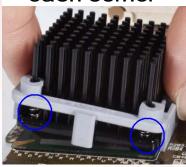


PIN FIN & ELLIPTICAL HEAT SINKS



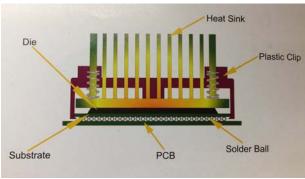
Wakefield-Vette's 901-910 Series Heat Sinks for Chipset can match up to devices from Intel, Broadcom, Xilinx. Tl, Motorola and many more! These heat sinks are designed for air flow applications. Enclosed pages have thermal performance data for natural forced convection values.

4 Springs at each corner





wakefield-vette New Chip Set Leat Sinks



Wakefield-Vette heat sink assembles onto chip set using the space that is between the PCB and the substrate of the solder balls. The solder balls provide a minimal gap of .5mm to .7mm. Attachment feature is below a .4mm thickness. The clipping system will not interfere or damage chip. Contact area is the edge of chip.







Material: AL 6063

Finish: Black Anodize

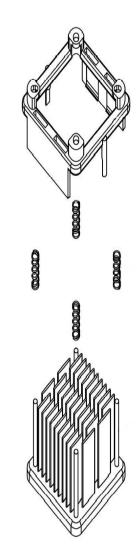
All dimensions in millimeters (mm)

Part Numbering System

<u>Series</u>	<u>Chip Size</u>	Construction Height		Spring Type *	<u>Finish</u>	<u>Interface</u>
						3
<u>901-</u>	<u>19-</u>	<u>1-</u>	<u>12-</u>	<u>1-</u>	<u>B-</u>	1
XXX	XX	Χ	XX	Χ	Χ	Χ

901	19	1= Eliptical Fin	12 = 11.6	1 = .9-2.1 CST	B = BLK ANO	0 = None
902	21	2= Pin Fin	15 = 14.6	2 = 2.2-3.4 CST		1 = T725
903	23		18 = 17.6			
904	27		21 = 20.6			
905	29		23 = 22.6			
906	31		28 = 27.6			
907	33		33 = 32.6			
908	35	•				
909	37.5			*Noto: \//b op oolo:	- #! #	-1-1

*Note: When selecting part number chip set thickness (CST) relates to spring selection!









