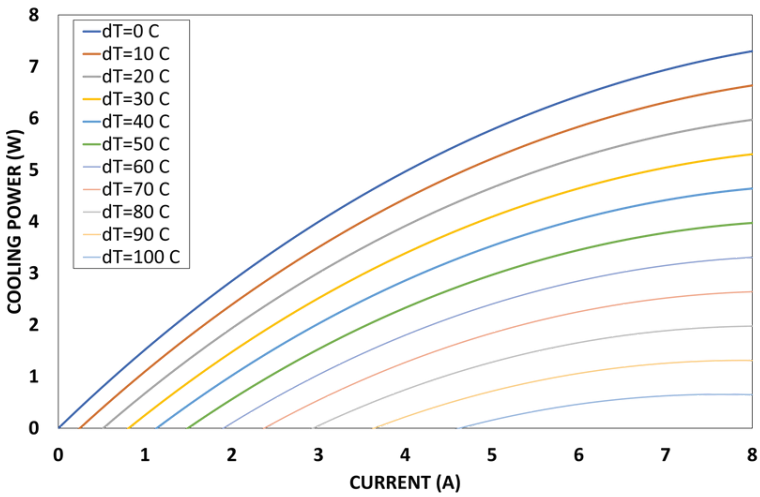
Performance curves at T_{hot} = 50°C

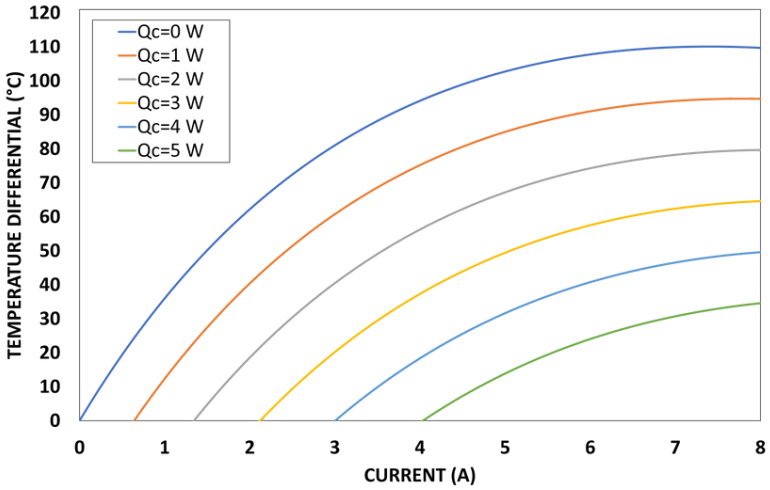
Current vs. Voltage



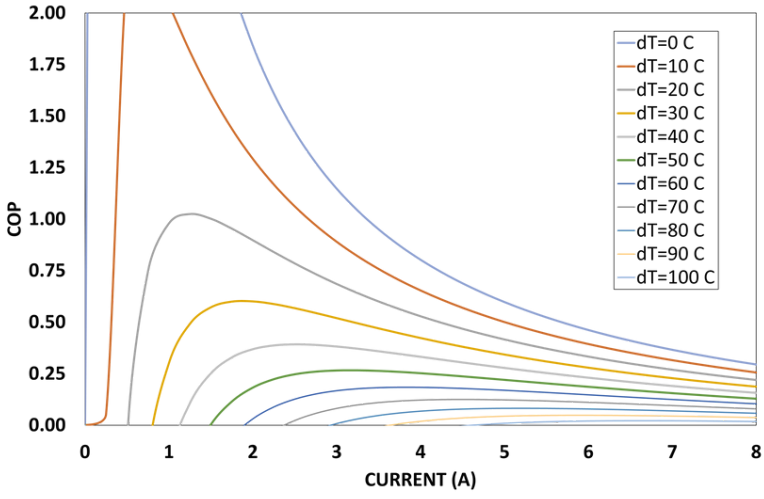
Current vs. Cooling Power



Current vs. Temperature Differential



Current vs. COP



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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)
C3-21-21-07	10x12.8x2.8	27	98.1	3.4	7.0	1.89	0.21	2.5
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)
C3-21-21-07	10x12.8x2.8	50	110.1	3.9	7.4	2.0	2.5
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

About Sheetak

Sheetak is redefining what's possible in thermal management and energy harvesting through advanced thermoelectric technology. With a portfolio of more than 25 issued patents, we design and manufacture high-performance thermoelectric chips that serve a diverse range of applications, from optoelectronics, data centers, and AI hyperscalers to telecom infrastructure, aerospace, and IoT systems.

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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