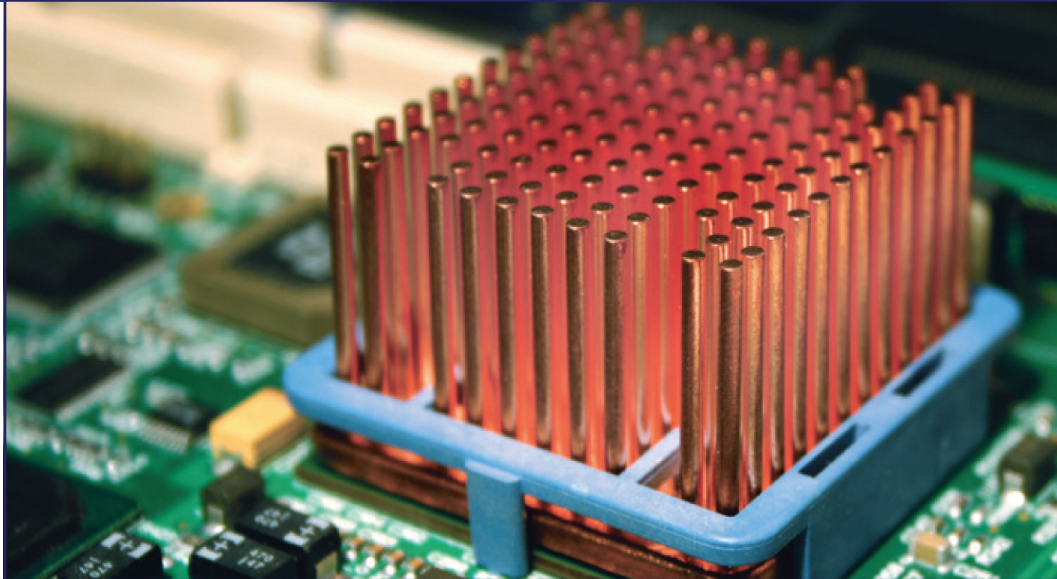
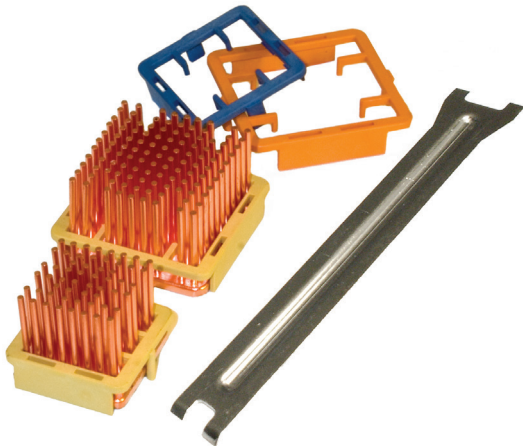


INM-PCU Series

Round Pin Aluminum BGAHeatsink

Removable Heatsinks for BGAChipsets



The INM-PCU Series of Copper Round Pin BGA Heatsinks are high efficiency cooling products which are ideal for omni-directional air flow

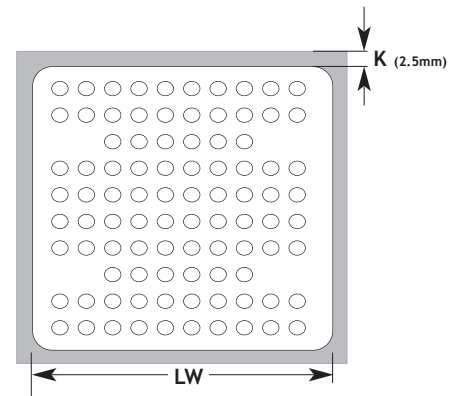
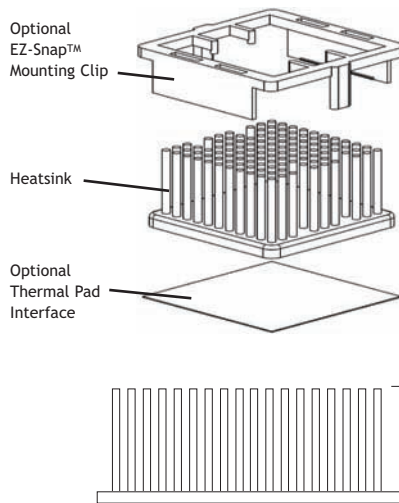
These devices mount with EZ Snap™ Mounting Clips and / or Thermal Tape to provide optimum cooling for various package sizes and airflow. These off-the-shelf, high efficiency solutions are easy to install and require no special board modifications or complex assemblies.

