Heat Sink Catalogue
Revision 23

Sehr geehrte Damen und Herren,

Sie halten unseren CPU-Kühlerkatalog in der Revision 23 in den Händen, mit aktuellen Kühllösungen für Prozessoren oder Systeme wie Server und Workstation. Die Kompetenz zu diesem Thema haben wir uns über viele Jahre erarbeitet. Hierfür war und ist Ihre Mitarbeit unerlässlich. Wir möchten uns an dieser Stelle für Ihre Kooperation und konstruktive Zusammenarbeit bedanken.

Wieder haben wir versucht die Übersichtlichkeit des Kataloges zu verbessern. An einigen Stellen werden Sie keine technischen Details finden. Das liegt daran, dass uns die entsprechenden Daten zum Zeitpunkt der Fertigstellung nicht vorlagen. Wir werden versuchen die fehlenden Daten zur nächsten Revision einzufügen. Wir nehmen Ihre Anregungen zur Verbesserung des Kataloges gerne entgegen.

Umsetzung des Elektro- und Elektronikgerätegesetz ElektroG

Das am 24. März 2005 in Kraft getretene Gesetz dient der Umsetzung der beiden Richtlinien 2002/96/EG über Elektro- und Elektronikgeräte („WEEE-Richtlinie“) und 2002/95/EG zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten („RoHS-Richtlinie“). Die von der HSM importierten Produkte – wie aktive und passive CPU-Kühler, Kabel, Steckverbinder, Spulen, Transformatoren und Übertrager – sind Bauelemente ohne eigenständige Funktion und gelten nicht als Geräte im Sinne des ElektroG. Erst das Gerät, in das diese Bauteile eingebaut worden sind, erfüllt die erwartete bestimmungsgemäße eigenständige Funktion. Die ***eigenständige Funktion*** wird in der Richtlinie 89/336/EWG (geändert durch die Richtlinien 91/263/EWG, 92/31/EWG, 93/68/EWG und 93/97/EWG) definiert und ist unter Punkt 3.8 im Leitfaden zur Anwendung der Richtlinie 89/336/EWG des Rates vom 3. Mai 1989 zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten über die elektromagnetische Verträglichkeit spezifiziert.

Europäische Richtlinien 2002/95/EG, 2003/11/EG, 2011/65/EG und 2015/863/EU
Das Thema RoHS und die Umsetzung der entsprechenden EU-Richtlinien wurden von uns abgeschlossen. Die von uns gelieferten Waren enthalten keine beschränkten Stoffe bzw. Stoffgruppen laut oben genannter Richtlinien und sind somit RoHS kompatibel.

REACh-Verordnung 1907/2006/EG
Die Europäische Chemikalienagentur ECHA hat auf Ihrer Internetseite eine Kandidatenliste besonders besorgniserregender Stoffe unter https://echa.europa.eu/de/candidate-list-table veröffentlicht. Die von uns gelieferten Waren enthalten keine Stoffe dieser Kandidatenliste in einer Konzentration von mehr als 0,1 Masseprozent und sind somit REACh kompatibel.

Kennzeichnung der Produkte entsprechend WEEE und RoHS
Der Kennzeichnungspflicht der Produkte kommen wir entsprechend den gesetzlichen Vorschriften nach.

Bitte informieren Sie sich auf unserer Webseite www.hsmz.eu über unsere Produkte.

Wir freuen uns auf Ihre Anfragen und Bestellungen!

Ihr HSM Team

Dear Sir or Madam

You are holding our CPU Cooler catalogue Revision 23 in your hands with current cooling solutions for processors or systems like servers and workstation. We have worked out the competence to this topic over many years. Your cooperation was and is essential for this. We would like to say thank-you for your constructive cooperation in this place.

We have tried again to improve the clarity of the catalogue. You won't find any technical details in some places. This is because we had not the corresponding data at the time of the completion. We will try to insert the missing data for the next revision. We like to receive your suggestions for the improvement in the catalogue.

