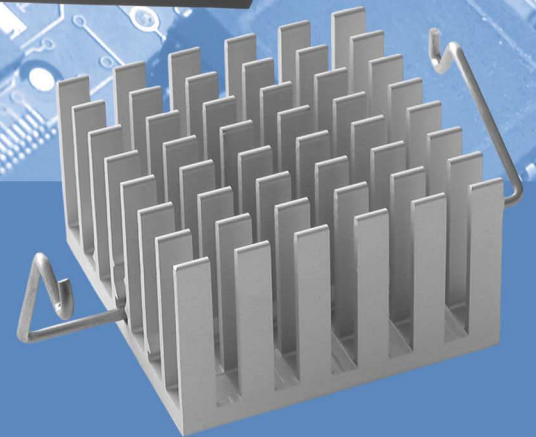
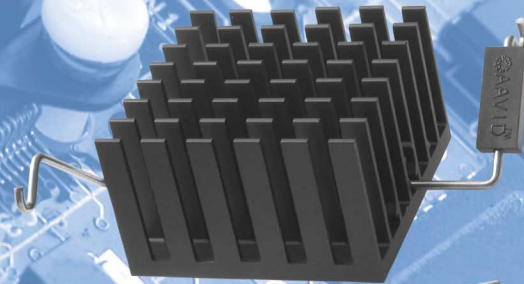
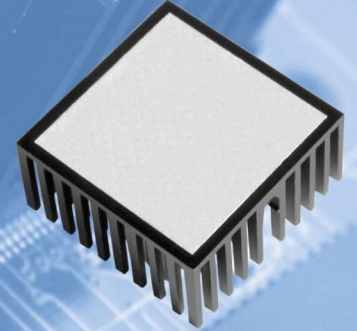
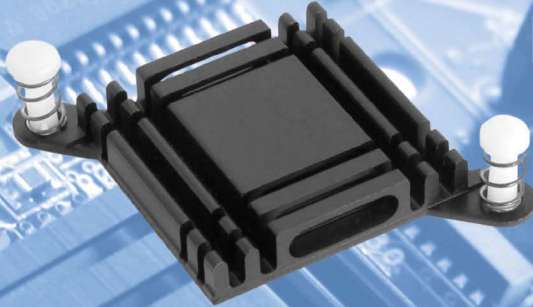




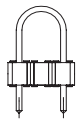
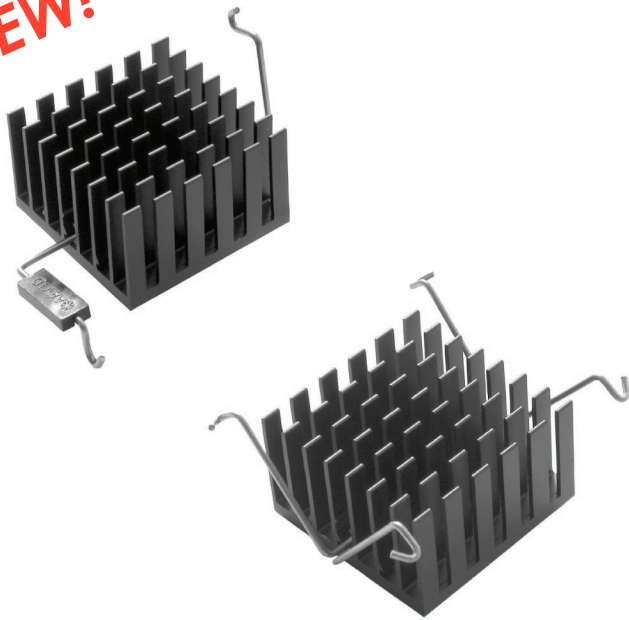
New Cooling Solutions for Ball Grid Arrays



The Industry's Most Comprehensive Selection of BGA Heat Sinks

Aavid Thermalloy offers the broadest line of innovative BGA heat sinks – including standard, off-the-shelf solutions to support all of your most demanding applications. Cost effective and highly functional, our BGA heat sinks range in size from 10mm x 10mm to 45mm x 45mm, and accommodate heights from 6mm to 35mm. All come in the flat base and light weight you require, and deliver proven, long-term reliability.

