

# CENTUM® SKHC1-071-08

## Single-Stage Thermoelectric Cooler Chip



The CENTUM® SKHC1-071-08 is a compact, single-stage thermoelectric cooler (TEC) measuring 30×30×3.5 mm. It delivers 54.1W of cooling with a  $\Delta T_{\max}$  of 83°C, operating up to 8.3A/10.1V. Built with silicone-sealed lead wires and alumina ceramic, it offers reliable, solid-state performance from -40 °C to 100 °C.

### Features

- RoHS compliant construction
- Low-voltage operation
- Fast dynamic response
- Durable alumina ceramic substrates
- Wide operating temperature range

### Applications

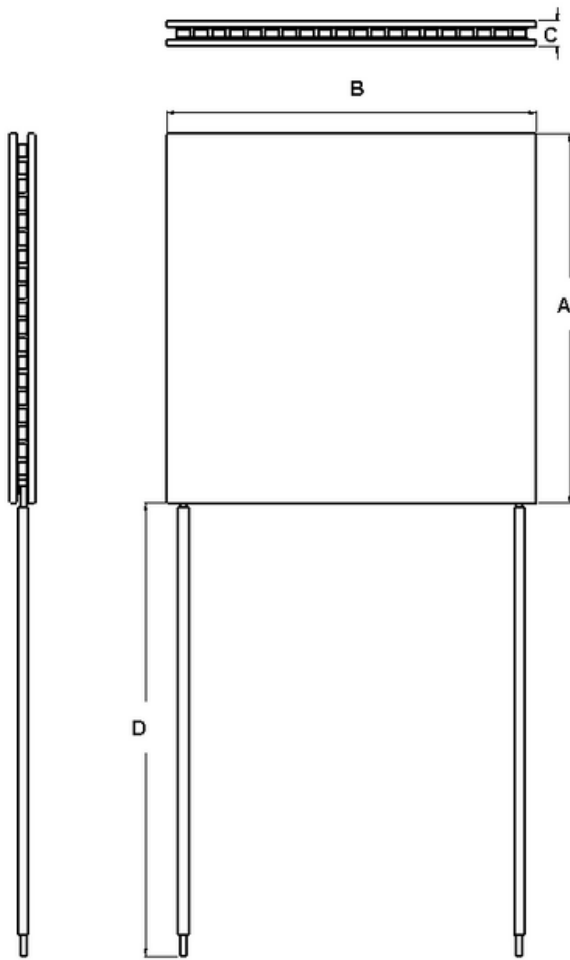
- Medical devices
- Infrared and optical sensors
- Battery thermal management
- Lab instrumentation
- Embedded electronics cooling

### Performance Specification Sheet

| Hot Side Temperature $T_h$ (°C) | 27   | 50   |
|---------------------------------|------|------|
| $\Delta T_{\max}$ (°C)          | 74   | 83   |
| $Q_{\max}$ (Watts)              | 51.6 | 54.1 |
| $I_{\max}$ (Amps)               | 8.3  | 8.3  |
| $V_{\max}$ (DC Volts)           | 9.3  | 10.1 |
| $R_{AC}$ ( $\Omega$ )           | 0.85 | 0.94 |

All performance values fall within  $\pm 10\%$  tolerance of tested data and/or models.

## **Dimensions**

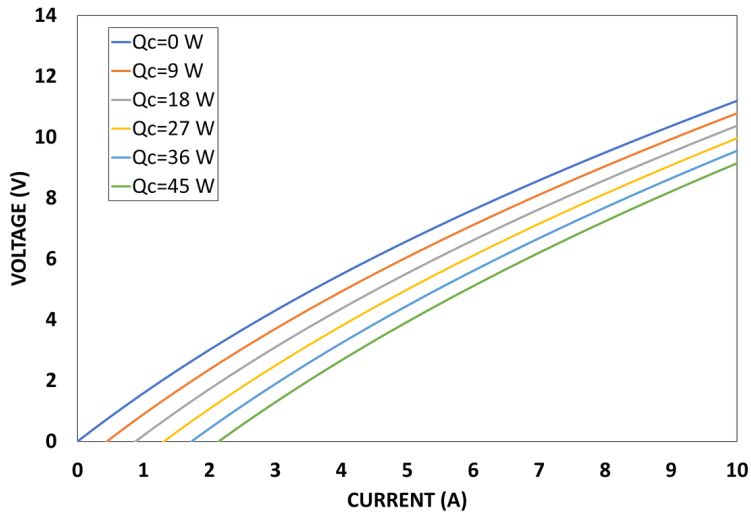


| Model # | A              |
|---------|----------------|
| A       | 30 +/- 0.1 mm  |
| B       | 30 +/- 0.1 mm  |
| C       | 3.5 +/- 0.2 mm |
| D       | 150 mm         |