The putting into action of the "Electrical and Electronic Equipment Law ElektroG"

The law becomes effective on March 24th, 2005. It serves the putting into action of the two guidelines 2002/96/EG and 2002/95/EG to the restriction of the use of certain dangerous substances in electrical and electronic equipment ("RoHS guideline") over electrical and electronics old equipment ("WEEE guideline"). The products, like active and passive CPU coolers, cables, plug connectors, spools and transformers, imported by the HSM are construction elements without an independent function and aren't regarded as an equipment according to the ElektroG. The device into which these components have been installed fulfills the expected independent function as agreed first. ***The independent function*** is (changed by the guidelines 91/263/EWG, 92/31/EWG, 93/68/EWG and 93/97/EWG) defined in the guide to the application of the guideline 89/336/EWG under point 3.8 of the advice of May 3rd, 1989. It contains the adjustment of the legal provisions of the member states about the electromagnetic compatibility

European guidelines 2002/95/EG, 2003/11/EG, 2011/65/EG and 2015/863/EU
The topic RoHS and the implementation of the relevant EU guidelines were completed by us. The goods supplied by us do not contain restricted substances or groups of substances according to the above guidelines and are therefore RoHS compliant.

REACh Regulation 1907/2006/EC
The European Chemicals Agency ECHA published a list of candidates which contain particularly worrisome substances on their website.
You can find it here: https://echa.europa.eu/de/candidate-list-table. The goods supplied by us do not contain substances of this candidate list in a concentration of more than 0.1 percent by mass. Therefore, our products are REACh compliant.

Identification of the products according to WEEE and RoHS
We comply with the identification duty of the products according to the legal regulations.

Please inform yourself also on our website www.hsmz.eu about our products.

We look forward to your enquiries and orders!

Your HSM Team

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T1NP-ASI7-0000D	**#102325**	1U	passive				1.1
T1NP-BSI7-0000D	**#102326**	1U	passive				1.1
S1NP-FSI7-0000Z-1	**#104373**	1U	passive	Heatpipe			1.2
S1NP-CSI7-0000Z-2	**#104449**	1U	passive				1.2
S1NP-FSI7-0000Z-2	**#104850**	1U	passive	Heatpipe			1.3
T1NA-BSI7-E125Z-1	**#104342**	1U	active		PWM	19-45dB-A	1.3
T1NA-BSI7-E125Z-3	**#104651**	1U	active		PWM	18-55dB-A	1.4
T1NA-BSI7-E125Z-2	**#104349**	1U	active	Radial Blower	PWM	18-51dB-A	1.4
T1NA-ASI7-E125D	**#104761**	1U	active		PWM	19-49dB-A	1.5
E1SA-CSI7-E124Z	**#103967**	1U	active	Sunflower	PWM	21-42.9dB-A	1.5
E2SA-CSI7-E124D	**#102341**	1.5U	active	Sunflower	PWM	19-39.9dB-A	1.6
E2SA-CSI7-E124Z	**#104270**	1.5U	active	Sunflower	PWM	19-40dB-A	1.6
T2NP-CSI7-0000Z-3	**#104592**	2U	passive				1.7
T2NP-CSI7-0000Z-2	**#104400**	2U	passive				1.7
S2NP-FSI7-0000D	**#102966**	2U	passive	Heatpipe			1.8
T2NP-CSI7-0000Z	**#103954**	2U	passive				1.8
T2NP-CSI7-0000Z	**#104847**	2U	passive				1.9
E2NA-CSI7-E124Z	**#104232**	2U	active	Sunflower	PWM	21-49dB-A	1.9
T2NA-ASI7-E126D	**#102883**	2U	active	Sideblower	PWM	22-47dB-A	1.10
S2NA-FSI7-E126Z	**#104941**	2U	active	Sideblower / Heatpipe	PWM	21-45dB-A	1.10
E2NA-CSI7-E124D	**#102355**	2U	active	Sunflower	PWM	21-49dB-A	1.11
S3NP-DSI7-0000Z-3	**#104341**	3U	passive	Heatpipe			1.11
S3SA-DSI7-T123Z	**#104499**	3U	active	Heatpipe	PWM	36.7dB-A	1.12
S3NA-DSI7-T121Z	**#104428**	3U	active	Heatpipe	PWM	24.5dB-A	1.12
S3NA-DSI7-T123Z-1	**#104417**	3U	active	Sideblower	PWM	37dB-A	1.13

Cooling Solutions for Intel Socket LGA1366

T1SA-BSI6-D125D	**#102079**	1.5U	active		PWM	43dB-A	2.1
S2NA-FSI6-D126D	**#102957**	2U	active	Sideblower / Heatpipe	PWM	46dB-A	2.1
S2NA-FSI6-D129D	**#103039**	2U	active	Sideblower / Heatpipe	PWM	19-55dB-A	2.2

