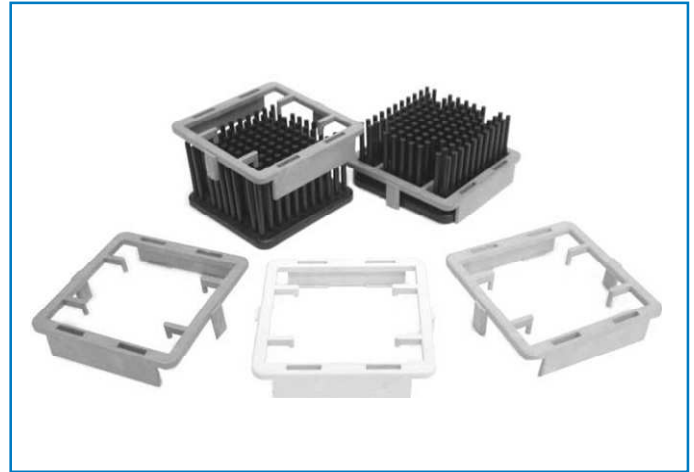
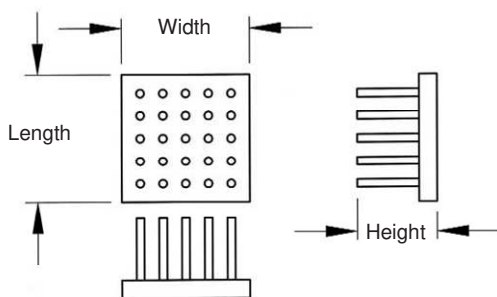


## FORGED HEAT SINKS WITH PIN FINNS

### DESIGN FEATURES

- Precision forging technology for high power applications
- Omnidirectional pins
- 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 APR FORGED ALUMINUM HEAT SINKS WITH PIN FINNS

**MATERIAL:** 6063 Aluminum Alloy, Black Anodized

Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR19-19-12CB	5 x 5	18.6 x 18.6 x 11.6	14.31	6.92	0.013	No Limit
APR19-19-12CB/A01	5 x 5	18.6 x 18.6 x 11.6	15.66	8.27	0.013	No Limit
APR19-19-12CB/A01/S	5 x 5	18.6 x 18.6 x 11.6	15.66	8.27	0.013	0.6~1.2
APR19-19-1225/A01/M	5 x 5	18.6 x 18.6 x 11.5	15.66	8.27	0.013	1.3~1.9
APR19-19-15CB	5 x 5	18.6 x 18.6 x 14.6	13.91	6.62	0.013	No Limit
APR19-19-15CB/A01	5 x 5	18.6 x 18.6 x 14.6	15.26	7.97	0.013	No Limit
APR19-19-15CB/T410	5 x 5	18.6 x 18.6 x 14.6	15.78	8.49	0.013	No Limit
APR19-19-15CB/A01/S	5 x 5	18.6 x 18.6 x 14.6	15.26	7.97	0.013	0.6~1.2
APR19-19-18CB	5 x 5	18.6 x 18.6 x 17.6	13.21	5.91	0.013	No Limit
APR19-19-18CB/A01	5 x 5	18.6 x 18.6 x 17.6	14.56	7.26	0.013	No Limit
APR19-19-21CB	5 x 5	18.6 x 18.6 x 20.6	13.18	5.90	0.013	No Limit
APR19-19-21CB/A01	5 x 5	18.6 x 18.6 x 20.6	14.53	7.25	0.013	No Limit
APR19-19-23CB	5 x 5	18.6 x 18.6 x 22.6	12.84	5.58	0.013	No Limit
APR19-19-23CB/A01	5 x 5	18.6 x 18.6 x 22.6	14.19	6.93	0.013	No Limit
APR19-19-28CB	5 x 5	18.6 x 18.6 x 27.6	11.80	5.11	0.013	No Limit
APR19-19-28CB/A01	5 x 5	18.6 x 18.6 x 27.6	13.15	6.46	0.013	No Limit
APR19-19-33CB	5 x 5	18.6 x 18.6 x 32.6	11.10	4.71	0.013	No Limit
APR19-19-33CB/A01	5 x 5	18.6 x 18.6 x 32.6	12.45	6.06	0.013	No Limit
APR21-21-12CB	6 x 6	20.6 x 20.6 x 11.6	13.86	6.41	0.015	No Limit

Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR21-21-12CB/A01	6 x 6	20.6 x 20.6 x 11.6	14.96	7.51	0.015	No Limit
APR21-21-15CB	6 x 6	20.6 x 20.6 x 14.6	13.47	6.09	0.015	No Limit
APR21-21-15CB/A01	6 x 6	20.6 x 20.6 x 14.6	14.57	7.19	0.015	No Limit
APR21-21-18CB	6 x 6	20.6 x 20.6 x 17.6	13.07	5.74	0.015	No Limit
APR21-21-18CB/A01	6 x 6	20.6 x 20.6 x 17.6	14.17	6.84	0.015	No Limit
APR21-21-21CB	6 x 6	20.6 x 20.6 x 20.6	12.73	5.42	0.015	No Limit
APR21-21-21CB/A01	6 x 6	20.6 x 20.6 x 20.6	13.83	6.52	0.015	No Limit
APR21-21-23CB	6 x 6	20.6 x 20.6 x 22.6	12.37	5.10	0.015	No Limit
APR21-21-23CB/A01	6 x 6	20.6 x 20.6 x 22.6	13.47	6.20	0.015	No Limit
APR21-21-28CB	6 x 6	20.6 x 20.6 x 27.6	11.38	4.74	0.015	No Limit
APR21-21-28CB/A01	6 x 6	20.6 x 20.6 x 27.6	12.48	5.84	0.015	No Limit
APR21-21-33CB	6 x 6	20.6 x 20.6 x 32.6	10.73	4.35	0.015	No Limit
APR21-21-33CB/A01	6 x 6	20.6 x 20.6 x 32.6	11.83	5.45	0.015	No Limit
APR23-23-12CB	7 x 7	22.6 x 22.6 x 11.6	13.39	5.96	0.018	No Limit
APR23-23-12CB/A01	7 x 7	22.6 x 22.6 x 11.6	14.30	6.87	0.018	No Limit
APR23-23-15CB	7 x 7	22.6 x 22.6 x 14.6	13.02	5.62	0.018	No Limit
APR23-23-15CB/A01	7 x 7	22.6 x 22.6 x 14.6	13.93	6.53	0.018	No Limit
APR23-23-18CB	7 x 7	22.6 x 22.6 x 17.6	12.63	5.26	0.018	No Limit
APR23-23-18CB/A01	7 x 7	22.6 x 22.6 x 17.6	13.54	6.17	0.018	No Limit
APR23-23-21CB	7 x 7	22.6 x 22.6 x 20.6	12.29	4.94	0.018	No Limit
APR23-23-21CB/A01	7 x 7	22.6 x 22.6 x 20.6	13.20	5.85	0.018	No Limit
APR23-23-23CB	7 x 7	22.6 x 22.6 x 22.6	11.90	4.62	0.018	No Limit
APR23-23-23CB/A01	7 x 7	22.6 x 22.6 x 22.6	12.81	5.53	0.018	No Limit
APR23-23-2325/A01/M	7 x 7	22.6 x 22.6 x 22.5	12.81	5.53	0.018	1.3~1.9
APR23-23-28CB	7 x 7	22.6 x 22.6 x 27.6	10.97	4.26	0.018	No Limit
APR23-23-28CB/A01	7 x 7	22.6 x 22.6 x 27.6	11.88	5.17	0.018	No Limit
APR23-23-33CB	7 x 7	22.6 x 22.6 x 32.6	10.38	3.99	0.018	No Limit
APR23-23-33CB/A01	7 x 7	22.6 x 22.6 x 32.6	11.29	4.90	0.018	No Limit
APR25-25-12CB	7 x 7	24.6 x 24.6 x 11.6	12.93	5.50	0.020	No Limit
APR25-25-12CB/A01	7 x 7	24.6 x 24.6 x 11.6	13.70	6.27	0.020	No Limit
APR25-25-15CB	7 x 7	24.6 x 24.6 x 14.6	12.58	5.14	0.020	No Limit
APR25-25-15CB/A01	7 x 7	24.6 x 24.6 x 14.6	13.35	5.91	0.020	No Limit
APR25-25-15CB/A01/M	7 x 7	24.6 x 24.6 x 14.6	13.35	5.91	0.020	1.4~2.0
APR25-25-18CB	7 x 7	24.6 x 24.6 x 17.6	12.20	4.78	0.020	No Limit
APR25-25-18CB/A01	7 x 7	24.6 x 24.6 x 17.6	12.97	5.55	0.020	No Limit
APR25-25-21CB	7 x 7	24.6 x 24.6 x 20.6	11.84	4.46	0.020	No Limit
APR25-25-21CB/A01	7 x 7	24.6 x 24.6 x 20.6	12.61	5.23	0.020	No Limit
APR25-25-23CB	7 x 7	24.6 x 24.6 x 22.6	11.44	4.14	0.020	No Limit
APR25-25-23CB/A01	7 x 7	24.6 x 24.6 x 22.6	12.21	4.91	0.020	No Limit
APR25-25-28CB	7 x 7	24.6 x 24.6 x 27.6	10.55	3.77	0.020	No Limit
APR25-25-28CB/A01	7 x 7	24.6 x 24.6 x 27.6	11.32	4.54	0.020	No Limit
APR25-25-33CB	7 x 7	24.6 x 24.6 x 32.6	10.01	3.46	0.020	No Limit
APR25-25-33CB/A01	7 x 7	24.6 x 24.6 x 32.6	10.78	4.23	0.020	No Limit
APR27-27-12CB	8 x 8	26.6 x 26.6 x 11.6	12.51	5.04	0.022	No Limit
APR27-27-12CB/T	8 x 8	26.6 x 26.6 x 11.6	12.51	5.04	0.022	3.0~3.6
APR27-27-12CB/M	8 x 8	26.6 x 26.6 x 11.6	12.51	5.04	0.022	1.4~2.0
APR27-27-12CB/S	8 x 8	26.6 x 26.6 x 11.6	12.51	5.04	0.022	0.6~1.2
APR27-27-12CB/A01	8 x 8	26.6 x 26.6 x 11.6	13.17	5.70	0.022	No Limit
APR27-27-12CB/A01/M	8 x 8	26.6 x 26.6 x 11.6	13.17	5.70	0.022	1.4~2.0

Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR27-27-1225/A01/M	8 x 8	26.6 x 26.6 x 11.5	13.17	5.70	0.022	1.3~1.9
APR27-27-1232/A01/T	8 x 8	26.6 x 26.6 x 12.2	13.17	5.70	0.022	3.6~4.2
APR27-27-1335/A01/T	8 x 8	26.6 x 26.6 x 12.5	13.17	5.70	0.022	3.9~4.5
APR27-27-1423/A01/M	8 x 8	26.6 x 26.6 x 14.3	12.77	5.33	0.022	1.1~1.7
APR27-27-15CB	8 x 8	26.6 x 26.6 x 14.6	12.11	4.67	0.022	No Limit
APR27-27-15CB/A01	8 x 8	26.6 x 26.6 x 14.6	12.77	5.33	0.022	No Limit
APR27-27-1532/A01/T	8 x 8	26.6 x 26.6 x 15.2	12.77	5.33	0.022	3.6~4.2
APR27-27-18CB	8 x 8	26.6 x 26.6 x 17.6	11.77	4.30	0.022	No Limit
APR27-27-18CB/A01	8 x 8	26.6 x 26.6 x 17.6	12.43	4.96	0.022	No Limit
APR27-27-1935/A01/T	8 x 8	26.6 x 26.6 x 18.5	12.43	4.96	0.022	3.9~4.5
APR27-27-20CB/A01/S	8 x 8	26.6 x 26.6 x 19.6	12.05	4.64	0.022	0.6~1.2
APR27-27-21CB	8 x 8	26.6 x 26.6 x 20.6	11.39	3.98	0.022	No Limit
APR27-27-21CB/A01	8 x 8	26.6 x 26.6 x 20.6	12.05	4.64	0.022	No Limit
APR27-27-2125/A01/M	8 x 8	26.6 x 26.6 x 20.5	12.05	4.64	0.022	1.3~1.9
APR27-27-23CB	8 x 8	26.6 x 26.6 x 22.6	10.97	3.66	0.022	No Limit
APR27-27-23CB/A01	8 x 8	26.6 x 26.6 x 22.6	11.63	4.32	0.022	No Limit
APR27-27-28CB	8 x 8	26.6 x 26.6 x 27.6	10.13	3.40	0.022	No Limit
APR27-27-28CB/A01	8 x 8	26.6 x 26.6 x 27.6	10.79	4.06	0.022	No Limit
APR27-27-33CB	8 x 8	26.6 x 26.6 x 32.6	9.65	3.20	0.022	No Limit
APR27-27-33CB/A01	8 x 8	26.6 x 26.6 x 32.6	10.31	3.86	0.022	No Limit
APR29-29-12CB	8 x 8	28.6 x 28.6 x 11.6	12.01	4.25	0.025	No Limit
APR29-29-12CB/A01	8 x 8	28.6 x 28.6 x 11.6	12.58	4.83	0.025	No Limit
APR29-29-1231/A01/T	8 x 8	28.6 x 28.6 x 12.1	12.58	4.83	0.025	3.5~4.1
APR29-29-15CB	8 x 8	28.6 x 28.6 x 14.6	11.71	3.98	0.025	No Limit
APR29-29-15CB/A01	8 x 8	28.6 x 28.6 x 14.6	12.28	4.55	0.025	No Limit
APR29-29-18CB	8 x 8	28.6 x 28.6 x 17.6	11.34	3.73	0.025	No Limit
APR29-29-18CB/A01	8 x 8	28.6 x 28.6 x 17.6	11.91	4.30	0.025	No Limit
APR29-29-21CB	8 x 8	28.6 x 28.6 x 20.6	11.06	3.47	0.025	No Limit
APR29-29-21CB/A01	8 x 8	28.6 x 28.6 x 20.6	11.63	4.04	0.025	No Limit
APR29-29-23CB	8 x 8	28.6 x 28.6 x 22.6	10.64	3.26	0.025	No Limit
APR29-29-23CB/A01	8 x 8	28.6 x 28.6 x 22.6	11.21	3.83	0.025	No Limit
APR29-29-28CB	8 x 8	28.6 x 28.6 x 27.6	9.86	2.94	0.025	No Limit
APR29-29-28CB/A01	8 x 8	28.6 x 28.6 x 27.6	10.43	3.51	0.025	No Limit
APR29-29-33CB	8 x 8	28.6 x 28.6 x 32.6	9.30	2.70	0.025	No Limit
APR29-29-33CB/A01	8 x 8	28.6 x 28.6 x 32.6	9.87	3.27	0.025	No Limit
APR31-31-12CB	8 x 8	30.6 x 30.6 x 11.6	11.87	3.79	0.027	No Limit
APR31-31-12CB/A01	8 x 8	30.6 x 30.6 x 11.6	12.37	4.29	0.027	No Limit
APR31-31-15CB	8 x 8	30.6 x 30.6 x 14.6	11.36	3.53	0.027	No Limit
APR31-31-15CB/A01	8 x 8	30.6 x 30.6 x 14.6	11.86	4.03	0.027	No Limit
APR31-31-18CB	8 x 8	30.6 x 30.6 x 17.6	10.97	3.26	0.027	No Limit
APR31-31-18CB/A01	8 x 8	30.6 x 30.6 x 17.6	11.47	3.76	0.027	No Limit
APR31-31-21CB	8 x 8	30.6 x 30.6 x 20.6	10.60	3.03	0.027	No Limit
APR31-31-21CB/A01	8 x 8	30.6 x 30.6 x 20.6	11.10	3.53	0.027	No Limit
APR31-31-23CB	8 x 8	30.6 x 30.6 x 22.6	10.21	2.78	0.027	No Limit
APR31-31-23CB/A01	8 x 8	30.6 x 30.6 x 22.6	10.71	3.28	0.027	No Limit
APR31-31-28CB	8 x 8	30.6 x 30.6 x 27.6	9.37	2.52	0.027	No Limit
APR31-31-28CB/A01	8 x 8	30.6 x 30.6 x 27.6	9.87	3.02	0.027	No Limit
APR31-31-33CB	8 x 8	30.6 x 30.6 x 32.6	8.93	2.33	0.027	No Limit
APR31-31-33CB/A01	8 x 8	30.6 x 30.6 x 32.6	9.43	2.83	0.027	No Limit

Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR33-33-12CB	9 x 9	32.6 x 32.6 x 11.6	11.41	3.46	0.029	No Limit
APR33-33-12CB/T	9 x 9	32.6 x 32.6 x 11.6	11.41	3.46	0.029	3.0~3.6
APR33-33-12CB/M	9 x 9	32.6 x 32.6 x 11.6	11.41	3.46	0.029	1.4~2.0
APR33-33-12CB/S	9 x 9	32.6 x 32.6 x 11.6	11.41	3.46	0.029	0.6~1.2
APR33-33-12CB/A01	9 x 9	32.6 x 32.6 x 11.6	11.85	3.90	0.029	No Limit
APR33-33-15CB	9 x 9	32.6 x 32.6 x 14.6	10.91	3.27	0.029	No Limit
APR33-33-15CB/A01	9 x 9	32.6 x 32.6 x 14.6	11.35	3.71	0.029	No Limit
APR33-33-18CB	9 x 9	32.6 x 32.6 x 17.6	10.52	3.01	0.029	No Limit
APR33-33-18CB/A01	9 x 9	32.6 x 32.6 x 17.6	10.96	3.45	0.029	No Limit
APR33-33-18CB/T411	9 x 9	32.6 x 32.6 x 17.6	11.07	3.56	0.029	No Limit
APR33-33-20CB/T411	9 x 9	32.6 x 32.6 x 19.6	10.96	3.49	0.029	No Limit
APR33-33-21CB	9 x 9	32.6 x 32.6 x 20.6	10.10	2.78	0.029	No Limit
APR33-33-21CB/A01	9 x 9	32.6 x 32.6 x 20.6	10.54	3.22	0.029	No Limit
APR33-33-23CB	9 x 9	32.6 x 32.6 x 22.6	9.80	2.56	0.029	No Limit
APR33-33-23CB/A01	9 x 9	32.6 x 32.6 x 22.6	10.24	3.00	0.029	No Limit
APR33-33-28CB	9 x 9	32.6 x 32.6 x 27.6	8.96	2.33	0.029	No Limit
APR33-33-28CB/A01	9 x 9	32.6 x 32.6 x 27.6	9.40	2.77	0.029	No Limit
APR33-33-33CB	9 x 9	32.6 x 32.6 x 32.6	8.45	2.12	0.029	No Limit
APR33-33-33CB/A01	9 x 9	32.6 x 32.6 x 32.6	8.89	2.56	0.029	No Limit
APR35-35-12CB	10 x 10	34.6 x 34.6 x 11.6	10.51	3.19	0.036	No Limit
APR35-35-12CB/A01	10 x 10	34.6 x 34.6 x 11.6	10.90	3.58	0.036	No Limit
APR35-35-15CB	10 x 10	34.6 x 34.6 x 14.6	10.21	2.97	0.036	No Limit
APR35-35-15CB/A01	10 x 10	34.6 x 34.6 x 14.6	10.60	3.36	0.036	No Limit
APR35-35-18CB	10 x 10	34.6 x 34.6 x 19.6	9.81	2.70	0.036	No Limit
APR35-35-18CB/A01	10 x 10	34.6 x 34.6 x 19.6	10.20	3.09	0.036	No Limit
APR35-35-21CB	10 x 10	34.6 x 34.6 x 20.6	9.46	2.51	0.036	No Limit
APR35-35-21CB/A01	10 x 10	34.6 x 34.6 x 20.6	9.85	2.90	0.036	No Limit
APR35-35-23CB	10 x 10	34.6 x 34.6 x 22.6	9.15	2.28	0.036	No Limit
APR35-35-23CB/A01	10 x 10	34.6 x 34.6 x 22.6	9.54	2.67	0.036	No Limit
APR35-35-28CB	10 x 10	34.6 x 34.6 x 27.6	8.53	2.06	0.036	No Limit
APR35-35-28CB/A01	10 x 10	34.6 x 34.6 x 27.6	8.92	2.45	0.036	No Limit
APR35-35-33CB	10 x 10	34.6 x 34.6 x 32.6	7.88	1.90	0.036	No Limit
APR35-35-33CB/A01	10 x 10	34.6 x 34.6 x 32.6	8.27	2.29	0.036	No Limit
APR38-38-12CB	11 x 11	37.1 x 37.1 x 11.6	10.13	3.04	0.04	No Limit
APR38-38-12CB/T	11 x 11	37.1 x 37.1 x 11.6	10.13	3.04	0.04	3.0~3.6
APR38-38-12CB/M	11 x 11	37.1 x 37.1 x 11.6	10.13	3.04	0.04	1.4~2.0
APR38-38-12CB/S	11 x 11	37.1 x 37.1 x 11.6	10.13	3.04	0.04	0.6~1.2
APR38-38-12CB/A01	11 x 11	37.1 x 37.1 x 11.6	10.47	3.38	0.04	No Limit
APR38-38-15CB	11 x 11	37.1 x 37.1 x 14.6	9.73	2.85	0.04	No Limit
APR38-38-15CB/A01	11 x 11	37.1 x 37.1 x 14.6	10.07	3.19	0.04	No Limit
APR38-38-18CB	11 x 11	37.1 x 37.1 x 17.6	9.43	2.66	0.04	No Limit
APR38-38-18CB/A01	11 x 11	37.1 x 37.1 x 17.6	9.77	3.00	0.04	No Limit
APR38-38-20CB/A01/S	11 x 11	37.1 x 37.1 x 19.6	9.50	2.78	0.04	0.6~1.2
APR38-38-21CB	11 x 11	37.1 x 37.1 x 20.6	9.13	2.41	0.04	No Limit
APR38-38-21CB/A01	11 x 11	37.1 x 37.1 x 20.6	9.47	2.75	0.04	No Limit
APR38-38-23CB	11 x 11	37.1 x 37.1 x 22.6	8.23	2.21	0.04	No Limit
APR38-38-23CB/A01	11 x 11	37.1 x 37.1 x 22.6	8.57	2.55	0.04	No Limit
APR38-38-28CB	11 x 11	37.1 x 37.1 x 27.6	7.73	2.00	0.04	No Limit
APR38-38-28CB/A01	11 x 11	37.1 x 37.1 x 27.6	8.07	2.34	0.04	No Limit

Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR38-38-33CB	11 x 11	37.1 x 37.1 x 32.6	7.13	1.80	0.04	No Limit
APR38-38-33CB/A01	11 x 11	37.1 x 37.1 x 32.6	7.47	2.14	0.04	No Limit
APR40-40-12CB	11 x 11	39.6 x 39.6 x 11.6	9.21	2.96	0.05	No Limit
APR40-40-12CB/A01	11 x 11	39.6 x 39.6 x 11.6	9.51	3.26	0.05	No Limit
APR40-40-15CB	11 x 11	39.6 x 39.6 x 14.6	8.91	2.76	0.05	No Limit
APR40-40-15CB/A01	11 x 11	39.6 x 39.6 x 14.6	9.21	3.06	0.05	No Limit
APR40-40-18CB	11 x 11	39.6 x 39.6 x 17.6	8.35	2.50	0.05	No Limit
APR40-40-18CB/A01	11 x 11	39.6 x 39.6 x 17.6	8.65	2.80	0.05	No Limit
APR40-40-21CB	11 x 11	39.6 x 39.6 x 20.6	8.13	2.30	0.05	No Limit
APR40-40-21CB/A01	11 x 11	39.6 x 39.6 x 20.6	8.43	2.60	0.05	No Limit
APR40-40-23CB	11 x 11	39.6 x 39.6 x 22.6	7.69	2.09	0.05	No Limit
APR40-40-23CB/A01	11 x 11	39.6 x 39.6 x 22.6	7.99	2.39	0.05	No Limit
APR40-40-28CB	11 x 11	39.6 x 39.6 x 27.6	7.11	1.85	0.05	No Limit
APR40-40-28CB/A01	11 x 11	39.6 x 39.6 x 27.6	7.41	2.15	0.05	No Limit
APR40-40-33CB	11 x 11	39.6 x 39.6 x 32.6	6.70	1.65	0.05	No Limit
APR40-40-33CB/A01	11 x 11	39.6 x 39.6 x 32.6	7.00	1.95	0.05	No Limit
APR43-43-12CB	11 x 11	42.1 x 42.1 x 11.6	8.71	2.85	0.068	No Limit
APR43-43-12CB/A01	11 x 11	42.1 x 42.1 x 11.6	8.97	3.11	0.068	No Limit
APR43-43-12CB/A01/T	11 x 11	42.1 x 42.1 x 11.6	8.97	3.11	0.068	3.0~3.6
APR43-43-15CB	11 x 11	42.1 x 42.1 x 14.6	8.31	2.62	0.068	No Limit
APR43-43-15CB/A01	11 x 11	42.1 x 42.1 x 14.6	8.57	2.88	0.068	No Limit
APR43-43-18CB	11 x 11	42.1 x 42.1 x 17.6	7.92	2.38	0.068	No Limit
APR43-43-18CB/A01	11 x 11	42.1 x 42.1 x 17.6	8.18	2.64	0.068	No Limit
APR43-43-21CB	11 x 11	42.1 x 42.1 x 20.6	7.61	2.19	0.068	No Limit
APR43-43-21CB/A01	11 x 11	42.1 x 42.1 x 20.6	7.87	2.45	0.068	No Limit
APR43-43-23CB	11 x 11	42.1 x 42.1 x 22.6	7.29	1.99	0.068	No Limit
APR43-43-23CB/A01	11 x 11	42.1 x 42.1 x 22.6	7.55	2.25	0.068	No Limit
APR43-43-25CB/A01	11 x 11	42.1 x 42.1 x 24.6	7.22	2.15	0.068	No Limit
APR43-43-28CB	11 x 11	42.1 x 42.1 x 27.6	6.50	1.80	0.068	No Limit
APR43-43-28CB/A01	11 x 11	42.1 x 42.1 x 27.6	6.76	2.06	0.068	No Limit
APR43-43-33CB	11 x 11	42.1 x 42.1 x 32.6	6.15	1.48	0.068	No Limit
APR43-43-33CB/A01	11 x 11	42.1 x 42.1 x 32.6	6.41	1.74	0.068	No Limit
APR45-45-12CB	11 x 11	44.6 x 44.6 x 11.6	8.50	2.73	0.08	No Limit
APR45-45-12CB/A01	11 x 11	44.6 x 44.6 x 11.6	8.73	2.96	0.08	No Limit
APR45-45-15CB	11 x 11	44.6 x 44.6 x 14.6	8.13	2.48	0.08	No Limit
APR45-45-15CB/A01	11 x 11	44.6 x 44.6 x 14.6	8.36	2.71	0.08	No Limit
APR45-45-18CB	11 x 11	44.6 x 44.6 x 17.6	7.76	2.27	0.08	No Limit
APR45-45-18CB/A01	11 x 11	44.6 x 44.6 x 17.6	7.99	2.50	0.08	No Limit
APR45-45-21CB	11 x 11	44.6 x 44.6 x 20.6	7.46	2.09	0.08	No Limit
APR45-45-21CB/A01	11 x 11	44.6 x 44.6 x 20.6	7.69	2.32	0.08	No Limit
APR45-45-23CB	11 x 11	44.6 x 44.6 x 22.6	7.14	1.88	0.08	No Limit
APR45-45-23CB/A01	11 x 11	44.6 x 44.6 x 22.6	7.37	2.11	0.08	No Limit
APR45-45-28CB	11 x 11	44.6 x 44.6 x 27.6	6.37	1.65	0.08	No Limit
APR45-45-28CB/A01	11 x 11	44.6 x 44.6 x 27.6	6.60	1.88	0.08	No Limit
APR45-45-33CB	11 x 11	44.6 x 44.6 x 32.6	6.03	1.41	0.08	No Limit
APR45-45-33CB/A01	11 x 11	44.6 x 44.6 x 32.6	6.26	1.64	0.08	No Limit
APR48-48-12CB	13 x 13	47.1 x 47.1 x 11.6	8.08	2.83	0.085	No Limit
APR48-48-12CB/A01	13 x 13	47.1 x 47.1 x 11.6	8.29	3.04	0.085	No Limit
APR48-48-15CB	13 x 13	47.1 x 47.1 x 14.6	7.62	2.60	0.085	No Limit

