



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

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

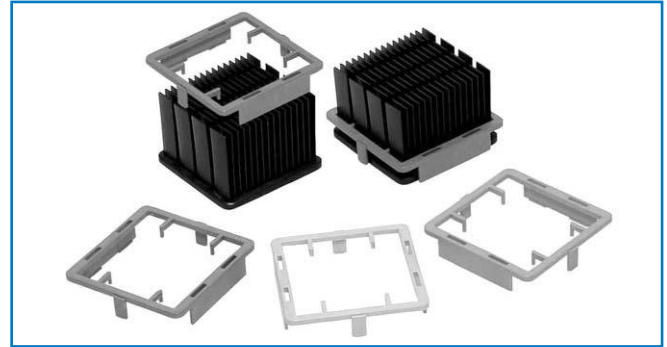
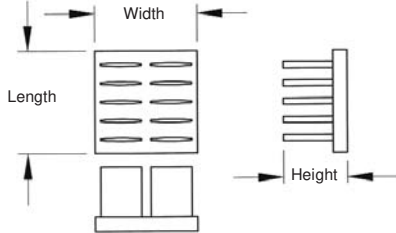
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



FORGED HEAT SINKS WITH PLATE FINS

DESIGN 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

SERIES APF LOW-PROFILE FORGED HEAT SINKS (ADHESIVE ATTACH ONLY)

Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches of water)
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM	
APF19-19-06CB	12 x 2	19 x 19 x 6.3	17.0	7.1	0.033
APF19-19-10CB	12 x 2	19 x 19 x 9.5	16.0	5.5	0.033
APF19-19-13CB	12 x 2	19 x 19 x 12.7	15.6	4.4	0.033
APF30-30-06CB	19 x 3	30 x 30 x 6.3	13.9	4.4	0.039
APF30-30-10CB	19 x 3	30 x 30 x 9.5	12.9	3.3	0.039
APF30-30-13CB	19 x 3	30 x 30 x 12.7	12.5	2.7	0.039
APF40-40-06CB	26 x 4	40 x 40 x 6.3	11.1	3.2	0.043
APF40-40-10CB	26 x 4	40 x 40 x 9.5	10.1	2.5	0.043
APF40-40-13CB	26 x 4	40 x 40 x 12.7	9.6	2.0	0.043

SERIES AER FORGED HEAT SINKS

Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches of water)
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM	
AER19-19-12CB	2 x 6	18.6 x 18.6 x 11.6	15.85	6.42	0.017
AER19-19-15CB	2 x 6	18.6 x 18.6 x 14.6	15.45	5.92	0.017
AER19-19-18CB	2 x 6	18.6 x 18.6 x 17.6	14.95	5.52	0.017
AER19-19-21CB	2 x 6	18.6 x 18.6 x 20.6	14.75	5.12	0.017
AER19-19-23CB	2 x 6	18.6 x 18.6 x 22.6	14.55	4.72	0.017
AER19-19-28CB	2 x 6	18.6 x 18.6 x 27.6	14.15	4.22	0.017
AER19-19-33CB	2 x 6	18.6 x 18.6 x 32.6	12.75	3.92	0.017
AER21-21-12CB	2 x 7	20.6 x 20.6 x 11.6	15.10	5.62	0.017
AER21-21-15CB	2 x 7	20.6 x 20.6 x 14.6	14.70	5.12	0.017
AER21-21-18CB	2 x 7	20.6 x 20.6 x 17.6	14.30	4.82	0.017
AER21-21-21CB	2 x 7	20.6 x 20.6 x 20.6	14.10	4.42	0.017
AER21-21-23CB	2 x 7	20.6 x 20.6 x 22.6	12.20	3.42	0.017
AER21-21-28CB	2 x 7	20.6 x 20.6 x 27.6	13.50	3.72	0.017
AER21-21-33CB	2 x 7	20.6 x 20.6 x 32.6	12.20	3.42	0.017
AER23-23-12CB	2 x 8	22.6 x 22.6 x 11.6	14.12	4.62	0.018
AER23-23-15CB	2 x 8	22.6 x 22.6 x 14.6	13.72	4.22	0.018
AER23-23-18CB	2 x 8	22.6 x 22.6 x 17.6	13.42	3.92	0.018
AER23-23-21CB	2 x 8	22.6 x 22.6 x 20.6	12.92	3.72	0.018

Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches of water)
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM	
AER23-23-23CB	2 x 8	22.6 x 22.6 x 22.6	12.52	3.52	0.018
AER23-23-28CB	2 x 8	22.6 x 22.6 x 27.6	11.62	3.12	0.018
AER23-23-33CB	2 x 8	22.6 x 22.6 x 32.6	10.82	2.82	0.018
AER25-25-12CB	3 x 9	24.6 x 24.6 x 11.6	13.38	4.42	0.020
AER25-25-15CB	3 x 9	24.6 x 24.6 x 14.6	12.68	4.02	0.020
AER25-25-18CB	3 x 9	24.6 x 24.6 x 17.6	12.08	3.72	0.020
AER25-25-21CB	3 x 9	24.6 x 24.6 x 20.6	11.68	3.42	0.020
AER25-25-23CB	3 x 9	24.6 x 24.6 x 22.6	11.28	3.22	0.020
AER25-25-28CB	3 x 9	24.6 x 24.6 x 27.6	10.58	2.92	0.020
AER25-25-33CB	3 x 9	24.6 x 24.6 x 32.6	9.68	2.62	0.020
AER27-27-12CB	3 x 9	26.6 x 26.6 x 11.6	12.97	4.22	0.020
AER27-27-15CB	3 x 9	26.6 x 26.6 x 14.6	12.27	3.92	0.020
AER27-27-18CB	3 x 9	26.6 x 26.6 x 17.6	11.77	3.62	0.020
AER27-27-21CB	3 x 9	26.6 x 26.6 x 20.6	11.37	3.32	0.020
AER27-27-23CB	3 x 9	26.6 x 26.6 x 22.6	10.97	3.12	0.020
AER27-27-28CB	3 x 9	26.6 x 26.6 x 27.6	10.17	2.82	0.020
AER27-27-33CB	3 x 9	26.6 x 26.6 x 32.6	9.37	2.52	0.020
AER29-29-12CB	3 x 9	28.6 x 28.6 x 11.6	12.68	4.12	0.020
AER29-29-15CB	3 x 9	28.6 x 28.6 x 14.6	12.08	3.82	0.020
AER29-29-18CB	3 x 9	28.6 x 28.6 x 17.6	11.48	3.62	0.020
AER29-29-21CB	3 x 9	28.6 x 28.6 x 20.6	11.08	3.32	0.020
AER29-29-23CB	3 x 9	28.6 x 28.6 x 22.6	10.78	3.12	0.020
AER29-29-28CB	3 x 9	28.6 x 28.6 x 27.6	9.98	2.72	0.020
AER29-29-33CB	3 x 9	28.6 x 28.6 x 32.6	9.18	2.52	0.020
AER31-31-12CB	3 x 11	30.6 x 30.6 x 11.6	12.31	3.42	0.014
AER31-31-15CB	3 x 11	30.6 x 30.6 x 14.6	11.71	3.12	0.014
