



The F-Series of aluminum cross cut fin BGA heatsinks with fans are high efficiency cooling products designed for BGA chipsets.

These devices mount with EZ-Snap™ mounting clips to provide optimum cooling for various package sizes. These off-the-shelf, high efficiency solutions are easy to install and require no special board modifications or complex assemblies.

FEATURES:

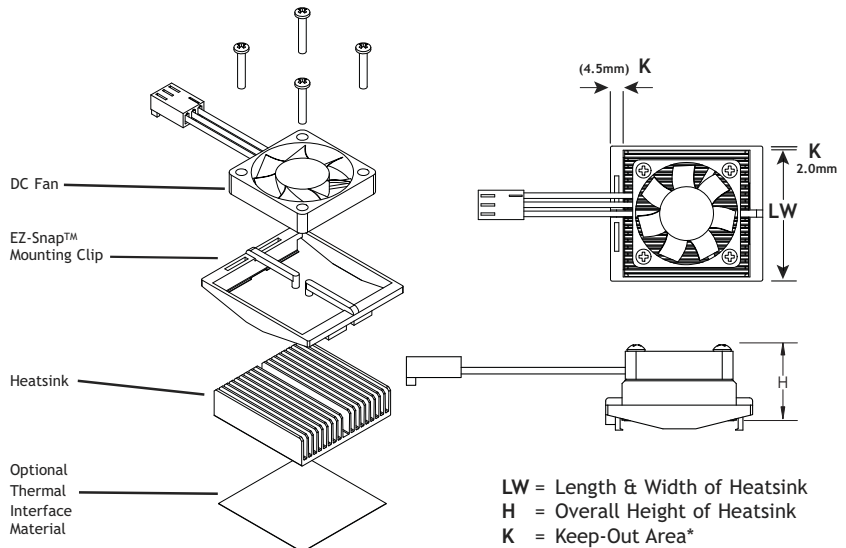
- High efficiency aluminum plate fin design provides low pressure-drop characteristics
- Constructed of extruded aluminum AL6063 for optimum heat transfer
- DC Fan for improved heat dissipation
- Designed specifically for BGAs and other surface mount packages
- EZ-Snap™ Mounting Clip is constructed of UL94-V0 Rated Nylon
- Use Clip Tool HS8132 to attach (or remove) heatsink directly to BGA Chip
- Heatsinks are finished with black anodize plating
- Clip & thermal pad options are pre-assembled at the factory



Radian Heatsinks
A division of Intracast Co., Inc.

BUY ON-LINE AT:
www.radianheatsinks.com

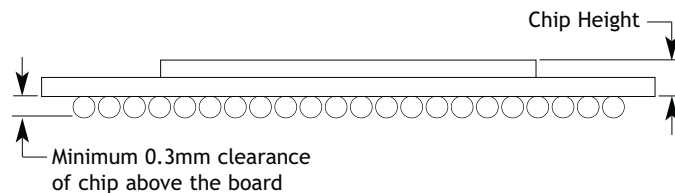
Mechanical Outline Drawing (See next page for "LW" & "H" dimensional values)



* clearance required for EZ Snap Clips

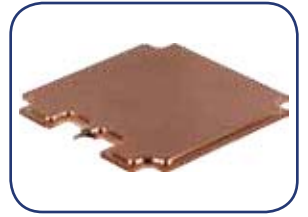
EZ-Snap™ Mounting Clip

CLIPS DIRECTLY TO BGA CHIP WITH HS8132 CLIP TOOL
See next page for fitting chip heights. Consult factory for unique chip height requirements



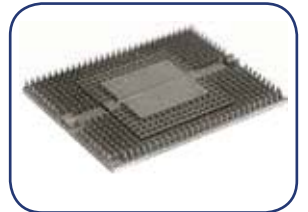
- Note 1: Chip height measurements exclude ball dimensions (0.3mm)
Note 2: Chip must have 0.3mm clearance above the board for clip to adhere properly
Note 3: Maintain keep-out clearance of 2mm Length side and 4.5mm Width side around chip for clip to adhere properly

Custom Options Also Available



VAPOR CHAMBERS

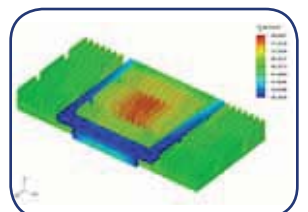
- Used in conjunction with stamped fins
- Better spreading efficiency than copper or heat pipe based heatsinks
- High efficiency wick structure design
- Lightweight heatsinks



RAPID PROTOTYPE

- Quick turn from our local foundry
- Made from a 3D model

Complimentary Thermal Analysis



Contact Radian Heatsinks for more details



Installation Tool HS8132



See Page 17
For Details

BGA Size	Part Number ⁽¹⁾				Optional Thermal Tap/Pad Part #	Heatsink Height (mm)	R-theta	Fan Spec	Harness Spec
	Fansink		Optional Mounting Clip						
	Fansink Part #	Voltage Input	Optional Mounting Clip	Fits Chip Heights (mm)					
27	FI27	12V	0 or BU	0.9 - 1.4 1.5 - 2.0	T725 or 3M8815	16.0	2.1 °C/W	Airflow: 2.4 CFM Noise: 26.0 dBA Speed: 12,000 RPM Power: 0.65/0.75 Watts	Length: 140mm (+/-10) Connector: Molex 22-01-3027 Pin 1: Ground (Black) Pin 2: + Voltage Input (Red)
	FJ27	5V	Y	2.1 - 2.6					
35	FJ35	5V	0 or BU or Y	0.9 - 1.4 1.5 - 2.0 2.1 - 2.6	T725 or 3M8815	16.0	1.7 °C/W	Airflow: 3.3 CFM Noise: 27.9 dBA Speed: 9,000 RPM Power: 0.30/0.30 Watts	Length: 300mm (+/-20) Connector: Molex 22-01-3037 Pin 1: Ground (Black) Pin 2: + Voltage Input (Red) Pin 3: Tachometer (White)
			0 or BU or Y	0.9 - 1.4 1.5 - 2.0 2.1 - 2.6					
			0 or BU or Y	0.9 - 1.4 1.5 - 2.0 2.1 - 2.6					
42.5	FI42.5	12V	0 or BU or Y	0.9 - 1.4 1.5 - 2.0 2.1 - 2.6	T725 or 3M8815	23.2	1.3 °C/W	Airflow: 5.7 CFM Noise: 20.0 dBA Speed: 4,800 RPM Power: 0.96/0.57 Watts	Length: 300mm (+/-20) Connector: Molex 22-01-3037 Pin 1: Ground (Black) Pin 2: + Voltage Input (Red) Pin 3: Tachometer (White)
	FJ42.5	5V	Y	2.1 - 2.6					

NOTES:

- 1) Add suffix "+T725" to designate thermally conductive phase change pad (Chomerics Part # T725).
- 2) Mounting clips are constructed of UL94-V0 rated nylon material and black in color.
- 3) Thermal data provided is for reference only. Actual cooling performance may vary by application.
- 4) Specifications are subject to change without notice.

* Contact Radian to discuss unique heatsink, clip and interface requirements.