

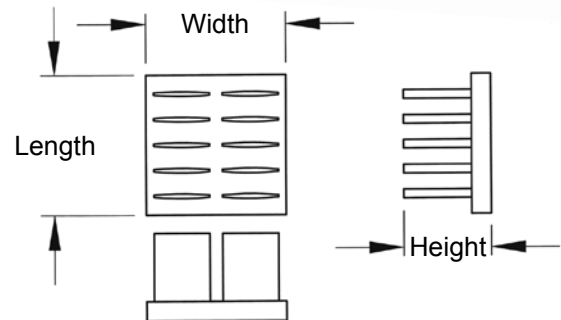
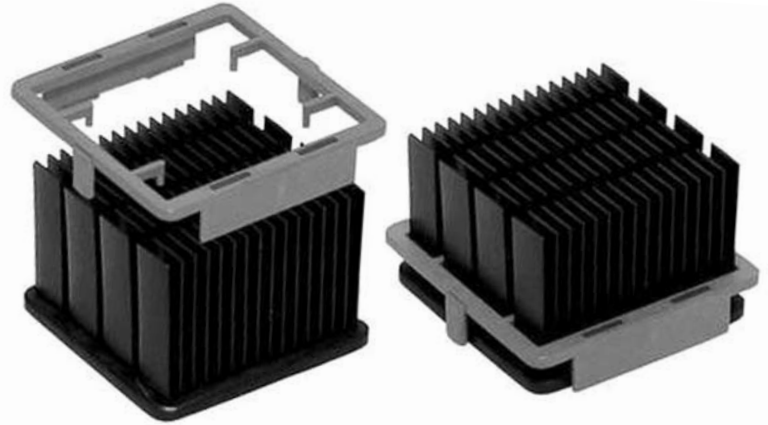
FORGED ALUMINUM HEAT SINKS WITH PLATE FINS

FEATURES

- Precision Forging Technology for High Power Applications
- Designed for BGA and Other Surface Mount Packages
- Various Mounting Methods Available
- Select From Multiple Fin Heights

PRODUCT BENEFITS

- No Special Tools Needed for Assembly
- No Additional Holes Required on the PCB
- Special Clip Easily Snaps On and Self-Aligns



Material: 6063 Aluminum Alloy, Black Anodized

Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt @ 200 LFPM)	Pressure Drop (inches of water)
AER19-19-12CB	2 x 6	18.6 x 18.6 x 11.6	7.2	0.017
AER19-19-15CB	2 x 6	18.6 x 18.6 x 14.6	6.6	0.017
AER19-19-18CB	2 x 6	18.6 x 18.6 x 17.6	5.4	0.017
AER19-19-21CB	2 x 6	18.6 x 18.6 x 20.6	4.7	0.017
AER19-19-23CB	2 x 6	18.6 x 18.6 x 22.6	4.3	0.017
AER19-19-28CB	2 x 6	18.6 x 18.6 x 27.6	3.8	0.017
AER19-19-33CB	2 x 6	18.6 x 18.6 x 32.6	3.3	0.017
AER21-21-12CB	2 x 7	20.6 x 20.6 x 11.6	7.2	0.017
AER21-21-15CB	2 x 7	20.6 x 20.6 x 14.6	6.6	0.017
AER21-21-18CB	2 x 7	20.6 x 20.6 x 17.6	5.4	0.017
AER21-21-21CB	2 x 7	20.6 x 20.6 x 20.6	4.7	0.017
AER21-21-23CB	2 x 7	20.6 x 20.6 x 22.6	4.3	0.017
AER21-21-28CB	2 x 7	20.6 x 20.6 x 27.6	3.8	0.017
AER21-21-33CB	2 x 7	20.6 x 20.6 x 32.6	3.3	0.017
AER23-23-12CB	2 x 8	22.6 x 22.6 x 11.6	6.2	0.018
AER23-23-15CB	2 x 8	22.6 x 22.6 x 14.6	5.4	0.018
AER23-23-18CB	2 x 8	22.6 x 22.6 x 17.6	4.4	0.018
AER23-23-21CB	2 x 8	22.6 x 22.6 x 20.6	3.8	0.018
AER23-23-23CB	2 x 8	22.6 x 22.6 x 22.6	3.5	0.018
AER23-23-28CB	2 x 8	22.6 x 22.6 x 27.6	3.1	0.018
AER23-23-33CB	2 x 8	22.6 x 22.6 x 32.6	2.7	0.018
AER25-25-12CB	3 x 9	24.6 x 24.6 x 11.6	5.3	0.020
AER25-25-15CB	3 x 9	24.6 x 24.6 x 14.6	4.6	0.020
AER25-25-18CB	3 x 9	24.6 x 24.6 x 17.6	3.8	0.020
AER25-25-21CB	3 x 9	24.6 x 24.6 x 20.6	3.3	0.020
AER25-25-23CB	3 x 9	24.6 x 24.6 x 22.6	3.0	0.020
AER25-25-28CB	3 x 9	24.6 x 24.6 x 27.6	2.7	0.020
AER25-25-33CB	3 x 9	24.6 x 24.6 x 32.6	2.4	0.020