AER31-31-18CB	3 x 11	30.6 x 30.6 x 17.6	11.11	2.92	0.014
AER31-31-21CB	3 x 11	30.6 x 30.6 x 20.6	10.71	2.62	0.014
AER31-31-23CB	3 x 11	30.6 x 30.6 x 22.6	10.41	2.42	0.014
AER31-31-28CB	3 x 11	30.6 x 30.6 x 27.6	9.71	2.12	0.014
AER31-31-33CB	3 x 11	30.6 x 30.6 x 32.6	8.91	1.92	0.014
AER33-33-12CB	3 x 11	32.6 x 32.6 x 11.6	11.75	3.22	0.012
AER33-33-15CB	3 x 11	32.6 x 32.6 x 14.6	11.15	3.02	0.012
AER33-33-18CB	3 x 11	32.6 x 32.6 x 17.6	10.65	2.72	0.012
AER33-33-21CB	3 x 11	32.6 x 32.6 x 20.6	10.25	2.52	0.012
AER33-33-23CB	3 x 11	32.6 x 32.6 x 22.6	9.95	2.42	0.012
AER33-33-28CB	3 x 11	32.6 x 32.6 x 27.6	9.25	2.12	0.012
AER33-33-33CB	3 x 11	32.6 x 32.6 x 32.6	8.45	1.92	0.012
AER35-35-12CB	4 x 12	34.6 x 34.6 x 11.6	11.00	3.32	0.018
AER35-35-15CB	4 x 12	34.6 x 34.6 x 14.6	10.50	3.02	0.018
AER35-35-18CB	4 x 12	34.6 x 34.6 x 17.6	10.00	2.82	0.018
AER35-35-21CB	4 x 12	34.6 x 34.6 x 20.6	9.60	2.62	0.018
AER35-35-23CB	4 x 12	34.6 x 34.6 x 22.6	9.30	2.42	0.018
AER35-35-28CB	4 x 12	34.6 x 34.6 x 27.6	8.70	2.02	0.018
AER35-35-33CB	4 x 12	34.6 x 34.6 x 32.6	8.00	1.82	0.018
AER38-38-12CB	4 x 13	37.1 x 37.1 x 11.6	10.45	3.02	0.025
AER38-38-15CB	4 x 13	37.1 x 37.1 x 14.6	9.95	2.72	0.025
AER38-38-18CB	4 x 13	37.1 x 37.1 x 17.6	9.45	2.52	0.025
AER38-38-21CB	4 x 13	37.1 x 37.1 x 20.6	9.15	2.32	0.025
AER38-38-23CB	4 x 13	37.1 x 37.1 x 22.6	8.85	2.12	0.025
AER38-38-28CB	4 x 13	37.1 x 37.1 x 27.6	8.25	1.92	0.025
AER38-38-33CB	4 x 13	37.1 x 37.1 x 32.6	7.55	1.72	0.025
AER40-40-12CB	4 x 14	39.6 x 39.6 x 11.6	10.01	3.02	0.026