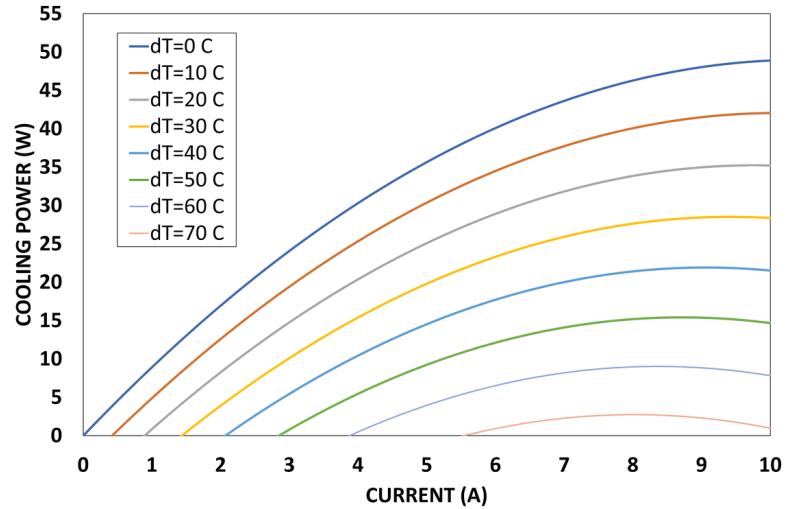
Standard lapping is +/- 0.025 mm

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

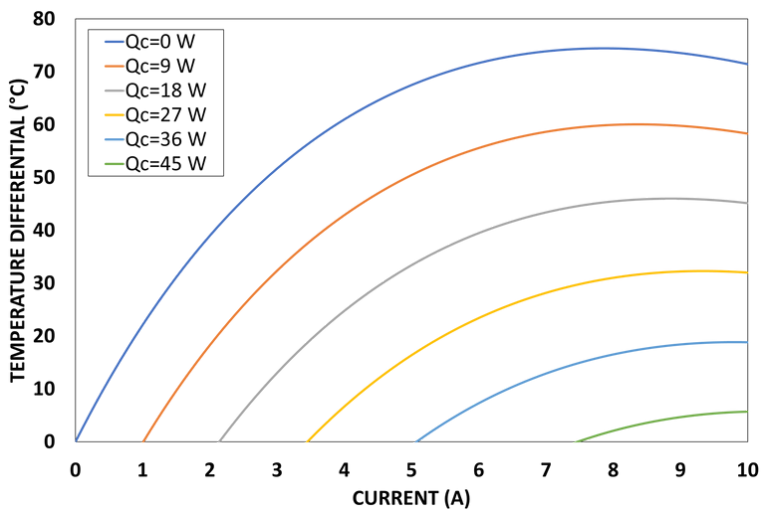
Current vs. Voltage



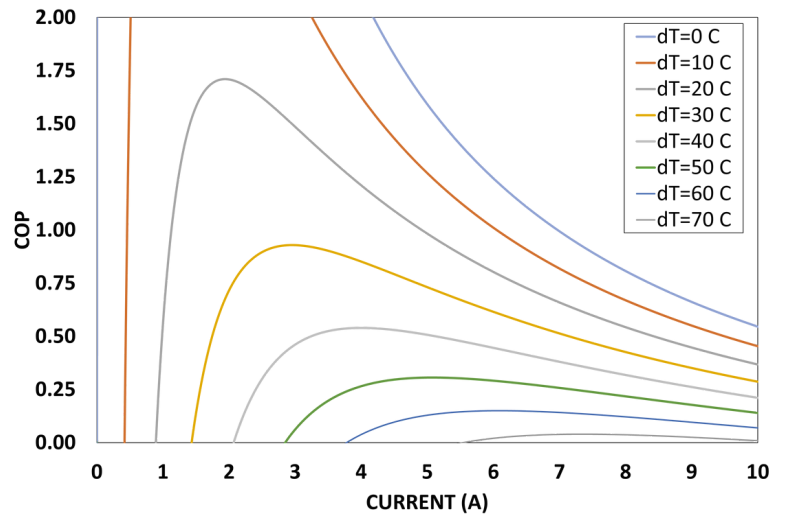
Current vs. Cooling Power



Current vs. Temperature Differential

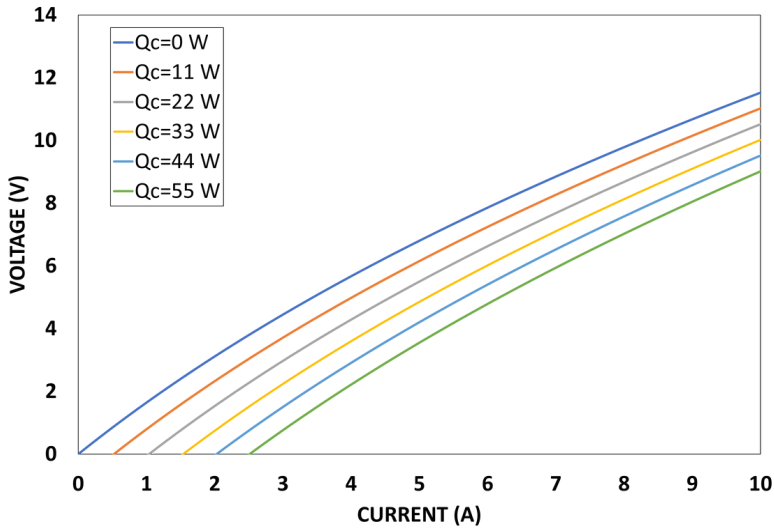


Current vs. COP

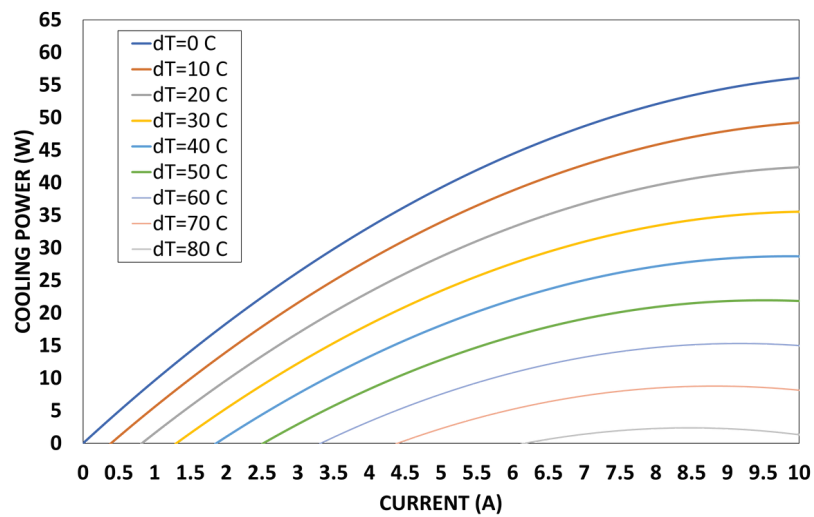


## ► Performance curves at $T_{hot} = 50^{\circ}\text{C}$

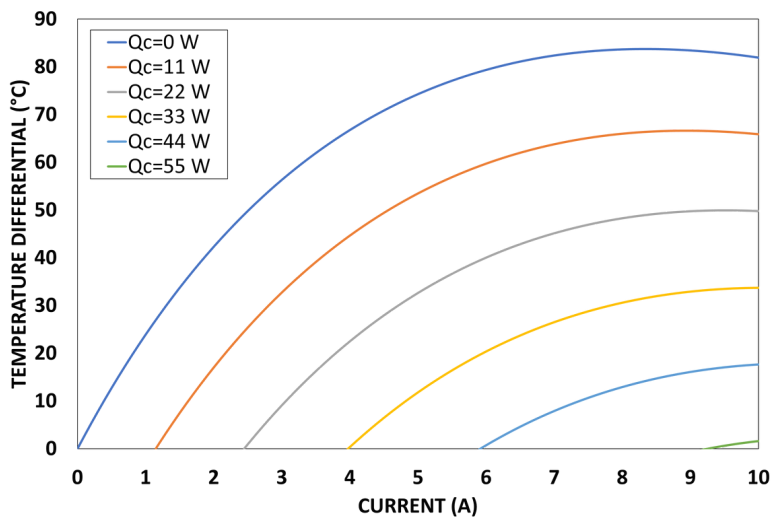
Current vs. Voltage



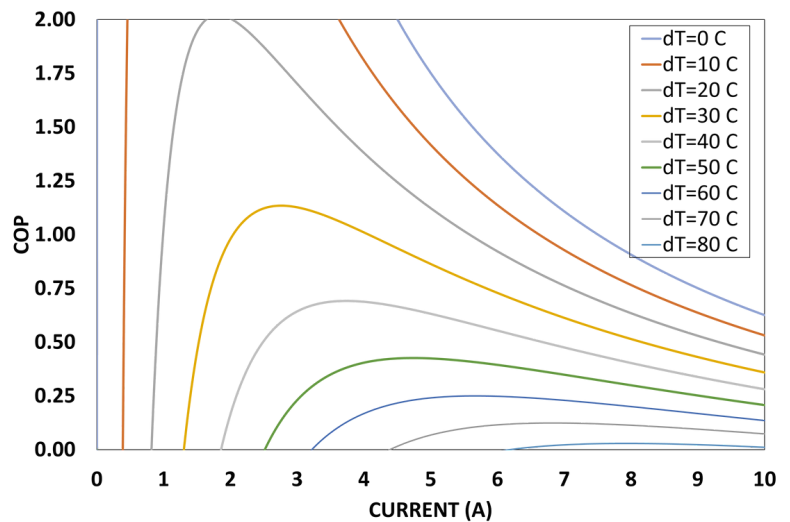
Current vs. Cooling Power



Current vs. Temperature Differential



Current vs. COP



## ➤ Other Standard Models

| Model Number        | Dimensions (mm) | $T_h$ (°C) | $\Delta T_{\max}$ (°C) | $Q_{\max}$ (Watts) | $I_{\max}$ (Amps) | $V_{\max}$ (DC Volts) | $R_{AC}$ ( $\Omega$ ) |
|---------------------|-----------------|------------|------------------------|--------------------|-------------------|-----------------------|-----------------------|
