



**PENGUIN™ COOLERS: HEAT SINKS FOR MICROPROCESSORS, ASICs AND BGAs**



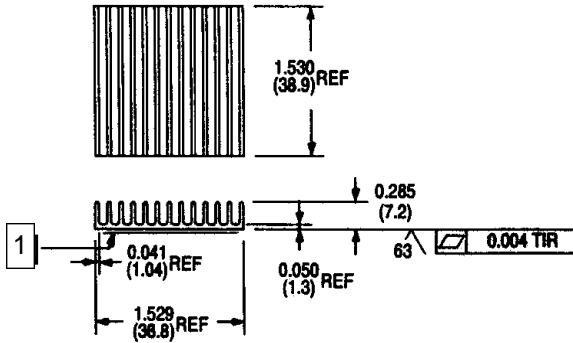
**660 SERIES Unidirectional Fin Heat Sink for PowerPC™ 603**

32 mm, 40 mm C4QFP

Standard P/N	Base Dimensions in. (mm)	Height in. (mm)	Heat Sink Finish	Weight lbs. (grams)
660-29AB ▲	1.529 (38.8) x 1.530 (38.9)	0.285 (7.2)	Black Anodized	0.031 (14.17)

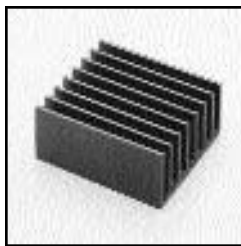
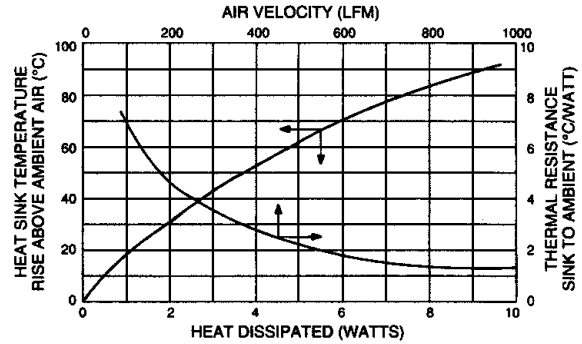
Notes: 1. Optional factory preapplied pressure-sensitive adhesive. Pages 74–76.

**MECHANICAL DIMENSIONS**



Dimensions: in. (mm)

**NATURAL AND FORCED CONVECTION CHARACTERISTICS**



**642 SERIES Unidirectional Fin Heat Sink for BGAs**

BGA

Standard P/N	Base Dimensions in. Sq.	Fin Height "A" in. (mm)	Typical Applications	Adhesive Options	Weight lbs. (grams)
642-25AB ▲	1.378 (35)	.250 (6.6)	35 mm BGA	Pages 74–76	.022 (9.99)
642-35AB ▲	1.378 (35)	.350 (8.9)	35 mm BGA	Pages 74–76	.027 (12.26)
642-45AB ▲	1.378 (35)	.450 (11.4)	35 mm BGA	Pages 74–76	.031 (14.07)
642-60AB ▲	1.378 (35)	.600 (15.2)	35 mm BGA	Pages 74–76	.039 (17.71)

Material: Aluminum, Black Anodized

The 642 Series is an unidirectional pin fin heat sink for both natural and forced-convection applications.

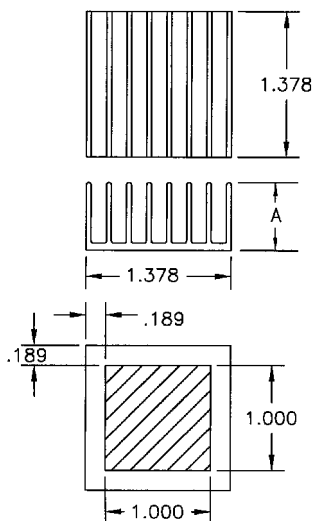
Applications include network routers and switches, high-resolution printers, digital cameras, consumer video games, digital video disks (DVD) and global positioning systems (GPS).

**PRODUCT FEATURES**

- Available in four standard heights, .25 inch, .35 inch, .45 inch, and .60 inch.
- Available with pressure sensitive adhesives for quick and easy mounting. Pages 74–76.
- Use T4 when attaching to a plastic device surface and T2 for all other surfaces.

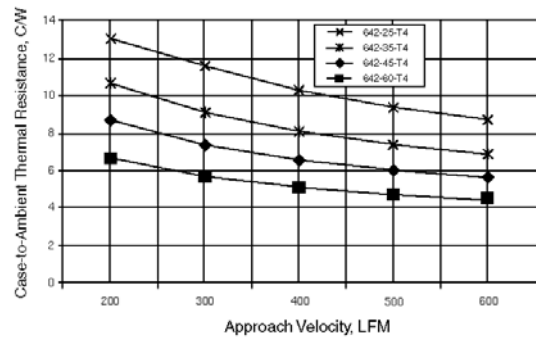
**MECHANICAL DIMENSIONS**

**642 SERIES**



Dimensions: in. (mm)

**642 THERMAL PERFORMANCE**



Performance shown is with T4 thermal adhesive applied.

**PRODUCT DESIGNATION**