Material: 6063 Aluminum Alloy, Black Anodized

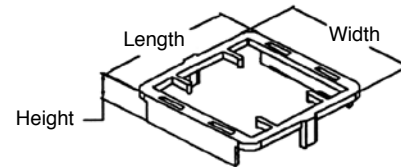
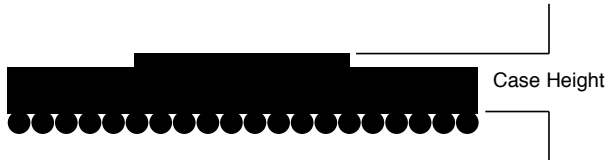
Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt @ 200 LFPM)	Pressure Drop (inches of water)
AER27-27-12CB	3 x 9	26.6 x 26.6 x 11.6	5.2	0.020
AER27-27-15CB	3 x 9	26.6 x 26.6 x 14.6	4.5	0.020
AER27-27-18CB	3 x 9	26.6 x 26.6 x 17.6	3.7	0.020
AER27-27-21CB	3 x 9	26.6 x 26.6 x 20.6	3.1	0.020
AER27-27-23CB	3 x 9	26.6 x 26.6 x 22.6	2.9	0.020
AER27-27-28CB	3 x 9	26.6 x 26.6 x 27.6	2.7	0.020
AER27-27-33CB	3 x 9	26.6 x 26.6 x 32.6	2.3	0.020
AER29-29-12CB	3 x 9	28.6 x 28.6 x 11.6	4.4	0.020
AER29-29-15CB	3 x 9	28.6 x 28.6 x 14.6	3.8	0.020
AER29-29-18CB	3 x 9	28.6 x 28.6 x 17.6	3.2	0.020
AER29-29-21CB	3 x 9	28.6 x 28.6 x 20.6	2.7	0.020
AER29-29-23CB	3 x 9	28.6 x 28.6 x 22.6	2.5	0.020
AER29-29-28CB	3 x 9	28.6 x 28.6 x 27.6	2.4	0.020
AER29-29-33CB	3 x 9	28.6 x 28.6 x 32.6	2.2	0.020
AER31-31-12CB	3 x 11	30.6 x 30.6 x 11.6	3.4	0.014
AER31-31-15CB	3 x 11	30.6 x 30.6 x 14.6	3.3	0.014
AER31-31-18CB	3 x 11	30.6 x 30.6 x 17.6	2.7	0.014
AER31-31-21CB	3 x 11	30.6 x 30.6 x 20.6	2.3	0.014
AER31-31-23CB	3 x 11	30.6 x 30.6 x 22.6	2.1	0.014
AER31-31-28CB	3 x 11	30.6 x 30.6 x 27.6	1.9	0.014
AER31-31-33CB	3 x 11	30.6 x 30.6 x 32.6	1.7	0.014
AER33-33-12CB	3 x 11	32.6 x 32.6 x 11.6	3.4	0.012
AER33-33-15CB	3 x 11	32.6 x 32.6 x 14.6	2.9	0.012
AER33-33-18CB	3 x 11	32.6 x 32.6 x 17.6	2.4	0.012
AER33-33-21CB	3 x 11	32.6 x 32.6 x 20.6	1.9	0.012
AER33-33-23CB	3 x 11	32.6 x 32.6 x 22.6	1.7	0.012
AER33-33-28CB	3 x 11	32.6 x 32.6 x 27.6	1.5	0.012
AER33-33-33CB	3 x 11	32.6 x 32.6 x 32.6	1.3	0.012
AER35-35-12CB	4 x 12	34.6 x 34.6 x 11.6	3.3	0.018