NEW!



Solder Anchor Sold Separately
Part # D057
 Solder anchors must be soldered to PCB
 prior to attaching the heat sink clip
 Consult P.C. Board Hole Pattern for number required

Part Number	Width	Length	Height	*θn	*θf	*Finish	
374024B60023	23.0	23.0	10.0	40.0	11.69	B	A
374124B60023	23.0	23.0	18.0	23.4	7.39	B	A
374224B60023	23.0	23.0	25.0	19.7	6.37	B	A
374324B60023	27.0	27.0	10.0	30.6	9.35	B	A
374424B60023	27.0	27.0	18.0	20.3	6.46	B	A
374524B60023	27.0	27.0	25.0	16.5	5.47	B	A
10-5634-01**	31.0	34.9	23.0	11.5	4.20	B	I
10-THMA-01**	31.0	34.9	35.0	10.7	3.95	B	I
374624B60024	35.0	35.0	10.0	23.4	7.55	B	B
374724B60024	35.0	35.0	18.0	15.3	5.15	B	B
374824B60024	35.0	35.0	25.0	12.0	4.27	B	B
10-BRD2-01**	35.7	37.3	23.0	11.5	4.20	N	B
10-BRD1-01**	37.5	37.5	23.0	10.1	3.83	B	B
10-BRD1-03**	37.5	37.5	23.0	10.1	3.83	B	G
10-BRD1-04**	37.5	37.5	23.0	10.1	3.83	B	B
10-BRD1-05**	37.5	37.5	23.0	10.1	3.83	N	G
10-BRD1-07**	37.5	37.5	23.0	10.1	3.83	N	B
374924B60024	40.0	40.0	10.0	20.3	6.46	B	B
375024B60024	40.0	40.0	18.0	12.2	4.34	B	B
375124B60024	40.0	40.0	25.0	10.3	3.83	B	B
10-CLS1-01**	42.3	42.3	23.0	8.8	3.51	B	H
10-CLS2-01**	42.3	42.3	35.0	8.3	3.44	B	H

* See bottom of page 4 for information on how to use this table
 Refer to page 4 for PCB hole patterns

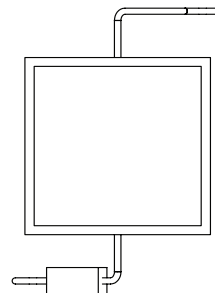
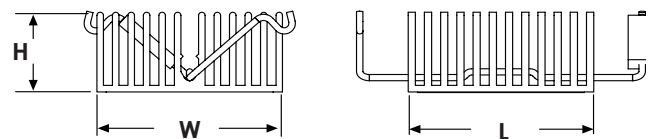
** Heat Sinks for Flip Chip includes foam pad around perimeter.
 This stabilizes the part so heat sink doesn't move.

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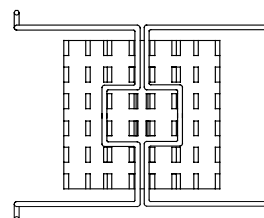
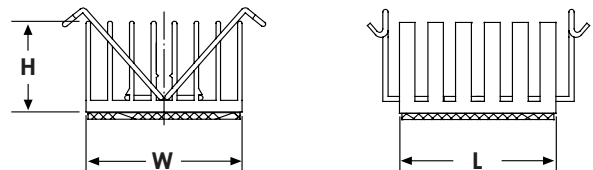
FEATURES AND BENEFITS