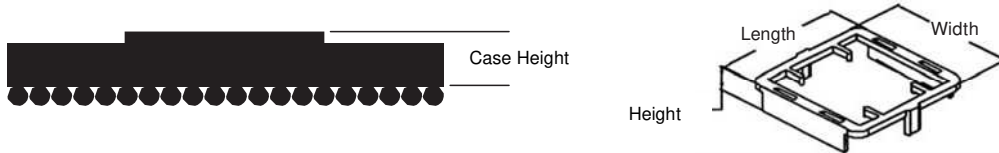
Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR48-48-15CB/A01	13 x 13	47.1 x 47.1 x 14.6	7.83	2.81	0.085	No Limit
APR48-48-18CB	13 x 13	47.1 x 47.1 x 17.6	7.23	2.36	0.085	No Limit
APR48-48-18CB/A01	13 x 13	47.1 x 47.1 x 17.6	7.44	2.57	0.085	No Limit
APR48-48-21CB	13 x 13	47.1 x 47.1 x 20.6	6.97	2.18	0.085	No Limit
APR48-48-21CB/A01	13 x 13	47.1 x 47.1 x 20.6	7.18	2.39	0.085	No Limit
APR48-48-23CB	13 x 13	47.1 x 47.1 x 22.6	6.73	1.98	0.085	No Limit
APR48-48-23CB/A01	13 x 13	47.1 x 47.1 x 22.6	6.94	2.19	0.085	No Limit
APR48-48-28CB	13 x 13	47.1 x 47.1 x 27.6	6.21	1.79	0.085	No Limit
APR48-48-28CB/A01	13 x 13	47.1 x 47.1 x 27.6	6.42	2.00	0.085	No Limit
APR48-48-33CB	13 x 13	47.1 x 47.1 x 32.6	5.66	1.47	0.085	No Limit
APR48-48-33CB/A01	13 x 13	47.1 x 47.1 x 32.6	5.87	1.68	0.085	No Limit
APR50-50-12CB	13 x 13	49.6 x 49.6 x 11.6	7.97	2.78	0.088	No Limit
APR50-50-12CB/A01	13 x 13	49.6 x 49.6 x 11.6	8.16	2.97	0.088	No Limit
APR50-50-15CB	13 x 13	49.6 x 49.6 x 14.6	7.51	2.54	0.088	No Limit
APR50-50-15CB/A01	13 x 13	49.6 x 49.6 x 14.6	7.70	2.73	0.088	No Limit
APR50-50-18CB	13 x 13	49.6 x 49.6 x 17.6	7.12	2.32	0.088	No Limit
APR50-50-18CB/A01	13 x 13	49.6 x 49.6 x 17.6	7.31	2.51	0.088	No Limit
APR50-50-21CB	13 x 13	49.6 x 49.6 x 20.6	6.85	2.14	0.088	No Limit
APR50-50-21CB/A01	13 x 13	49.6 x 49.6 x 20.6	7.04	2.33	0.088	No Limit
APR50-50-23CB	13 x 13	49.6 x 49.6 x 22.6	6.60	1.93	0.088	No Limit
APR50-50-23CB/A01	13 x 13	49.6 x 49.6 x 22.6	6.79	2.12	0.088	No Limit
APR50-50-28CB	13 x 13	49.6 x 49.6 x 27.6	6.08	1.73	0.088	No Limit
APR50-50-28CB/A01	13 x 13	49.6 x 49.6 x 27.6	6.27	1.92	0.088	No Limit
APR50-50-33CB	13 x 13	49.6 x 49.6 x 32.6	5.51	1.44	0.088	No Limit