| <b>SKHC1-17-08</b>  | 15x15x3.5       | 27         | 74                     | 12                 | 8.5               | 2.2                   | 0.2                   |
| <b>SKHC1-31-06</b>  | 20x20x3.8       | 27         | 74                     | 15.3               | 6                 | 4.1                   | 0.51                  |
| <b>SKHC1-31-08</b>  | 20x20x3.5       | 27         | 74                     | 21.7               | 8.5               | 4.1                   | 0.36                  |
| <b>SKHC1-71-06</b>  | 30x30x3.8       | 27         | 74                     | 39.2               | 6.3               | 9.3                   | 1.13                  |
| <b>SKHC1-127-03</b> | 40x40x4.2       | 27         | 74                     | 44.6               | 4.2               | 16.8                  | 3.03                  |
| <b>SKHC1-127-06</b> | 40x40x3.8       | 27         | 74                     | 66                 | 6.3               | 16.8                  | 2.05                  |
| <b>SKTC1-127-06</b> | 40x40x3.8       | 27         | 74                     | 66                 | 6.3               | 16.8                  | 2.05                  |
| <b>SKHC1-127-08</b> | 40x40x3.5       | 27         | 74                     | 87                 | 8.2               | 16.4                  | 1.5                   |
| <b>SKTC1-127-08</b> | 40x40x3.5       | 27         | 74                     | 90                 | 8.8               | 16.8                  | 1.5                   |
| <b>SKHC1-199-08</b> | 40x40x3.6       | 27         | 74                     | 147.2              | 8.8               | 26.3                  | 2.2                   |
| <b>SKHC1-199-16</b> | 40x40x3.1       | 27         | 74                     | 240.7              | 14.7              | 26.3                  | 1.35                  |

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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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