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Cooling Solutions for Intel Socket LGA1700

S1NP-GSD1-0000Z	**#104973**	1U		passive				3.1
Pin Heatsink 90x90x29mm	**#105109**	1U		passive				3.1
T1NA-BSD1-E125Z-1	**#105105**	1U		active		PWM	~64dB-A	3.2
Pin Heatsink 90x90x41mm	**#105108**	1.5U		passive				3.2
E2SA-CSD1-E124Z	**#105017**	1.5U		active	Sunflower	PWM	19-39.9dB-A	3.3
Pin Heatsink 90x90x65mm	**#105110**	2U		passive				3.3
T2NP-CSD1-0000Z	**#105025**	2U		passive	Copper Slug			3.4
S2NA-FSD1-E126Z	**#104958**	2U		active	Sideblower / Heatpipe	PWM	~68dB-A	3.4
S2NA-FSD1-E126Z	**#105179**	2U		active	Sideblower / Heatpipe	PWM	45dB-A	3.5
E2NA-CSD1-E124Z	**#105018**	2U		active	Sunflower	PWM	21-49dB-A	3.5
S3SA-DSD1-E121Z	**#104977**	3U		active	Heatpipe	PWM	21-43dB-A	3.6

Cooling Solutions for Intel Sockets LGA20xx

T1NP-GSI8-0000D-1	**#103589**	1U	Square	passive	Vapor Chamber			4.1
T1SA-BSI8-E125D	**#103657**	1U	Narrow	active	Radial Blower	PWM	18-51dB-A	4.1
S2NP-FSI8-0000D	**#103969**	2U	Narrow	passive	Heatpipes			4.2
E2SA-CSI8-E124D	**#103305**	2U	Square	active	Sunflower	PWM	49dB-A	4.2
S2NA-FSI8-D129D	**#103144**	2U	Square	active	Sideblower	PWM	55dB-A	4.3
E2NA-ASI8-D124D	**#103034**	2U	Narrow	active		PWM	45dB-A	4.3
S2NA-FSI8-D129D-1	**#103254**	2U	Narrow	active	Sideblower / Heatpipes	PWM	55dB-A	4.4
T3NP-CSI8-0000Z	**#104250**	3U	Square	passive				4.4
S3SA-DSI8-T124Z	**#104082**	3U	Square	active	Heatpipes	PWM	42dB-A	4.5
S3NA-DSI8-T123Z	**#104461**	3U	Square	active	Sideblower / Heatpipes	PWM	37dB-A	4.5

Cooling Solutions for Intel Socket LGA3647

S2NA-FSI9-D129D	**#104443**	2U		active	Sideblower / Heatpipe	PWM	19-55dB-A	5.1

Cooling Solutions for Intel Socket G1/G2

T1NP-BSPG-0000D	**#103434**	1U		passive				6.1
E1NP-CSBG-0000Z	**#104486**	1U		passive				6.1
T1NA-BSPG-T124Z	**#104267**	1U		active		PWM	36.5dB-A	6.2
T1NA-BSPG-P126D-1	**#103246**	1U		active	Radial Blower	PWM	47.5dB-A	6.2
T1NA-BSPG-E125D-2	**#103624**	1U		active	Radial Blower	PWM	18-55dB-A	6.3
E1NA-CSBG-P123Z	**#103597**	1U		active		PWM	30dB-A	6.3
E2NP-ASPG-0000D-1	**#103290**	2U		passive				6.4
T2NP-BSPG-0000D	**#103157**	2U		passive				6.4
E2NP-ASG-0000D	**#103449**	2U		passive				6.5