AER35-35-15CB	4 x 12	34.6 x 34.6 x 14.6	2.9	0.018
AER35-35-18CB	4 x 12	34.6 x 34.6 x 17.6	2.4	0.018
AER35-35-21CB	4 x 12	34.6 x 34.6 x 20.6	2.1	0.018
AER35-35-23CB	4 x 12	34.6 x 34.6 x 22.6	1.8	0.018
AER35-35-28CB	4 x 12	34.6 x 34.6 x 27.6	1.5	0.018
AER35-35-33CB	4 x 12	34.6 x 34.6 x 32.6	1.3	0.018
AER38-38-12CB	4 x 13	37.1 x 37.1 x 11.6	3.2	0.025
AER38-38-15CB	4 x 13	37.1 x 37.1 x 14.6	2.7	0.025
AER38-38-18CB	4 x 13	37.1 x 37.1 x 17.6	2.2	0.025
AER38-38-21CB	4 x 13	37.1 x 37.1 x 20.6	1.9	0.025
AER38-38-23CB	4 x 13	37.1 x 37.1 x 22.6	1.8	0.025
AER38-38-28CB	4 x 13	37.1 x 37.1 x 27.6	1.5	0.025
AER38-38-33CB	4 x 13	37.1 x 37.1 x 32.6	1.3	0.025
AER40-40-12CB	4 x 14	39.6 x 39.6 x 11.6	2.6	0.026
AER40-40-15CB	4 x 14	39.6 x 39.6 x 14.6	2.4	0.026
AER40-40-18CB	4 x 14	39.6 x 39.6 x 17.6	1.9	0.026
AER40-40-21CB	4 x 14	39.6 x 39.6 x 20.6	1.7	0.026
AER40-40-23CB	4 x 14	39.6 x 39.6 x 22.6	1.5	0.026
AER40-40-28CB	4 x 14	39.6 x 39.6 x 27.6	1.4	0.026
AER40-40-33CB	4 x 14	39.6 x 39.6 x 32.6	1.2	0.026
AER43-43-12CB	4 x 15	42.1 x 42.1 x 11.6	2.4	0.027
AER43-43-15CB	4 x 15	42.1 x 42.1 x 14.6	2.1	0.027
AER43-43-18CB	4 x 15	42.1 x 42.1 x 17.6	1.7	0.027
AER43-43-21CB	4 x 15	42.1 x 42.1 x 20.6	1.5	0.027
AER43-43-23CB	4 x 15	42.1 x 42.1 x 22.6	1.3	0.027
AER43-43-28CB	4 x 15	42.1 x 42.1 x 27.6	1.2	0.027
AER43-43-33CB	4 x 15	42.1 x 42.1 x 32.6	1.1	0.027
AER45-45-12CB	4 x 16	44.6 x 44.6 x 11.6	2.3	0.020
AER45-45-15CB	4 x 16	44.6 x 44.6 x 14.6	1.9	0.020
AER45-45-18CB	4 x 16	44.6 x 44.6 x 17.6	1.6	0.020
AER45-45-21CB	4 x 16	44.6 x 44.6 x 20.6	1.4	0.020
AER45-45-23CB	4 x 16	44.6 x 44.6 x 22.6	1.2	0.020
AER45-45-28CB	4 x 16	44.6 x 44.6 x 27.6	1.1	0.020
AER45-45-33CB	4 x 16	44.6 x 44.6 x 32.6	0.9	0.020