THERMAL PERFORMANCE



	PIN FIN						ELLIPTICAL FIN				
	HT	CHIP NATURAL FORCED CONVECTION (C/W)				NATURAL FORCED CONVECTION (C/W)					
_		SIZE	CONVECTION	200 LFM	400 LFM	600 LFM	CONVECTION	200 LFM	400 LFM	600 LFM	
901	12	19mm	12.74 C/W	6.6 C/W	4.79 C/W	4.16 C/W	14.77 C/W	6.63 C/W	5.09 C/W	4.38 C/W	
- 1	15	19mm	12.05 C/W	6.3 C/W	4.51 C/W	3.86 C/W	14 C/W	6.12 C/W	4.63 C/W	3.95 C/W	
- 1	18	19mm	11.35 C/W	5.97 C/W	4.16 C/W	3.47 C/W	13.23 C/W	5.67 C/W	4.17 C/W	3.58 /CW	
- 1	21	19mm	10.66 C/W	5.66 C/W	3.89 C/W	3.21 C/W	12.46 C/W	5.28 C/W	3.87 C/W	3.24 C/W	
- 1	23	19mm	10.55 C/W	5.36 C/W	3.64 C/W	2.99 C/W	11.98 C/W	4.89 C/W	3.58 C/W	3.06 C/W	
- 1	28	19mm	10.27 C/W	4.91 C/W	3.36 C/W	2.71 C/W	11.5 C/W	4.38 C/W	3.26 C/W	2.80 C/W	
- 1	33	19mm	9.99 C/W	4.52 C/W	3.07 C/W	2.49 C/W	9.57 C/W	4.04 C/W	2.98 C/W	2.62 C/W	
902	12	21mm	12.4 C/W	6.61 C/W	4.37 C/W	3.7 C/W	14.31 C/W	5.81 C/W	3.86 C/W	3.16 C/W	
I	15	21mm	11.73 C/W	5.84 C/W	4.09 C/W	3.42 C/W	13.57 C/W	5.3 C/W	3.5 C/W	2.89 C/W	
- 1	18	21mm	11.06 C/W	5.51 C/W	3.76 C/W	3.07 C/W	12.83 C/W	4.95 C/W	3.35 C/W	2.66 C/W	
- 1	21	21mm	10.38 C/W	5.20 C/W	3.49 C/W	2.84 C/W	12.09 C/W	4.61 C/W	3.111 C/W	2.47 C/W	
- [23	21mm	10.27 C/W	4.9 C/W	3.26 C/W	2.62 C/W	11.63 C/W	4.32 C/W	2.91 C/W	2.32 C/W	
- 1	28	21mm	9.98 C/W	4.55 C/W	2.98 C/W	2.42 C/W	10.47 C/W	3.89 C/W	2.61 C/W	2.09 C/W	
- [33	21mm	9.7 C/W	4.18 C/W	2.73 C/W	2.21 C/W	9.3 C/W	3.57 C/W	2.37 C/W	1.95 C/W	
903	12	23mm	12.06 C/W	5.72 C/W	3.95 C/W	3.24 C/W	13.85 C/W	4.75 C/W	3.31 C/W	2.79 C/W	
I	15	23mm	11.41 C/W	5.39 C/W	3.67 C/W	2.99 C/W	13.14 C/W	4.38 C/W	3.05 C/W	2.53 C/W	
I	18	23mm	10.76 C/W	5.05 C/W	3.35 C/W	2.67 C/W	12.44 C/W	4.07 C/W	2.81 C/W	2.32 C/W	
- 1	21	23mm	10.11 C/W	4.74 C/W	3.1 C/W	2.46 C/W	11.73 C/W	3.84 C/W	2.57 C/W	2.11 C/W	
- 1	23	23mm	9.99 C/W	4.44 C/W	2.87 C/W	2.31 C/W	11.28 C/W	3.59 C/W	2.4 C/W	1.97 C/W	
- 1	28	23mm	9.70 C/W	4.09 C/W	2.62 C/W	2.12 C/W	10.16 C/W	3.22 C/W	2.17 C/W	1.8 C/W	
	33	23mm	9.41 C/W	3.83 C/W	2.43 C/W	1.96 C/W	9.04 C/W	2.93 C/W	1.95 C/W	1.64 C/W	
904	12	27mm	11.38 C/W	4.84 C/W	3.11 C/W	2.32 C/W	12.93 C/W	4.34 C/W	3 C/W	2.53 C/W	
1	15	27mm	10.78 C/W	4.48 C/W	2.84 C/W	2.12 C/W	12.29 C/W	4.05 C/W	2.76 C/W	2.29 C/W	
- 1	18	27mm	10.17 C/W	4.13 C/W	2.56 C/W	1.88 C/W	11.64 C/W	3.73 C/W	2.5 C/W	2.07 C/W	
1	21	27mm	9.56 C/W	3.82 C/W	2.32 C/W	1.72 C/W	11 C/W	3.43 C/W	2.31 C/W	1.9 C/W	
1	23	27mm	9.44 C/W	3.51 C/W	2.11 C/W	1.6 C/W	10.58 C/W	3.21 C/W	2.11 C/W	1.71 C/W	
- 1	28	27mm	9.13 C/W	3.26 C/W	1.97 C/W	1.49 C/W	9.54 C/W	2.89 C/W	1.84 C/W	1.51 C/W	
I	33	27mm	8.82 C/W	3.07 C/W	1.82 C/W	1.39 C/W	8.51 C/W	2.62 C/W	1.66 C/W	1.35 C/W	
905	12	29mm	11.04 C/W	4.08 C/W	2.55 C/W	1.98 C/W	12.47 C/W	4.09 C/W	2.74 C/W	2.25 C/W	
- 1	15	29mm	10.46 C/W	3.82 C/W	2.32 C/W	1.78 C/W	11.86 C/W	3.81 C/W	2.52 C/W	2.02 C/W	
I	18	29mm	9.87 C/W	3.58 C/W	2.14 C/W	1.58 C/W	11.25 C/W	3.56 C/W	2.31 C/W	1.84 C/W	
I	21	29mm	9.28 C/W	3.33 C/W	1.96 C/W	1.44 C/W	10.63 C/W	3.3 C/W	2.12 C/W	1.65 C/W	
1	23	29mm	9.16 C/W	3.13 C/W	1.82 C/W	1.34 C/W	10.23 C/W	3.06 C/W	1.91 C/W	1.49 C/W	
I	28	29mm	8.84 C/W	2.82 C/W	1.64 C/W	1.2 C/W	9.24 C/W	2.72 C/W	1.69 C/W	1.33 C/W	
1	33	29mm	8.53 C/W	2.59 C/W	1.47 C/W	1.07 C/W	8.24 C/W	2.47 C/W	1.49 C/W	1.18 C/W	
_											