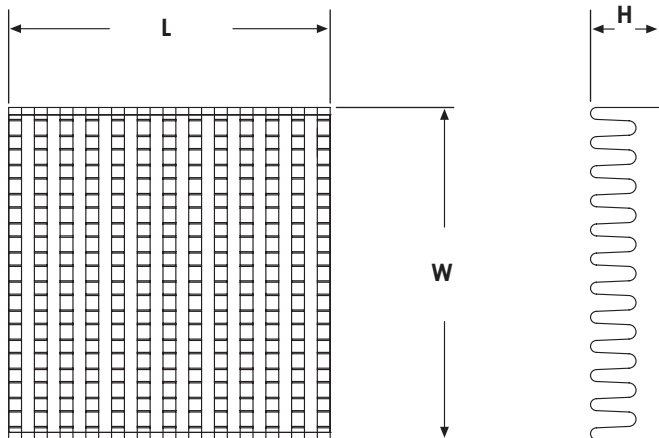
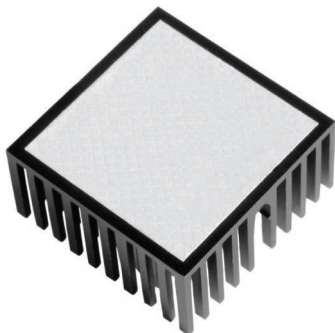
- New unique wire clip design allows for complete reworkability after assembly without damage to the BGA package or PC Board
- Configurations are available for a wide range of BGA package sizes
- Minimal PC Board real estate is required for mounting
- Solder Anchors provide the most rugged mounting in the industry
- Each Heat Sink utilizes a phase change pad as the interface for optimal thermal performance.

Drawing represents those heat sinks requiring 2 solder anchors



Drawing represents heat sink part numbers
 10-BRD1-03 and 10-BRD1-05 that require 4 solder anchors





FEATURES AND BENEFITS

- Configurations are available for a wide range of BGA package sizes
- Tape mounted versions eliminate the need for mounting holes in the PC Board
- These Heat Sinks can be used with either plastic or metal/ceramic BGA Packages
- These Heat Sinks are compatible with Ther-a-grip tapes

Part Number	Width	Length	Height	* θ_n	* θ_f	Surface	
375324B00035	10.2	10.2	10.2	71.4	21.20	Plastic	B
375224B00032	10.2	11.1	10.2	71.4	21.20	Metal	B
375424B00034	15.2	15.2	6.4	62.5	17.60	Plastic	B
374024B00032	23.0	23.0	10.0	40.0	11.69	Metal	B
374024B00035	23.0	23.0	10.0	40.0	11.69	Plastic	B
374124B00032	23.0	23.0	18.0	23.4	7.39	Metal	B
374124B00035	23.0	23.0	18.0	23.4	7.39	Plastic	B
374224B00032	23.0	23.0	25.0	19.7	6.37	Metal	B
374224B00035	23.0	23.0	25.0	19.7	6.37	Plastic	B
335224B00032	25.0	25.0	9.9	34.0	10.39	Metal	B
335224B00034	25.0	25.0	9.9	34.0	10.39	Plastic	B
335324B00032	26.9	26.9	11.4	27.7	8.71	Metal	B
374324B00032	27.0	27.0	10.0	30.6	9.35	Metal	B
374324B00035	27.0	27.0	10.0	30.6	9.35	Plastic	B
374424B00032	27.0	27.0	18.0	20.3	6.46	Metal	B
374424B00035	27.0	27.0	18.0	20.3	6.46	Plastic	B
374524B00032	27.0	27.0	25.0	16.5	5.47	Metal	B
374524B00035	27.0	27.0	25.0	16.5	5.47	Plastic	B
373024B00032	27.9	27.9	8.9	33.3	10.00	Metal	B
373024B00034	27.9	27.9	8.9	33.3	10.00	Plastic	B
373224M00032	28.0	28.0	6.0	44.1	13.13	Metal	M
2327B-CP50	27.9	28.1	15.2	23.4	7.43	Plastic	B
2327B-TACH	27.9	28.1	15.2	23.4	7.43	Metal	B
335724B00032	30.1	30.1	6.6	35.7	10.84	Metal	B
335824B00032	30.0	30.0	9.4	29.4	9.11	Metal	B