APR50-50-33CB/A01	13 x 13	49.6 x 49.6 x 32.6	5.70	1.63	0.088	No Limit
APR53-53-12CB	13 x 13	52.1 x 52.1 x 11.6	7.66	2.74	0.086	No Limit
APR53-53-12CB/A01	13 x 13	52.1 x 52.1 x 11.6	7.84	2.92	0.086	No Limit
APR53-53-15CB	13 x 13	52.1 x 52.1 x 14.6	7.21	2.50	0.086	No Limit
APR53-53-15CB/A01	13 x 13	52.1 x 52.1 x 14.6	7.39	2.68	0.086	No Limit
APR53-53-18CB	13 x 13	52.1 x 52.1 x 17.6	6.82	2.28	0.086	No Limit
APR53-53-18CB/A01	13 x 13	52.1 x 52.1 x 17.6	7.00	2.46	0.086	No Limit
APR53-53-21CB	13 x 13	52.1 x 52.1 x 20.6	6.56	2.10	0.086	No Limit
APR53-53-21CB/A01	13 x 13	52.1 x 52.1 x 20.6	6.74	2.28	0.086	No Limit
APR53-53-23CB	13 x 13	52.1 x 52.1 x 22.6	6.31	1.90	0.086	No Limit
APR53-53-23CB/A01	13 x 13	52.1 x 52.1 x 22.6	6.49	2.08	0.086	No Limit
APR53-53-28CB	13 x 13	52.1 x 52.1 x 27.6	5.80	1.69	0.086	No Limit
APR53-53-28CB/A01	13 x 13	52.1 x 52.1 x 27.6	5.98	1.87	0.086	No Limit
APR53-53-33CB	13 x 13	52.1 x 52.1 x 32.6	5.24	1.42	0.086	No Limit
APR53-53-33CB/A01	13 x 13	52.1 x 52.1 x 32.6	5.42	1.60	0.086	No Limit
APR55-55-12CB	14 x 14	54.6 x 54.6 x 11.6	7.44	2.68	0.09	No Limit
APR55-55-12CB/A01	14 x 14	54.6 x 54.6 x 11.6	7.60	2.84	0.09	No Limit
APR55-55-15CB	14 x 14	54.6 x 54.6 x 14.6	6.99	2.43	0.09	No Limit
APR55-55-15CB/A01	14 x 14	54.6 x 54.6 x 14.6	7.15	2.59	0.09	No Limit
APR55-55-18CB	14 x 14	54.6 x 54.6 x 17.6	6.59	2.22	0.09	No Limit
APR55-55-18CB/A01	14 x 14	54.6 x 54.6 x 17.6	6.75	2.38	0.09	No Limit
APR55-55-21CB	14 x 14	54.6 x 54.6 x 20.6	6.33	2.05	0.09	No Limit
APR55-55-21CB/A01	14 x 14	54.6 x 54.6 x 20.6	6.49	2.21	0.09	No Limit
APR55-55-23CB	14 x 14	54.6 x 54.6 x 22.6	6.08	1.84	0.09	No Limit
APR55-55-23CB/A01	14 x 14	54.6 x 54.6 x 22.6	6.24	2.00	0.09	No Limit



