

HSF Series

Wakefield-Vette's Heat Sink Fan Series (HSF) are for Chipset can match up to devices from Intel, Broadcom, Xilinx, TI, Motorola, ATI, AMD, Nvidia, Vishay, Powerex, Infineon, Microsemi, and many more.

These heat sinks are designed for air flow applications in the Telecom, Data Center, Networking, Cloud Computing, and many more Industries.

Material: AL 6063

Finish: Black Anodize



| Series- | Chip Size- | Height- | Chip Height- | Fan |
|---------|------------|---------|----------------------|------------|
| HSF | 48 | mm | B-Blue (2.2-3.4mm) | F (Fan) |
| | 50 | | Y- Yellow (.9-2.1mm) | N (No Fan) |
| | 55 | | | |

| WKV Part Number | Chip Size | Height (mm) | C/W | Chip Height | Fan |
|-----------------|---------------|-------------|------|-------------|---------|
| HSF-48-19-B-F | 47.5 x 47.5mm | 18.5 | 1.41 | 2.2-3.4mm | 5.9CFM |
| HSF-48-19-Y-F | 47.5 x 47.5mm | 18.5 | 1.41 | .9-2.1mm | 5.9CFM |
| HSF-48-22-B-F | 47.5 x 47.5mm | 21.5 | 1.14 | 2.2-3.4mm | 5.9CFM |
| HSF-48-22-Y-F | 47.5 x 47.5mm | 21.5 | 1.14 | .9-2.1mm | 5.9CFM |
| HSF-48-25-B-F | 47.5 x 47.5mm | 24.5 | 0.98 | 2.2-3.4mm | 5.9CFM |
| HSF-48-25-Y-F | 47.5 x 47.5mm | 24.5 | 0.98 | .9-2.1mm | 5.9CFM |
| HSF-48-28-B-F | 47.5 x 47.5mm | 27.5 | 0.88 | 2.2-3.4mm | 5.9CFM |
| HSF-48-28-Y-F | 47.5 x 47.5mm | 27.5 | 0.88 | .9-2.1mm | 5.9CFM |
| HSF-48-30-B-F | 47.5 x 47.5mm | 29.5 | 0.83 | 2.2-3.4mm | 5.9CFM |
| HSF-48-30-Y-F | 47.5 x 47.5mm | 29.5 | 0.83 | .9-2.1mm | 5.9CFM |
| HSF-48-35-B-F | 47.5 x 47.5mm | 34.5 | 0.77 | 2.2-3.4mm | 5.9CFM |
| HSF-48-35-Y-F | 47.5 x 47.5mm | 34.5 | 0.77 | .9-2.1mm | 5.9CFM |
| HSF-48-40-B-F | 47.5 x 47.5mm | 39.5 | 0.72 | 2.2-3.4mm | 5.9CFM |
| HSF-48-40-Y-F | 47.5 x 47.5mm | 39.5 | 0.72 | .9-2.1mm | 5.9CFM |
| HSF-50-19-B-F | 50 x 50mm | 18.5 | 1.31 | 2.2-3.4mm | 5.9CFM |
| HSF-50-19-Y-F | 50 x 50mm | 18.5 | 1.31 | .9-2.1mm | 5.9CFM |
| HSF-50-22-B-F | 50 x 50mm | 21.5 | 1.06 | 2.2-3.4mm | 5.9CFM |
| HSF-50-22-Y-F | 50 x 50mm | 21.5 | 1.06 | .9-2.1mm | 5.9CFM |
| HSF-50-25-B-F | 50 x 50mm | 24.5 | 0.91 | 2.2-3.4mm | 5.9CFM |
| HSF-50-25-Y-F | 50 x 50mm | 24.5 | 0.91 | .9-2.1mm | 5.9CFM |
| HSF-50-28-B-F | 50 x 50mm | 27.5 | 0.82 | 2.2-3.4mm | 5.9CFM |
| HSF-50-28-Y-F | 50 x 50mm | 27.5 | 0.82 | .9-2.1mm | 5.9CFM |
| HSF-50-30-B-F | 50 x 50mm | 29.5 | 0.77 | 2.2-3.4mm | 5.9CFM |
| HSF-50-30-Y-F | 50 x 50mm | 29.5 | 0.77 | .9-2.1mm | 5.9CFM |
| HSF-50-35-B-F | 50 x 50mm | 34.5 | 0.71 | 2.2-3.4mm | 5.9CFM |
| HSF-50-35-Y-F | 50 x 50mm | 34.5 | 0.71 | .9-2.1mm | 5.9CFM |
| HSF-50-40-B-F | 50 x 50mm | 39.5 | 0.67 | 2.2-3.4mm | 5.9CFM |
| HSF-50-40-Y-F | 50 x 50mm | 39.5 | 0.67 | .9-2.1mm | 5.9CFM |
| HSF-55-24-B-F | 55 x 55mm | 24.1 | 1 | 2.2-3.4mm | 13.8CFM |
| HSF-55-24-Y-F | 55 x 55mm | 24.1 | 1 | .9-2.1mm | 13.8CFM |
| HSF-55-27-B-F | 55 x 55mm | 27.1 | 0.81 | 2.2-3.4mm | 13.8CFM |
| HSF-55-27-Y-F | 55 x 55mm | 27.1 | 0.81 | .9-2.1mm | 13.8CFM |
| HSF-55-30-B-F | 55 x 55mm | 30.1 | 0.7 | 2.2-3.4mm | 13.8CFM |
| HSF-55-30-Y-F | 55 x 55mm | 30.1 | 0.7 | .9-2.1mm | 13.8CFM |
| HSF-55-33-B-F | 55 x 55mm | 33.1 | 0.63 | 2.2-3.4mm | 13.8CFM |
| HSF-55-33-Y-F | 55 x 55mm | 33.1 | 0.63 | .9-2.1mm | 13.8CFM |
| HSF-55-35-B-F | 55 x 55mm | 35.1 | 0.59 | 2.2-3.4mm | 13.8CFM |
| HSF-55-35-Y-F | 55 x 55mm | 35.1 | 0.59 | .9-2.1mm | 13.8CFM |
| HSF-55-40-B-F | 55 x 55mm | 40.1 | 0.55 | 2.2-3.4mm | 13.8CFM |
| HSF-55-40-Y-F | 55 x 55mm | 40.1 | 0.55 | .9-2.1mm | 13.8CFM |
| HSF-55-45-B-F | 55 x 55mm | 45.1 | 0.51 | 2.2-3.4mm | 13.8CFM |
| HSF-55-45-Y-F | 55 x 55mm | 45.1 | 0.51 | .9-2.1mm | 13.8CFM |