Features:

- * High efficiency copper round pin design provides low pressure-drop characteristics
- * Constructed of Forged CU1100 Oxygen-Free Copper for optimum heat transfer
- * Ideal for omni-directional air flow
- * Designed specifically for BGAs and other surface mount packages
- * Optional EZ-Snap™ Mounting Clip is constructed of UL94-V0 Rated Nylon
- * Use Clip Tool HS8132 to attach or remove heatsink assembly directly to BGAChip
- * Finished with clear anti-oxidation finish
- * Selected Clip & Thermal Pad Options are pre-assembled at the factory

Mechanical Outline Drawing

(See 2nd page for "LW" & "H" dimensional values)



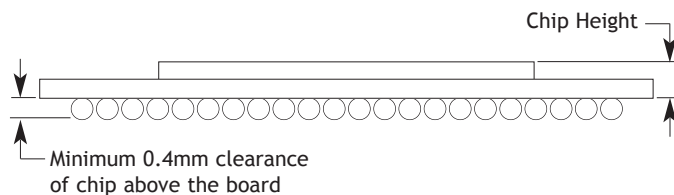
LW = Length & Width of Heatsink
 H = Overall Height of Heatsink
 K = Keep-Out Area* (2.5mm)

* clearance required for optional EZ Snap Clips

EZ Snap™ Mounting Clip

CLIPS DIRECTLY TO BGA CHIP WITH HS:8063 CLIP TOOL

See page 2 for fitting chip heights. Consult factory for unique Chip Height Requirements



- Note 1: Chip Height Measurements exclude ball dimensions (0.4mm)
- Note 2: Chip must have 0.4mm clearance above the board for clip to adhere properly
- Note 3: Maintain Keep-Out Clearance of 2.5mm around chip for clip to adhere properly



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INM-PCU Series

Round Pin Copper BGA Heatsink

Length & Width of Heatsink (mm)	Heatsink Part Number	Part Number ⁽¹⁾			Heatsink Height (mm)	Weight (oz.)	Thermal Resistance Theta - SA(C/W)			
		Optional Mounting Clip		Optional Thermal Tape/Pad Part # ⁽²⁾			100 LFM	200 LFM	400 LFM	600 LFM
		Part Number ⁽³⁾	Fits Chip Heights (mm)							
19	INM19002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	10	9.0	6.4	4.8	4.0
	NM19002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	13	8.6	6.0	4.3	3.5
	INM19002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	15	6.0	4.2	3.1	2.6
	NM19002-25PCU/2.6				24.6	15	5.5	3.9	2.9	2.4
27	INM27002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	25	6.8	4.6	3.3	2.7
	INM27002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	25	6.0	4.0	2.9	2.4
	INM27002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	28	4.2	2.8	2.1	1.7
	INM27002-25PCU/2.6				24.6	28	3.8	2.6	1.9	1.6
29	INM29002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	25	6.1	4.0	2.8	2.3
	INM29002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	25	5.4	3.6	2.4	2.0
	INM29002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	28	3.8	2.4	1.8	1.5
	INM29002-25PCU/2.6				24.6	30	3.4	2.2	1.6	1.4
33	INM33002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	45	5.0	3.0	2.0	1.5
	INM33002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	50	4.4	2.7	1.7	1.2
	INM33002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	55	2.9	1.8	1.1	0.9
	INM33002-25PCU/2.6				24.6	60	2.7	1.6	1.0	0.8
35	INM35002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	45	4.6	3.0	2.1	1.7
	INM35002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	55	4.0	2.6	1.8	1.5
	INM35002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	58	2.8	1.8	1.3	1.0
	INM35002-25PCU/2.6				24.6	63	2.6	1.7	1.2	0.9
37.5	INM37.5002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	86	4.3	2.8	2.0	1.7
	INM37.5002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	89	3.8	2.4	1.8	1.5
	INM37.5002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	93	2.7	1.8	1.2	1.0
	INM37.5002-25PCU/2.6				24.6	100	2.4	1.6	1.1	0.9
40	INM40002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	79	3.7	2.4	1.6	1.3
	INM40002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	86	3.4	2.1	1.4	1.2
	INM40002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	89	2.3	1.5	1.0	0.8
	INM40002-25PCU/2.6				24.6	104	2.1	1.4	0.9	0.7
42.5	INM42.5002-12PCU/2.6	O	0.6-1.2*	+T411	11.6	107	3.5	2.1	1.5	1.2
	INM42.5002-15PCU/2.6	-or- BU	-or- 1.4-2.0*	-or- +T412	14.6	121	3.0	1.9	1.2	1.0
	INM42.5002-20PCU/2.6	-or- Y	-or- 3.0-3.6*	-or- +T710	19.6	125	2.1	1.3	0.9	0.8
	INM42.5002-25PCU/2.6				24.6	128	1.9	1.2	0.8	0.7

