Annular SH Series Thermoelectric Cooler
The SH08-28-05-L1-W4.5 is an annular-style thermoelectric cooler. The hot and cold side ceramics have a circular hole in the center to accommodate light protrusion for optics, mechanical fastening or temperature probe. It has a maximum Qc of 4.8 Watts when ΔT = 0 and a maximum ΔT of 70.5 °C at Qc = 0.

Features
● Center Hole
● Precise Temperature Control
● No sound or vibration
● Reliable solid-state
● DC Operation
● RoHS-compliant

Applications
● Thermoelectric Coolers for Reagent Storage
● Thermoelectric Coolers for Handheld Cosmetic Lasers
● Cooling for Centrifuges
● Heads-Up Displays, Imaging Sensors
● Peltier Cooling for Machine Vision

ELECTRICAL AND THERMAL PERFORMANCE
**SPECIFICATIONS**

### Hot Side Temperature

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Qcmax (ΔT = 0)</th>
<th>ΔTmax (Qc = 0)</th>
<th>Imax (I @ ΔTmax)</th>
<th>Vmax (V @ ΔTmax)</th>
<th>Module Resistance</th>
<th>Max Operating Temperature</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.0 °C</td>
<td>4.8 Watts</td>
<td>70.5°C</td>
<td>2.6 Amps</td>
<td>3.1 Volts</td>
<td>1.08 Ohms</td>
<td>80 °C</td>
<td>2.0 gram(s)</td>
</tr>
<tr>
<td>35.0 °C</td>
<td>4.9 Watts</td>
<td>73.5°C</td>
<td>2.6 Amps</td>
<td>3.2 Volts</td>
<td>1.13 Ohms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50.0 °C</td>
<td>5.2 Watts</td>
<td>78.8°C</td>
<td>2.6 Amps</td>
<td>3.4 Volts</td>
<td>1.21 Ohms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Weight

- 2.0 gram(s)

*Specifications reflect thermoelectric coefficients updated March 2020*

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**FINISHING OPTIONS**

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Thickness</th>
<th>Flatness / Parallelism</th>
<th>Hot Face</th>
<th>Cold Face</th>
<th>Lead Length</th>
</tr>
</thead>
</table>
| L1     | 3.100 ±0.025 mm  
         | 0.122 ± 0.001 in  
         | 0.025 mm / 0.025 mm  
         | 0.001 in / 0.001 in  
         | Lapped            
         | Lapped            
         | 114.3 mm          
         | 4.50 in            |

**SEALING OPTIONS**

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Sealant</th>
<th>Color</th>
<th>Temp Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td>No sealing specified</td>
</tr>
</tbody>
</table>

**NOTES**

1. Max operating temperature: 80°C
2. Do not exceed Imax or Vmax when operating module
3. Reference assembly guidelines for recommended installation
4. Solder tinning also available on metallized ceramics

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