CLIP STYLES



Material: Nylon Plastic
per UL94-V0

Component Size Length x Width (mm)	0.9mm +/- 0.3mm Short Height Color: Orange	1.7mm +/- 0.3mm Medium Height Color: Blue	3.3mm +/- 0.3mm Tall Height Color: Yellow	Clip Size Length x Width x Height (mm)
	Part Number			
19 x 19	C1919S	C1919M	C1919T	21.2 x 21.2 x 9.1
21 x 21	C2121S	C2121M	C2121T	23.2 x 23.7 x 9.1
23 x 23	C2323S	C2323M	C2323T	25.2 x 25.7 x 9.1
25 x 25	C2525S	C2525M	C2525T	27.2 x 27.7 x 9.1
27 x 27	C2727S	C2727M	C2727T	29.2 x 29.7 x 9.1
29 x 29	C2929S	C2929M	C2929T	31.2 x 31.2 x 9.1
31 x 31	C3131S	C3131M	C3131T	33.2 x 33.7 x 9.1
33 x 33	C3333S	C3333M	C3333T	35.2 x 35.2 x 9.1
35 x 35	C3535S	C3535M	C3535T	37.2 x 37.7 x 9.1
37.5 x 37.5	C3838S	C3838M	C3838T	39.7 x 40.2 x 9.1
40 x 40	C4040S	C4040M	C4040T	42.2 x 42.7 x 9.1
42.5 x 42.5	C4343S	C4343M	C4343T	44.7 x 45.1 x 9.1
45 x 45	C4545S	C4545M	C4545T	47.2 x 47.7 x 9.1



TAPE STYLES

Thermal Tape	Supplier	Thickness (mm)	Thermal Impedance (°C-in. ² /W)	Dielectric Strength (V/mil)	Description
A01	CTS	0.13	0.82	4,000	Double-sided acrylic adhesive on a Kapton® MT carrier
T410	Chomerics	0.18	1.10	N/A	Double-sided acrylic adhesive loaded with aluminum oxide on an aluminum foil carrier
T411	Chomerics	0.28	1.00	N/A	Double-sided silicone adhesive with expanded aluminum mesh carrier
T412	Chomerics	0.23	0.25	N/A	Doubled-sided acrylic adhesive loaded with titanium diboride on an expanded aluminum carrier
8815	3M	0.38	1.20	668	Double-sided acrylic adhesive loaded with ceramic particles

ORDERING INFORMATION

AER - 19-19-12 - CB - /A01

Part Number Series

Dimensions in mm (LxWxH)

Mounting Options
(Clip or Adhesive)

Commercial Black Anodize

CLIP

Short "S"
Medium "M"
Tall "T"

ADHESIVE

Double-sided Kapton® "A01"
Chomerics Thermattach®
"T410, T411, or T412"
3M™ "8815"

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[122ABE-22](#) [PSC22CB](#) [HAF10L](#) [HAQ10T](#) [D10100-28](#) [BDN183CBA01](#) [3-21053-4](#) [32438](#) [TX0506-1B](#) [TX1806B](#) [LAE66A3CB](#) [WA-DT2-](#)
[101E](#) [511-3U](#) [73381PPBA](#) [73403PPBA](#) [7G0047C](#) [COMX-440-HSP](#) [510-12M](#) [D10650-40T5](#) [V8511 Y](#) [APF40-40-13CB/A01](#)
[780653U04500G](#) [ATS-54310K-C2-R0](#) [FK 216 CB SA](#) [FK 231 SA 220](#) [648-51AB](#) [657-20ABPESC](#) [2341BG](#) [679-25AG](#) [FK 212 CB SA](#)