

# High Performance BGA Cooling Solutions w/ maxiGRIP™ Attachment



|                         |                                                   |
|-------------------------|---------------------------------------------------|
| ATS Part#:              | <b>ATS-53400R-C1-R0</b>                           |
| Description:            | maxiGRIP™ HS Assembly-SF-LP, T412, BLACK-ANODIZED |
| Heat Sink Type:         | Straight Fin                                      |
| Heat Sink Attachment:   | maxiGRIP                                          |
| Equivalent Part Number: | ATS-53400R-C2-R0                                  |

*\*Image above is for illustration purpose only.*

## Features & Benefits

- High aspect ratio, straight fin heat sinks that are ideal for compact PCB environments
- **maxiGRIP™** attachment applies steady, even pressure to the component and does not require holes in the PCB
- Designed specifically for BGAs and other surface mount packages
- Meets Telcordia GR-63-Core Office Vibration; ETSI 300 019 Transportation Vibration; and MIL-STD-810 Shock Testing and Unpackaged Drop Testing standards
- Comes pre-assembled with high performance thermal interface material
- Designed for low profile components from 1.5 to 2.99mm
- "Keep-Out" Requirements: An "Un-Populated" border zone of 5mm around the component is necessary to facilitate the Installation/Removal of the **maxiGRIP™**. Please refer to the **maxiGRIP™** Keep-Out Guidelines and **maxiGRIP™** Installation/Removal Instructions for further details.

## Thermal Performance

| AIR VELOCITY       |               | @200 LFM<br>1.0 M/S | @300 LFM<br>1.5 M/S | @400 LFM<br>2.0 M/S | @500 LFM<br>2.5 M/S | @600 LFM<br>3.0 M/S | @700 LFM<br>3.5 M/S | @800 LFM<br>4.0 M/S |
|--------------------|---------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| THERMAL RESISTANCE | Unducted Flow | 3.23 °C/W           | 2.33 °C/W           | 1.95 °C/W           | 1.72 °C/W           | 1.57 °C/W           | 1.45 °C/W           | 1.36 °C/W           |
|                    | Ducted Flow   | 1.71                | n/a                 | n/a                 | n/a                 | n/a                 | n/a                 | n/a                 |

## Product Detail

| Schematic Image                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Dimension A | Dimension B | Dimension C | Dimension D | TIM  | Finish         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|------|----------------|
| <p><i>*Image above is for illustration purpose only.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 40.0 mm     | 40.0 mm     | 19.5 mm     | mm          | T412 | BLACK-ANODIZED |
| <b>Notes:</b> <ul style="list-style-type: none"> <li>• Dimension <b>A</b> and <b>B</b> refer to component size.</li> <li>• Dimension <b>C</b> is the heat sink height from the bottom of the base to the top of the fin field.</li> <li>• ATS-53400R-C2-R0 is the exact heat sink assembly with an equivalent thermal interface material (Saint Gobain C675).</li> <li>• Thermal performance data are provided for reference only. Actual performance may vary by application.</li> <li>• ATS reserves the right to update or change its products without notice to improve the design or performance.</li> <li>• ATS certifies that this heat sink assembly is RoHS-6 and REACH compliant.</li> <li>• Optional <b>maxiGRIP™</b> Installation/Removal Tool Set P/N: <b>MGT400</b></li> <li>• Contact ATS to learn about custom options available.</li> </ul> |             |             |             |             |      |                |

For more information, to find a distributor or to place an order, please contact us at 781-769-2800 (North America), [sales@qats.com](mailto:sales@qats.com) or [www.qats.com](http://www.qats.com).

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