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Cooling Solutions for AMD Socket S1							
E1NP-ASS1-0000H	**#104064**	1U	passive				7.1
E1NA-ASS1-P123F	**#103537**	1U	active		PWM	30dB-A	7.1
E1NA-ASS1-C115F	**#103664**	1U	active			36dB-A	7.2
T2SP-ASS1-0000D	**#103438**	2U	passive				7.2
Cooling Solutions for AMD Socket SP3							
S1NP-HSA5-0000Z	**#104502**	1U	passive	Vapor Chamber			8.1
S2NP-FSA5-0000D	**#104929**	2U	passive	Heatpipe			8.1
Cooling Solutions for AMD Ryzen (AM4, AM5)							
S1NP-FSRY-0000Z-1	**#104860**	1U	passive	Heatpipes			9.1
S1NP-FSRY-0000Z-2	**#105133**	1U	passive	UNC			9.1
S1NP-FSRY-0000Z-3	**#105148**	1U	passive	UNC			9.2
S2NP-FSA7-0000Z-2	**#104863**	2U	passive	Heatpipe			9.2
S2NA-FSA7-E126Z-1	**#104820**	2U	active	Sideblower / Heatpipe	PWM	~46dB-A	9.3
S2NA-FSA7-E126Z-2	**#105134**	2U	active	UNC	PWM	45dB-A	9.3
BGA Cooling Solutions							
E1NP-ASPBX-0000F	**#103362**	1U	passive				10.1
E1SP-AWBX-0000D	**#100732**	1U	passive				10.1
E1NP-ASBI1-0000G	**#102364**	1U	passive				10.2
E1NP-ASBI1-0000F	**#103278**	1U	passive				10.2
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Cooling Solutions for Intel Sockets LGA115x

- most items without backplate -

T1NP-ASI7-0000D

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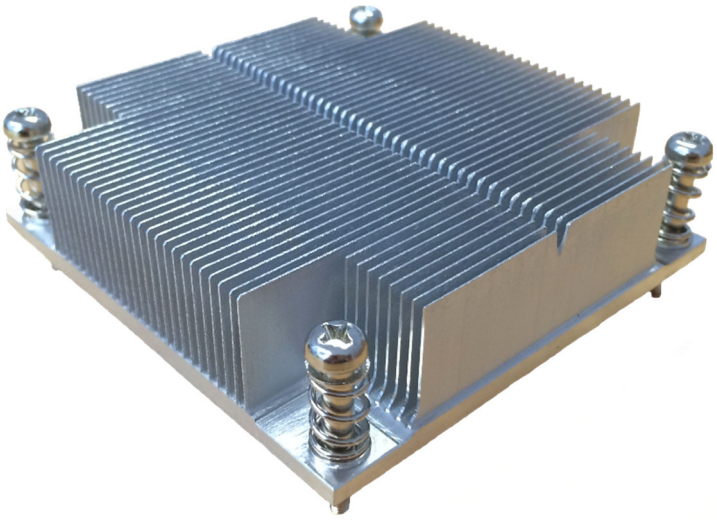
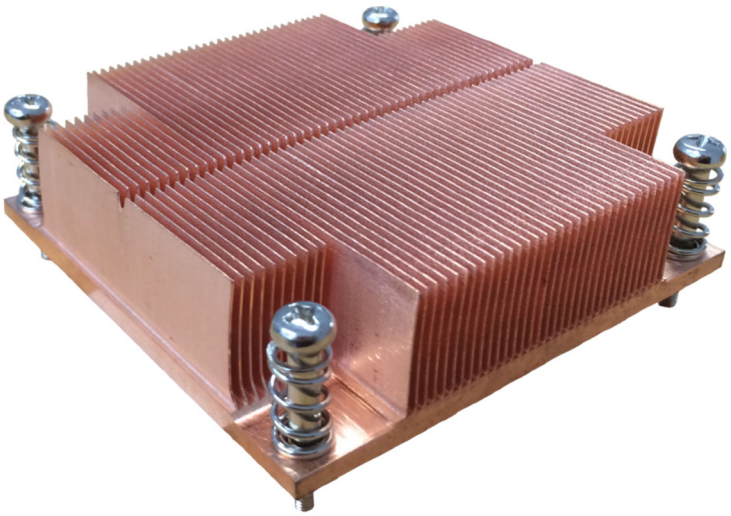


Application	**1U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Dimensions overall / Weight	85L x 85W x 26H (mm) / 220g
Thermal Resistance	Rth = 0.353°C/W @15CFM
RoHS compliant	Yes