Part Number	Width	Length	Height	* θ_n	* θ_f	Surface	*Finish
335824B00034	30.0	30.0	9.4	29.4	9.11	Plastic	B
2338B-TACH	33.0	31.4	12.5	23.1	7.23	Metal	B
371824B00032	35.0	35.0	7.0	31.9	9.67	Metal	B
371824B00034	35.0	35.0	7.0	31.9	9.67	Plastic	B
374624B00032	35.0	35.0	10.0	23.4	7.55	Metal	B
374624B00035	35.0	35.0	10.0	23.4	7.55	Plastic	B
374724B00032	35.0	35.0	18.0	15.3	5.15	Metal	B
374724B00035	35.0	35.0	18.0	15.3	5.15	Plastic	B
374824B00032	35.0	35.0	25.0	12.0	4.27	Metal	B
374824B00035	35.0	35.0	25.0	12.0	4.27	Plastic	B
372024B00032	35.0	35.0	27.9	11.9	4.28	Metal	B
372024B00034	35.0	35.0	27.9	11.9	4.28	Plastic	B
373324M00032	37.4	37.4	6.0	32.6	9.91	Metal	M
374924B00032	40.0	40.0	10.0	20.3	6.46	Metal	B
374924B00035	40.0	40.0	10.0	20.3	6.46	Plastic	B
364424B00032	40.1	40.0	11.4	18.4	6.02	Metal	B
364424B00034	40.1	40.0	11.4	18.4	6.02	Plastic	B
375024B00032	40.0	40.0	18.0	12.2	4.34	Metal	B
375024B00035	40.0	40.0	18.0	12.2	4.34	Plastic	B
375124B00032	40.0	40.0	25.0	10.3	3.83	Metal	B
375124B00035	40.0	40.0	25.0	10.3	3.83	Plastic	B
2321B-TACH	43.2	41.3	8.9	22.1	6.93	Metal	B
2332B-TACH	43.2	41.3	16.5	12.9	4.53	Metal	B
2342B-TACH	45.7	44.6	7.0	23.1	7.26	Metal	B

* See bottom of page 4 for information on how to use this table

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PUSH PIN ATTACHMENT METHOD

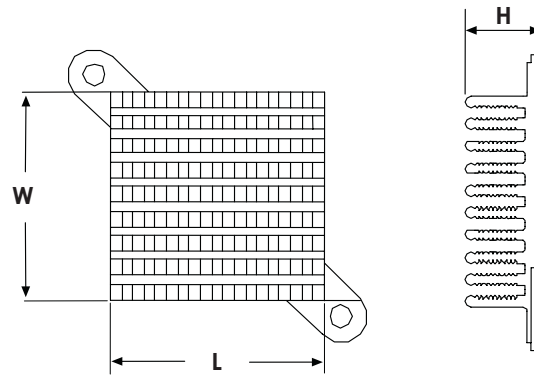


Part Number	Width	Length	Height	*θn	*θf	*Finish	*Fig.
10-6326-27	28.0	28.0	6.0	44.1	13.13	B	C
10-6326-28	28.0	28.0	6.0	44.1	13.13	B	C
10-6327-01	28.5	28.5	10.0	30.6	9.26	B	C
10-TNT2-01	36.1	48.0	11.6	18.8	6.13	B	F
10-5597-02	37.4	37.4	6.0	33.3	9.91	M	D
10-5597-22	37.4	37.4	6.0	33.3	9.91	M	D
10-5597-33	37.4	37.4	6.0	33.3	9.91	M	D
10-5607-04	37.4	37.4	10.0	22.1	6.99	B	D
10-5607-05	37.4	37.4	10.0	22.1	6.99	B	D
372924M02000	37.4	37.4	6.0	32.6	9.91	M	D
10-L4LB-03	41.4	45.2	11.7	16.7	5.60	B	E
10-L4LB-05	41.4	45.2	11.7	16.7	5.60	B	E
10-L4LB-11	41.4	45.2	11.7	14.2	4.91	B	E

