



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

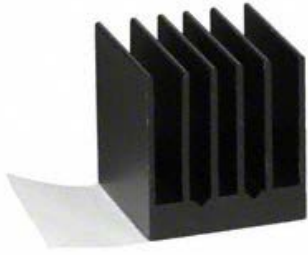
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# BGA Heat Sink - High Performance Straight Fin w/Thermal Tape



ATS Part#: **ATS-54190R-C1-R0**  
 Description: 19.00 x 19.00 x 19.50 mm BGA Heat Sink - High Performance Straight Fin w/Thermal Tape  
 Heat Sink Type: **Straight Fin**  
 Heat Sink Attachment: **Thermal Tape**  
 Equivalent Part Number: **ATS-54190R-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
- Designed specifically for BGAs and other surface mount packages
- Comes preassembled with high performance thermal interface material

## Thermal Performance

AIR VELOCITY		@200 LFM 1.0 M/S	@300 LFM 1.5 M/S	@400 LFM 2.0 M/S	@500 LFM 2.5 M/S	@600 LFM 3.0 M/S	@700 LFM 3.5 M/S	@800 LFM 4.0 M/S
THERMAL RESISTANCE	Unducted Flow	8.4 °C/W	6.8 °C/W	5.9 °C/W	5.3 °C/W	4.9 °C/W	4.5 °C/W	4.3 °C/W
	Ducted Flow	5.3	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>	19.00 mm	19.00 mm	19.50 mm	N/A 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-54190R-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>• 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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