Notes:

1) Example Part Numbers:

INM27002-15PCU/2.6	27 x 14.6mm Heatsink Only
INM35002-20PCU/2.6O	35 x 19.6mm Heatsink with "O"(orange) Mounting Clip (0.6-1.2mm Chip Height)
INM40002-15PCU/2.6+T411	40 x 14.6mm Heatsink with T411 Thermal Tape for Plastic Packages
INM42.5002-25PCU/2.6BU+T710	42.5 x 24.6mm Heatsink with "BU"(blue) Mounting Clip for 1.4-2.0mm chip heights and T710 Thermal Pad

2) Optional Thermal Interface Materials are defined as follows:

T411 - Thermally Conductive Tape ideal for Plastic Packages (Chomerics Part # T411)
T412 - Thermally Conductive Tape ideal for Metal or Ceramic Packages (Chomerics Part # T412)
T710 - Thermally Conductive Phase Change Pad for use with Mounting Clip (Chomerics Part # T710)

3) Mounting Clips are constructed of UL94-V0 rated nylon material and come in 3 colors, O = Orange, BU = Blue and Y = Yellow

4) Thermal Data provided is for reference only. Actual Cooling Performance may vary by application

5) Contact Radian to discuss unique Heatsink, Clip and Interface requirements.

6) Specifications are subject to change without notice

*Contact Radian for Mounting Clips to fit chip heights not displayed above.

Passive BGA Cooler Products:

HS1800 Series:

21-45mm Plate Fin (Aluminum) Ideal for Linear Air Flow

HS2000-060 Series:

21-45mm Round Pin (Aluminum) Ideal for Omni Directional Air Flow

HS2000-080 Series:

21-45mm Round Pin (Aluminum) Ideal for Omni Directional Air Flow

INM-P Series:

27-42.5mm Round Pin (Aluminum) Ideal for Omni Directional Air Flow

INM-W Series

19-45mm Elliptical Fin (Aluminum) Ideal for Linear Airflow and where Multiple Heatsinks are utilized

INE Series:

21-45mm Cross Cut Fin (Aluminum) Ideal for Linear Airflow

Custom Design and Manufacturing Services:

Our experienced engineers and production specialists are dedicated to the design and manufacture of cooling solutions to match our customers specific thermal issues, quickly and cost-effectively.

Features of our services include:

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- * Complimentary Thermal Analysis (Computational Fluid Dynamics and Design Simulation/Modeling)
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- * Rapid Prototyping Services to deliver concept models in as little as 2-5 business days and working prototypes in 1-3 weeks

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