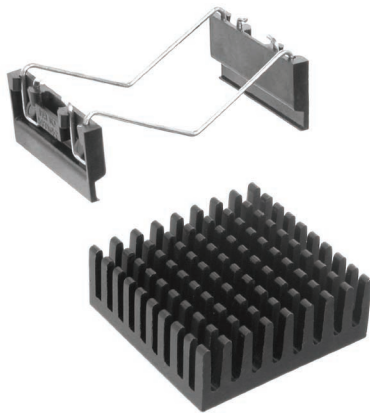
* See bottom of page 4 for information on how to use this table
Refer to page 4 for PCB hole Patterns

FEATURES AND BENEFITS

- Configurations are available for a wide range of BGA Package sizes
- All Heat Sinks utilize industry standard hole patterns
- Plastic push pins are standard. Consult Aavid Thermalloy for versions available with brass push pins for more rugged applications
- Each Heat Sink utilizes a Phase Change Pad as the interface for Optimal Thermal Performance
- Minimal diameter holes are necessary for mounting to PC Board



CLIP ATTACHMENT METHOD

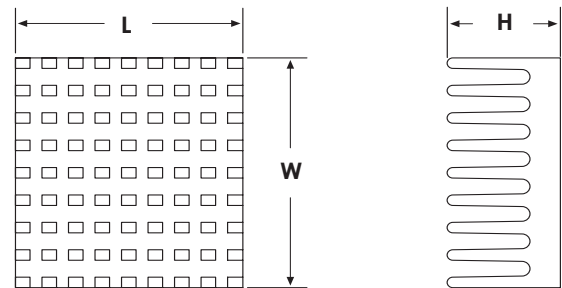


Part Number	Width	Length	Height	*θn	*θf	*Finish
2317B-EP11-BGS1	26.1	20.5	15.2	32.6	9.94	B
2518B-EP11-BGS2	30.5	28.1	15.6	22.7	7.05	B
2519B-EP11-BGS5	34.5	31.4	15.6	19.7	6.30	B
2522B-EP04-BGS5	38.1	38.0	10.2	22.1	6.94	B
2520B-EP04-BGS5	38.1	38.0	15.6	15.6	5.17	B

* See bottom of page 4 for information on how to use this table

FEATURES AND BENEFITS

- A unique clip eliminates the need for mounting holes in the PC Board
- Each Heat Sink utilizes a Phase Change Pad as the interface for optimal thermal performance
- The clips unique design eliminates the need for thermal tape attachment
- The Clips are available in industry standard sizes to fit a wide variety of BGA package sizes