Part Number	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches of water)
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM	
AER40-40-15CB	4 x 14	39.6 x 39.6 x 14.6	9.51	2.72	0.026
AER40-40-18CB	4 x 14	39.6 x 39.6 x 17.6	9.01	2.42	0.026
AER40-40-21CB	4 x 14	39.6 x 39.6 x 20.6	8.71	2.12	0.026
AER40-40-23CB	4 x 14	39.6 x 39.6 x 22.6	8.41	2.02	0.026
AER40-40-28CB	4 x 14	39.6 x 39.6 x 27.6	7.81	1.72	0.026
AER40-40-33CB	4 x 14	39.6 x 39.6 x 32.6	7.21	1.62	0.026
AER43-43-12CB	4 x 15	42.1 x 42.1 x 11.6	9.57	2.82	0.027
AER43-43-15CB	4 x 15	42.1 x 42.1 x 14.6	9.07	2.52	0.027
AER43-43-18CB	4 x 15	42.1 x 42.1 x 17.6	8.57	2.32	0.027
AER43-43-21CB	4 x 15	42.1 x 42.1 x 20.6	8.27	2.02	0.027
AER43-43-23CB	4 x 15	42.1 x 42.1 x 22.6	8.07	1.92	0.027
AER43-43-28CB	4 x 15	42.1 x 42.1 x 27.6	7.47	1.62	0.027
AER43-43-33CB	4 x 15	42.1 x 42.1 x 32.6	6.87	1.42	0.027
AER45-45-12CB	4 x 16	44.6 x 44.6 x 11.6	8.7	2.7	0.020
AER45-45-15CB	4 x 16	44.6 x 44.6 x 14.6	8.2	2.4	0.020
AER45-45-18CB	4 x 16	44.6 x 44.6 x 17.6	7.8	2.2	0.020
AER45-45-21CB	4 x 16	44.6 x 44.6 x 20.6	7.5	2.0	0.020
AER45-45-23CB	4 x 16	44.6 x 44.6 x 22.6	7.3	1.9	0.020
AER45-45-28CB	4 x 16	44.6 x 44.6 x 27.6	6.7	1.6	0.020
AER45-45-33CB	4 x 16	44.6 x 44.6 x 32.6	6.1	1.4	0.020
AER48-48-12CB	5 x 16	47.1 x 47.1 x 11.6	8.67	2.68	0.015
AER48-48-15CB	5 x 16	47.1 x 47.1 x 14.6	8.19	2.38	0.015
AER48-48-18CB	5 x 16	47.1 x 47.1 x 17.6	7.78	2.15	0.015
AER48-48-21CB	5 x 16	47.1 x 47.1 x 20.6	7.51	1.97	0.015
AER48-48-23CB	5 x 16	47.1 x 47.1 x 22.6	7.26	1.76	0.015
AER48-48-28CB	5 x 16	47.1 x 47.1 x 27.6	6.72	1.56	0.015
AER48-48-33CB	5 x 16	47.1 x 47.1 x 32.6	6.13	1.29	0.015
AER50-50-12CB	5 x 17	49.6 x 49.6 x 11.6	8.45	2.64	0.017
AER50-50-15CB	5 x 17	49.6 x 49.6 x 14.6	7.98	2.35	0.017
AER50-50-18CB	5 x 17	49.6 x 49.6 x 17.6	7.56	2.12	0.017
AER50-50-21CB	5 x 17	49.6 x 49.6 x 20.6	7.29	1.94	0.017
AER50-50-23CB	5 x 17	49.6 x 49.6 x 22.6	7.03	1.73	0.017
AER50-50-28CB	5 x 17	49.6 x 49.6 x 27.6	6.49	1.53	0.017
AER50-50-33CB	5 x 17	49.6 x 49.6 x 32.6	5.90	1.26	0.017
AER53-53-12CB	5 x 17	52.1 x 52.1 x 11.6	8.29	2.61	0.018
AER53-53-15CB	5 x 17	52.1 x 52.1 x 14.6	7.81	2.32	0.018
AER53-53-18CB	5 x 17	52.1 x 52.1 x 17.6	7.40	2.09	0.018
AER53-53-21CB	5 x 17	52.1 x 52.1 x 20.6	7.12	1.91	0.018
AER53-53-23CB	5 x 17	52.1 x 52.1 x 22.6	6.86	1.71	0.018
AER53-53-28CB	5 x 17	52.1 x 52.1 x 27.6	6.31	1.50	0.018
AER53-53-33CB	5 x 17	52.1 x 52.1 x 32.6	5.72	1.24	0.018
AER55-55-12CB	5 x 19	54.6 x 54.6 x 11.6	8.04	2.57	0.014
AER55-55-15CB	5 x 19	54.6 x 54.6 x 14.6	7.56	2.28	0.014
AER55-55-18CB	5 x 19	54.6 x 54.6 x 17.6	7.14	2.06	0.014
AER55-55-21CB	5 x 19	54.6 x 54.6 x 20.6	6.86	1.87	0.014
AER55-55-23CB	5 x 19	54.6 x 54.6 x 22.6	6.60	1.67	0.014
AER55-55-28CB	5 x 19	54.6 x 54.6 x 27.6	6.04	1.47	0.014
AER55-55-33CB	5 x 19	54.6 x 54.6 x 32.6	5.45	1.20	0.014

MATERIAL: 6063 Aluminum Alloy, Black Anodized