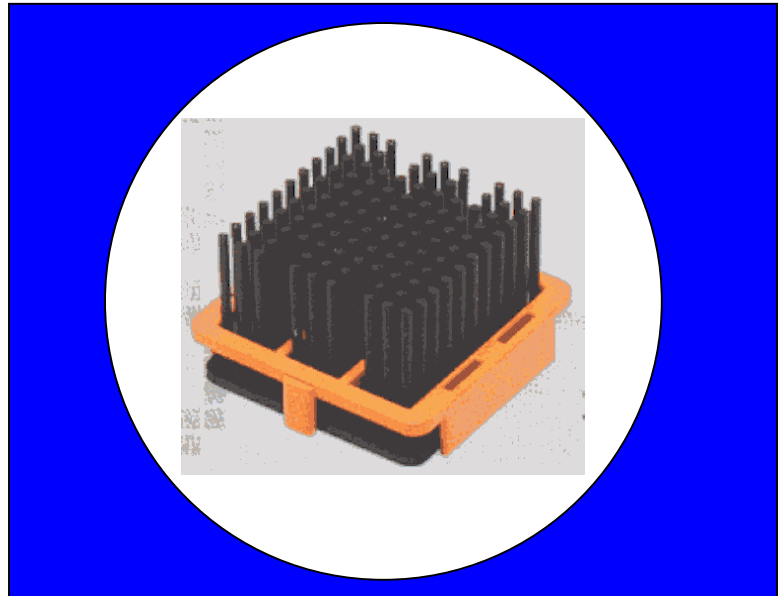


Features

- Precision forging technology for high power applications
- Omni-directional 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 Fins | | | | |
|---|--------------------------------|---------------------------------|--|------------------------------------|
| Part Number | Fin Matrix (Rows x Columns) | Length x Width x Height (mm) | Thermal Resistance (°C/Watt @ 200 LFPM) | Pressure Drop (inches of water) |
| APR19-19-12CB | 5 x 5 | 18.6 x 18.6 x 11.6 | 7.7 | 0.013 |
| APR19-19-15CB | 5 x 5 | 18.6 x 18.6 x 14.6 | 7.4 | 0.013 |
| APR19-19-20CB | 5 x 5 | 18.6 x 18.6 x 19.6 | 4.9 | 0.013 |
| APR19-19-25CB | 5 x 5 | 18.6 x 18.6 x 24.6 | 4.6 | 0.013 |
| | | | | |
| APR27-27-12CB | 8 x 8 | 26.6 x 26.6 x 11.6 | 5.3 | 0.015 |
| APR27-27-15CB | 8 x 8 | 26.6 x 26.6 x 14.6 | 4.4 | 0.015 |
| APR27-27-20CB | 8 x 8 | 26.6 x 26.6 x 19.6 | 3.1 | 0.015 |
| APR27-27-25CB | 8 x 8 | 26.6 x 26.6 x 24.6 | 2.8 | 0.015 |
| | | | | |
| APR29-29-12CB | 8 x 8 | 28.6 x 28.6 x 11.6 | 3.9 | 0.018 |
| APR29-29-15CB | 8 x 8 | 28.6 x 28.6 x 14.6 | 3.7 | 0.018 |
| APR29-29-20CB | 8 x 8 | 28.6 x 28.6 x 19.6 | 2.6 | 0.018 |
| APR29-29-25CB | 8 x 8 | 28.6 x 28.6 x 24.6 | 2.5 | 0.018 |
| | | | | |
| APR33-33-12CB | 9 x 9 | 32.6 x 32.6 x 11.6 | 3.8 | 0.020 |
| APR33-33-15CB | 9 x 9 | 32.6 x 32.6 x 14.6 | 3.2 | 0.020 |
| APR33-33-20CB | 9 x 9 | 32.6 x 32.6 x 19.6 | 2.4 | 0.020 |
| APR33-33-25CB | 9 x 9 | 32.6 x 32.6 x 24.6 | 1.9 | 0.020 |
| | | | | |
| Material: 6063 Aluminum Alloy, Black Anodized | | | | |