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PCB HOLE PATTERNS

FIGURE A

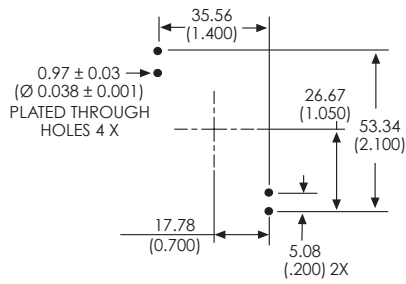


FIGURE B

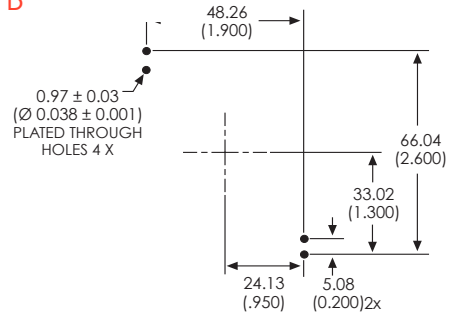


FIGURE C

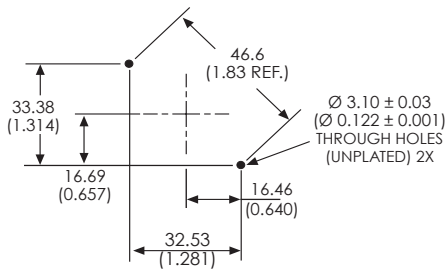


FIGURE D

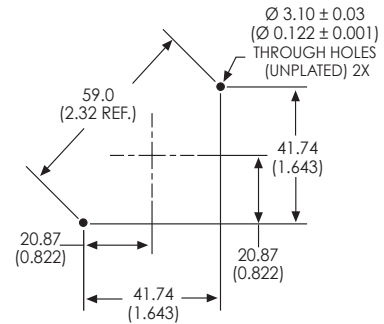


FIGURE E

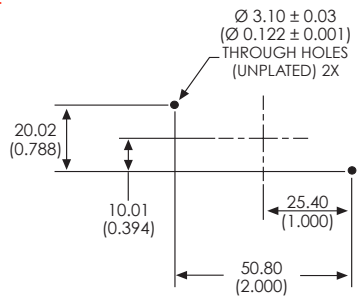


FIGURE F

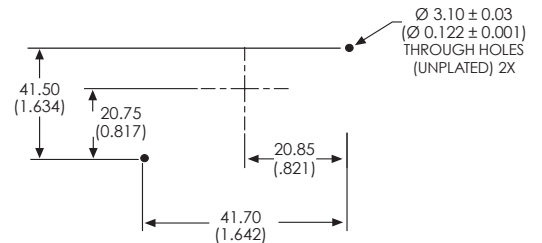


FIGURE G

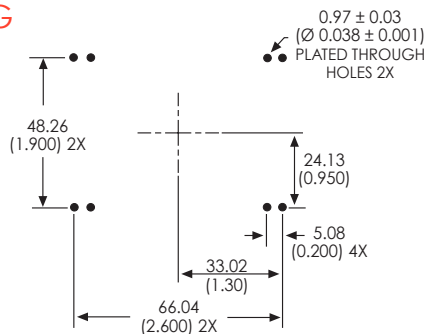


FIGURE H

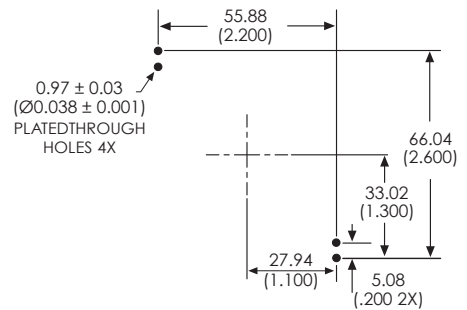


FIGURE I

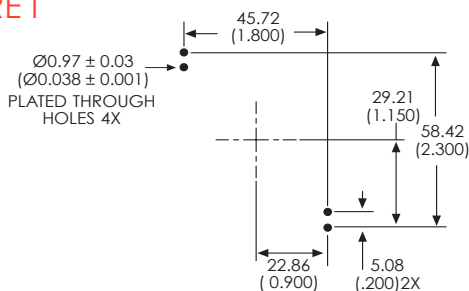


TABLE GUIDE

Dimensions are in mm

θ_n = Natural convection thermal resistance based on a 75°C heat sink temperature rise

θ_f = Forced convection thermal resistance based on an entering 1.0 m/s (200 lfm) airflow

Finish: B = Black Anodize, M = Green Anodize, N = Clear Anodize



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THERMAL MANAGEMENT DESIGNER TOOL

Log on to our web site www.aavidthermalloy.com for design assistance.
Click on the BGA product-offering icon and let us help you
select the Heat Sink best suited for your application.
This no nonsense designer's tool is only available from Aavid Thermalloy.

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a designers sample kit featuring our BGA Heat Sinks.
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80 Commercial Street
Concord, NH 03301

TEL: (603) 224-9988 FAX: (603) 223-1790

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<i>Fluent Inc.:</i>	www.icepak.com	Tel: (603) 643-2600
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