HSF Series

Chip Size 47.5x 47.5mm



Fan spec

| | |
|---------------|------------------|
| Dimension | 40 x 40 x 6.9 mm |
| Rated Voltage | 5V |
| Air Flow | 5.9 CFM |
| Speed | 7000 RPM |
| Noise | 29 dB(A) |
| Connector | Molex 2695-3P |

Chip Size 50 x 50mm



Fan spec

| | |
|---------------|------------------|
| Dimension | 40 x 40 x 6.9 mm |
| Rated Voltage | 5V |
| Air Flow | 5.9 CFM |
| Speed | 7000 RPM |
| Noise | 29 dB(A) |
| Connector | Molex 2695-3P |

Chip Size 55 x 55mm



Fan spec

| | |
|---------------|-----------------|
| Dimension | 50 x 50 x 10 mm |
| Rated Voltage | 12V |
| Air Flow | 13.8 CFM |
| Speed | 5500 RPM |
| Noise | 31 dB(A) |
| Connector | Molex 2695-3P |



Wakefield-Vette's heat sink assemblies onto chip set using the space that is between the PCB and the substrate of the solder balls. The solder balls provide a minimal gap of .5mm to .7mm. Attachment feature is below a .4mm thickness. The clipping system will not interfere or damage chip. Contact area is the edge of chip.

ASSEMBLY INSTRUCTION:



Step 1: Hook the clip under one side of the BGA chip set.

Step 2: Rotate assembly down until opposite side clip engages substrate edge of BGA chip set.

Step 3: Make sure the solder rods are clearing from edges of BGA chip set.

Step 4: Press firmly down to make sure clips fully engage edges of chip set. Heat Sink should not move around easily.

Random Vibration Test

Frequency : 5 Hz to 500 Hz
 Acceleration : 3.13 grms
 P.S.D : 0.01 g²/HZ (5 Hz)
 0.02 g²/HZ (20 Hz to 500 Hz)
 Test Axis : X, Y, Z axis
 Test Time : 10 mins (Each axis)
 Total Test Time : 30 mins

SHOCK TEST SPECIFICATION :

Wave Form : Half sine wave
 Acceleration : 50 g
 Duration Time : 11 ms
 No. of Shock : Each axis 3 times
 Shock Direction : ±X, ±Y, ±Z axis
 Reliability & Communication
 Testing Instruments

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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