Thermal Cooling Solutions from SMART to FINISH





THERMAL PERFORMANCE



	PIN FIN						ELLIPTICAL FIN				
	HT	CHIP	HIP NATURAL FORCED CONVECTION (C/W)				NATURAL FORCED CONVECTION (C/W)				
_	e e	SIZE	CONVECTION	200 LFM	400 LFM	600 LFM	CONVECTION	200 LFM	400 LFM	600 LFM	
906	12	31mm	10.71 C/W	3.49 C/W	2.28 C/W	1.69 C/W	12.02 C/W	3.37 C/W	2.25 C/W	1.87 C/W	
- [15	31mm	10.14 C/W	3.18 C/W	2.03 C/W	1.5 C/W	11.43 C/W	3.13 C/W	2.02 C/W	1.66 C/W	
- 1	18	31mm	9.57 C/W	2.93 C/W	1.86 C/W	1.33 C/W	10.85 C/W	2.85 C/W	1.79 C/W	1.45 C/W	
- [21	31mm	9.01 C/W	2.72 C/W	1.69 C/W	1.2 C/W	10.27 C/W	2.63 C/W	1.63 C/W	1.31 C/W	
	23	31mm	8.88 C/W	2.5 C/W	1.54 C/W	1.07 C/W	9.88 C/W	2.44 C/W	1.5 C/W	1.19 C/W	
- 1	28	31mm	8.56 C/W	2.26 C/W	1.38 C/W	.96 C/W	8.93 C/W	2.21 C/W	1.36 C/W	1.05 C/W	
- 1	33	31mm	8.24 C/W	2.09 C/W	1.27 C/W	.88 C/W	7.98 C/W	2.02 C/W	1.19 C/W	.93 C/W	
907	12	33mm	10.37 C/W	3.32 C/W	2.18 C/W	1.62 C/W	11.56 C/W	3.23 C/W	2.09 C/W	1.73 C/W	
- 1	15	33mm	9.82 C/W	3.14 C/W	1.99 C/W	1.45 C/W	11 C/W	2.97 C/W	1.88 C/W	1.54 C/W	
	18	33mm	9.28 C/W	2.89 C/W	1.78 C/W	1.3 C/W	10.45 C/W	2.69 C/W	1.7 C/W	1.37 C/W	
	21	33mm	8.73 C/W	2.67 C/W	1.60 C/W	1.13 C/W	9.9 C/W	2.5 C/W	1.52 C/W	1.22 C/W	
- 1	23	33mm	8.60 C/W	2.45 C/W	1.43 C/W	.99 C/W	9.54 C/W	2.3 C/W	1.37 C/W	1.08 C/W	
- 1	28	33mm	8.27 C/W	2.24 C/W	1.28 C/W	.87 C/W	8.62 C/W	2.08 C/W	1.23 C/W	.98 C/W	
	33	33mm	7.94 C/W	2.03 C/W	1.15 C/W	.77 C/W	7.71 C/W	1.89 C/W	1.08 C/W	.86 C/W	
908	12	35mm	10.03 C/W	3.06 C/W	1.97 C/W	1.49 C/W	11.1 C/W	3.07 C/W	2.07 C/W	1.64 C/W	
- 1	15	35mm	9.5 C/W	2.85 C/W	1.81 C/W	1.34 C/W	10.58 C/W	2.79 C/W	1.87 C/W	1.46 C/W	
	18	35mm	8.98 C/W	2.6 C/W	1.64 C/W	1.19 C/W	10.06 C/W	2.54 C/W	1.69 C/W	1.27 C/W	
	21	35mm	8.46 C/W	2.4 C/W	1.5 C/W	1.07 C/W	9.53 C/W	2.35 C/W	1.52 C/W	1.15 C/W	
	23	35mm	8.32 C/W	2.19 C/W	1.34 C/W	.97 C/W	8.75 C/W	2.13 C/W	1.35 C/W	1.01 C/W	
	28	35mm	7.99 C/W	1.97 C/W	1.19 C/W	.83 C/W	7.93 C/W	1.94 C/W	1.19 C/W	.86 C/W	
	33	35mm	7.65 C/W	1.82 C/W	1.06 C/W	.7 C/W	7.11 C/W	1.69 C/W	1.02 C/W	.72 C/W	
909	12	37.5mm	9.60 C/W	2.93 C/W	1.90 C/W	1.36 C/W	10.52 C/W	3.11 C/W	2.01 C/W	1.61 C/W	
- 1	15	37.5mm	9.11 C/W	2.71 C/W	1.72 C/W	1.19 C//W	10.04 C/W	2.82 C/W	1.79 C/W	1.41 C/W	
- 1	18	37.5mm		2.52 C/W	1.53 C/W	1.05 C/W	9.56 C/W	2.59 C/W	1.59 C/W	1.22 C/W	
	21	37.5mm	8.11 C/W	2.25 C/W	1.36 C/W	.88 C/W	9.08 C/W	2.38 C/W	1.41 C/W	1.06 C/W	
	23	37.5mm		2.04 C/W	1.2 C/W	.75 C/W	8.75 C/W	2.15 /CW	1.24 C/W	.94 C/W	
	28	37.5mm	7.63 C/W	1.82 C/W	1.01 C/W	.63 C/W	7.93 C/W	1.88 C/W	1.08 C/W	.8 C/W	
	33	37.5mm	7.29 C/W	1.6 C/W	.87 C/W	.52 C/W	7.11 C/W	1.64 C/W	.93 C/W	.68 C/W	
910	12	40mm	9.18 C/W	2.84 C/W	1.86 C/W	1.36 C/W	9.95 C/W	3.09 C/W	1.93 C/W	1.56 C/W	
	15	40mm	8.71 C/W	2.64 C/W	1.65 C/W	1.18 C/W	9.51 C/W	2.77 C/W	1.73 C/W	1.37 C/W	
	18	40mm	8.24 C/W	2.4 CW	1.44 C/W	.98 C/W	9.06 C/W	2.74 C/W	1.52 C/W	1.17 C/W	
- 1	21	40mm	7.77 C/W	2.21 C/W	1.27 C/W	.86 C/W	8.62 C/W	2.22 C/W	1.35 C/W	.99 C/W	
	23	40mm	7.63 C/W	2 C/W	1.15 C/W	.73 C/W	8.3 C/W	2.01C/W	1.19 C/W	.87 C/W	
- 1	28	40mm	7.27 C/W	1.77 C/W	.99 C/W	.62 C/W	7.55 C/W	1.8 C/W	1.04 C/W	.75 C/W	
Į.	33	40mm	6.92 C/W	1.58 C/W	.85 C/W	.51 C/W	6.78 C/W	1.61 C/W	.88 C/W	.64 C/W	