T1NP-BSI7-0000D

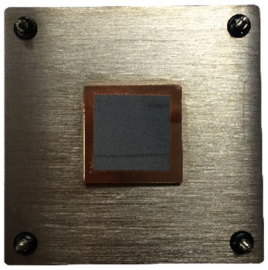
HSM Part# 102326 ↑back to content list

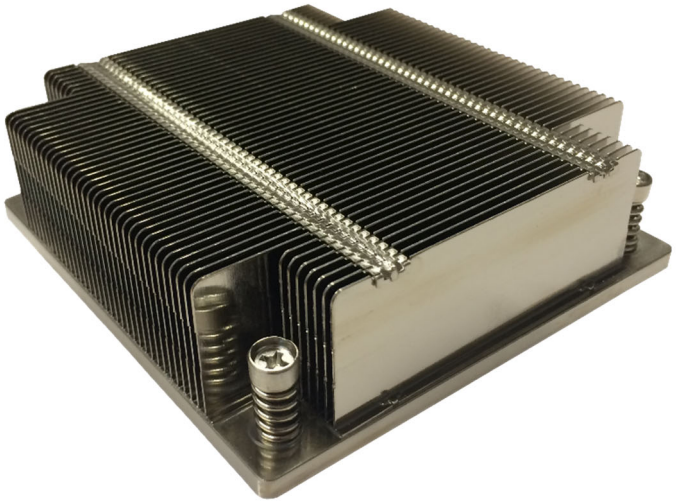


Application	**1U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Copper
Fastener	Screw & Spring
Dimensions overall / Weight	85L x 85W x 26H (mm) / 521g
Thermal Resistance	Rth = 0.289°C/W @ 15CFM
RoHS compliant	Yes

S1NP-FSI7-0000Z-1

HSM Part# 104373 ↑back to content list





Application	**1U passive solution for 95W TDP *of Intel CPU***
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum base with stacked fins, 3 heatpipe inlay and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 30H (mm) / 243g
Thermal Resistance	Rth = 0.161°C/W @130W
RoHS compliant	Yes

S1NP-CSI7-0000Z-2

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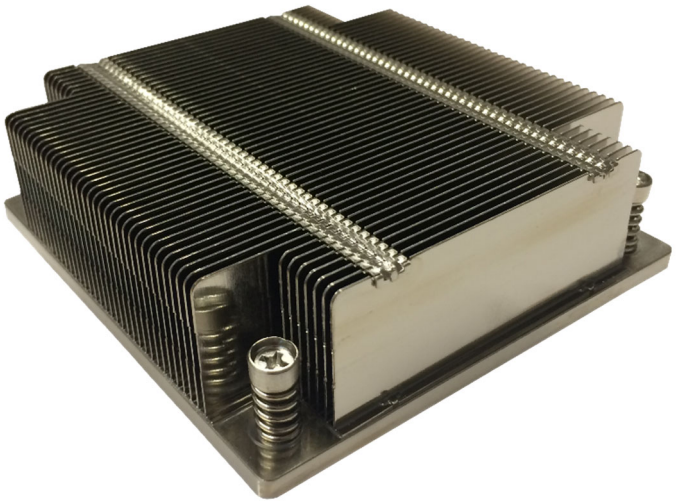
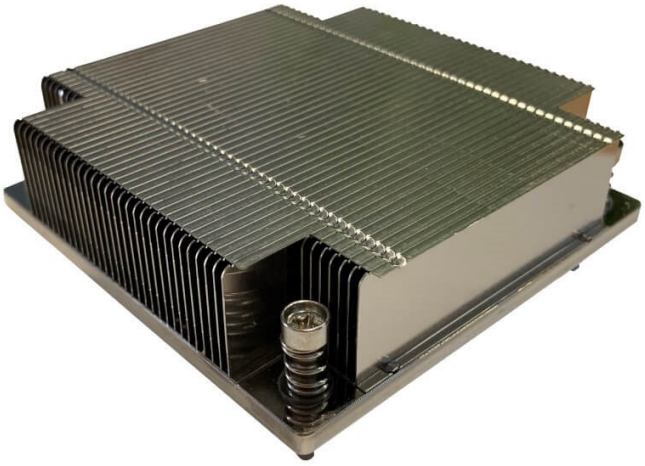


Application	**1U passive solution for Socket LGA115x**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum base with stacked fins and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 30H (mm) / 225g
Thermal Resistance	Rth = *tba*
RoHS compliant	Yes

S1NP-FSI7-0000Z-2

HSM Part# 104850 ↑back to content list



Application	**1U passive solution designed to meet 95W TDP of Intel CPU**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with 2 heatpipe inlay and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 27H (mm) / 220g
Thermal Resistance	Rth = 0.235°C/W @95W
RoHS compliant	Yes

T1NA-BSI7-E125Z-1

HSM Part# 104342 ↑back to content list

Application	**1U active solution modified to meet requirements of FTS D3243S**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	R127010BU AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	5.500 RPM / 32.93 CFM / max. 49 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	84L x 84W x 23H (mm) / 470g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