| Series APR Forged Aluminum Heat Sinks with Pin Fins | | | | |
|---|--------------------------------|---------------------------------|--|------------------------------------|
| Part Number | Fin Matrix (Rows x Columns) | Length x Width x Height (mm) | Thermal Resistance (°C/Watt @ 200 LFPM) | Pressure Drop (inches of water) |
| APR35-35-12CB | 10 x 10 | 34.7 x 34.7 x 11.6 | 3.5 | 0.022 |
| APR35-35-15CB | 10 x 10 | 34.7 x 34.7 x 14.6 | 2.9 | 0.022 |
| APR35-35-20CB | 10 x 10 | 34.7 x 34.7 x 19.6 | 2.0 | 0.022 |
| APR35-35-25CB | 10 x 10 | 34.7 x 34.7 x 24.6 | 1.8 | 0.022 |
| | | | | |
| APR38-38-12CB | 11 x 11 | 37.1 x 37.1 x 11.6 | 3.3 | 0.025 |
| APR38-38-15CB | 11 x 11 | 37.1 x 37.1 x 14.6 | 2.7 | 0.025 |
| APR38-38-20CB | 11 x 11 | 37.1 x 37.1 x 19.6 | 1.9 | 0.025 |
| APR38-38-25CB | 11 x 11 | 37.1 x 37.1 x 24.6 | 1.5 | 0.025 |
| | | | | |
| APR40-40-12CB | 11 x 11 | 39.6 x 39.6 x 11.6 | 2.8 | 0.027 |
| APR40-40-15CB | 11 x 11 | 39.6 x 39.6 x 14.6 | 2.3 | 0.027 |
| APR40-40-20CB | 11 x 11 | 39.6 x 39.6 x 19.6 | 1.6 | 0.027 |
| APR40-40-25CB | 11 x 11 | 39.6 x 39.6 x 24.6 | 1.4 | 0.027 |
| | | | | |
| APR43-43-12CB | 12 x 12 | 42.1 x 42.1 x 11.6 | 2.5 | 0.029 |
| APR43-43-15CB | 12 x 12 | 42.1 x 42.1 x 14.6 | 2.0 | 0.029 |
| APR43-43-20CB | 12 x 12 | 42.1 x 42.1 x 19.6 | 1.5 | 0.029 |
| APR43-43-25CB | 12 x 12 | 42.1 x 42.1 x 24.6 | 1.2 | 0.029 |
| | | | | |
| Material: 6063 Aluminum Alloy, Black Anodized | | | | |

TAPE STYLES

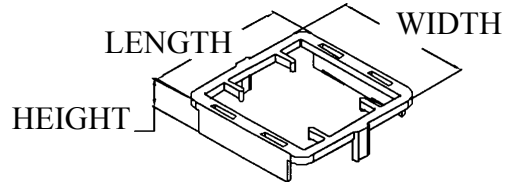
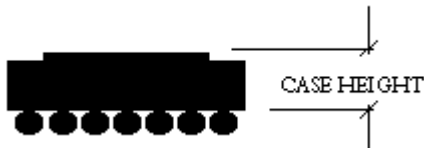
| Thermal Tape | Supplier | Thickness (mm) | Thermal Impedance (°C-in ² /W) | Dielectric Strength (V/mil) | Description |
|--------------|-----------|----------------|---|-----------------------------|--|
| A01 | IERC | 0.13 | 0.82 | 4,000 | Double-sided acrylic adhesive on a Kapton MT carrier. |
| T410 | Chomerics | 0.18 | 1.10 | N/A | Double-sided acrylic adhesive loaded w/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 w/ titanium diboride on an expanded aluminum carrier. |
| 8815 | 3M | 0.38 | 1.20 | 668 | Double-sided acrylic adhesive loaded with ceramic particles. |

CLIP STYLES

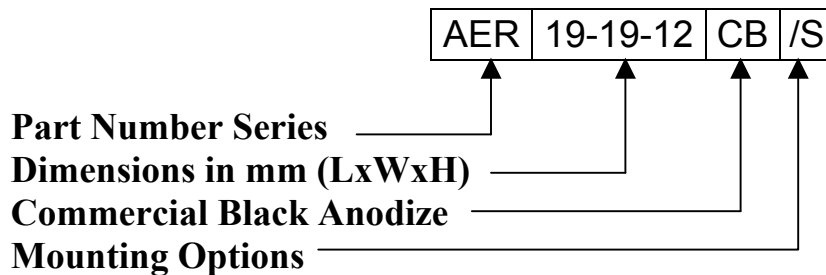
Material: Nylon Plastic per UL94-V0



| Nominal Length x Width (mm) | 0.9 mm +/- 0.3 mm Short Height Color: Orange | 1.7 mm +/- 0.3 mm Medium Height Color: Blue | 3.3 mm +/- 0.3 mm Tall Height Color: Yellow | Actual Length x Width x Height (mm) |
|-----------------------------|--|---|---|-------------------------------------|
| 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 | 42.7 x 47.7 x 9.1 |



HOW TO ORDER?



| | |
|-------------|--|
| <u>Clip</u> | <u>Adhesive</u> |
| Short “/S” | Double-sided Kapton® “/A01” |
| Medium “/M” | Chomerics Thermattach® “T410, T411, or T412” |
| Tall “/T” | 3M™ “8815” |