Thermal Cooling Solutions from SMART to FINISH



SHOCK TEST SPECIFICATION :

Wave Form: Half sine wave

Acceleration: 50 g Duration Time: 11 ms

No. of Shock : Each axis 3 times Shock Direction : $\pm X$, $\pm Y$, $\pm Z$ axis

Reliability & Communication Testing

Instruments

Random Vibration test

Frequency: 5 Hz to 500 Hz Acceleration: 3.13 grms P.S.D: 0.01 g2/HZ (5 Hz) 0.02 g2/HZ (20 Hz to 500 Hz)

Test Axis: X, Y, Z axis

Test Time: 10 mins (Each axis)

Total Test Time: 30 mins

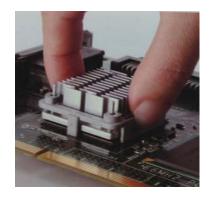




STEP 1: Center heat Sink onto BGA. Tilt and hook one side of the clip under the BGA chip.



STEP 2: Press down the other side of clip to snap it onto the BGA chip.



step:3 Make sure the stop pin is not on top of the chip set. Installation Done!







Contact Us / Corporate Location Information

Wakefield-Vette is Global. Global presence means our engineering, design, sales and support are close to our customers, in the Americas, Europe, Middle East and Asia. It mean multi-national manufacturing and delivery. And it means a global Wakefield-Vette supply chain that can deliver, and provide support quickly, anywhere, with the highest quality solutions.

Contact sales for a list of Distributors that carry stock.

East Coast Operations

New Hampshire

33 Bridge Street

Pelham.NH 03076

Phone: 603-635-2800

Fax: 603-635-1900

Info@wakefield-vette.com

(Wakefield-Vette Headquarters)

2013 Wakefield-Vette. All rights reserved. Information is subject to change without notice. Wakefield-Vette assumes no liability for the errors that may appear in this document.



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Heat Sinks category:

Click to view products by Wakefield manufacturer:

Other Similar products are found below:

581102B00000G 656-15ABPE 657-20ABPNE 7020B-TC12-MTG 73452PPBA 7G0011A PF720G A22-4026 HAH10L HAH15L HF20

1542616-1 HS-2506-F1 HS-87M0-F2 218-40CTE3 231-69PAB-15V 25-7520 SW50-4G 231-75PAB-13V 231-75PAB-15V 253-122ABE
22 PSC22CB CLP212SG CLP-7701G HAA083 HAF10L HAQ10T D10100-28 TO5-002D BDN183CBA01 3-21053-4 32438 TX0506-1B

TX1806B LAE66A3CB WA-DT2-101E 511-3U 73381PPBA 73403PPBA 7G0047C COMX-440-HSP 510-12M D10650-40T5 V8511 Y

APF40-40-13CB/A01 780653U04500G ATS-54310K-C2-R0 FK 216 CB SA FK 231 SA 220 648-51AB