Available Part Numbers	Fin Matrix (Rows x Columns)	Length x Width x Height (mm)	Thermal Resistance (°C/Watt)		Pressure Drop (inches H2O)	Case Height Range (mm) See Below
			NATURAL CONVECTION	FORCED CONVECTION @ 200 LFPM		
APR55-55-28CB	14 x 14	54.6 x 54.6 x 27.6	5.56	1.62	0.09	No Limit
APR55-55-28CB/A01	14 x 14	54.6 x 54.6 x 27.6	5.72	1.78	0.09	No Limit
APR55-55-33CB	14 x 14	54.6 x 54.6 x 32.6	5.00	1.38	0.09	No Limit
APR55-55-33CB/A01	14 x 14	54.6 x 54.6 x 32.6	5.16	1.54	0.09	No Limit

**MATERIAL:** 6063 Aluminum Alloy, Black Anodized  
 Thermal Resistance of AERXX-XX-XXCB is with commercial thermal compound K=1W/mK

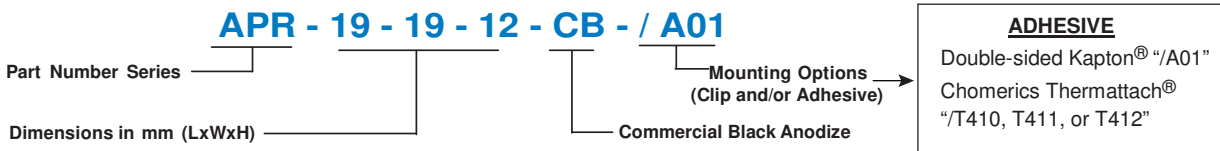
### CHIPSET CASE HEIGHT



### THERMAL INTERFACE MATERIAL STYLES

Thermal Interface Material	Supplier	Thickness (mm)	Thermal Impedance (°C-in. <sup>2</sup> /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	Double-sided acrylic adhesive loaded with titanium diboride on an expanded aluminum carrier
T710	Chomerics	0.13	0.16	N/A	Phase change thermal pad

#### PART NUMBER CODE



#### PART NUMBER CODE