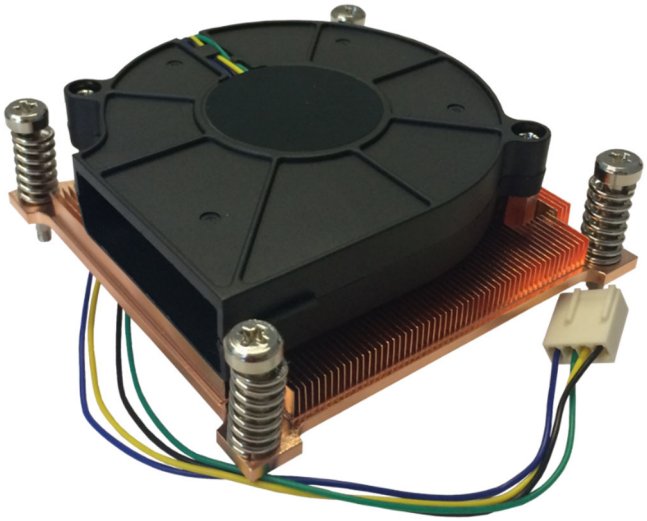
T1NA-BSI7-E125Z-3

HSM Part# 104651 ↑back to content list

Application	**1U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	B127515BU AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-5.500 RPM / 1.93-11.83 CFM / 18-55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	84L x 84W x 27H (mm) / 420g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T1NA-BSI7-E125Z-2

HSM Part# 104349 ↑back to content list



Application	**1U active solution designed to meet Requirements of Fujitsu MB D3243S**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	B127515BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-5.500 RPM / 1.93-11.83 CFM / 18-51 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	84L x 84W x 27H (mm) / 420g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T1NA-ASI7-E125D

HSM Part# 104761 ↑back to content list

Application	**1U active solution**
Specification	
Socket type	LGA115x
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Fan Part Number / Bearing	R127010BU AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-5.500 RPM / 6.96-32.93 CFM / 19-49 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	84L x 84W x 26.4H (mm) / 190g
Thermal Resistance	Rth = *tba*
RoHS compliant	Yes

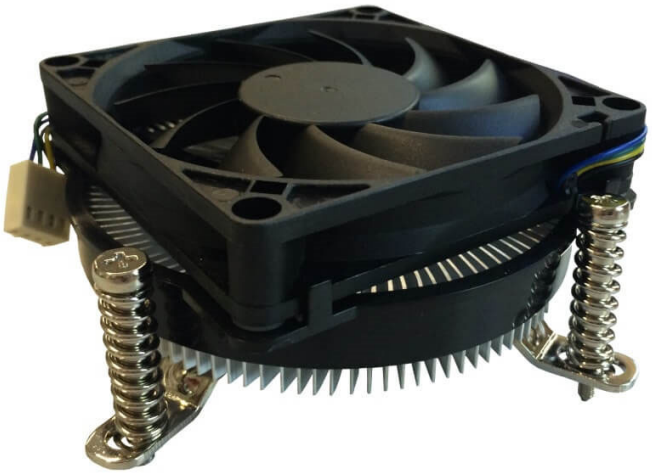
E1SA-CSI7-E124Z

HSM Part# 103967 ↑back to content list

Application	**1U active solution designed to meet requirements of ASRock mini ITX IMB-V1000**
Specification	
Socket type	LGA115x BGA
Heat Sink Material	Aluminum with Copper Core
Fastener	Screw & Spring
Fan Part Number / Bearing	R128015BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-4.200 RPM / 13.31-46.57 CFM / 21-42.9 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	115L x 115W x 30.5H (mm) / 360g
Thermal Resistance	Rth = 0.294°C/W
RoHS compliant	Yes

E2SA-CSI7-E124D

HSM Part# 102341 ↑back to content list



Application	**1.5U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum Sunflower with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	R128015BU AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-4.200 RPM / 13.31-46.57 CFM / 19-39.9 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	123.64L x 123.64W x 42.1H (mm) / 338g
Thermal Resistance	Rth = 0.33°C/W
RoHS compliant	Yes

E2SA-CSI7-E124Z

HSM Part# 104270 ↑back to content list

Application	**1.5U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	R128015BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-4.200 RPM / 13.31-46.57 CFM / 19-39.9 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	123.64L x 123.64W x 42.1H (mm) 338g
Thermal Resistance	Rth = 0.285°C/W @65W
RoHS compliant	Yes

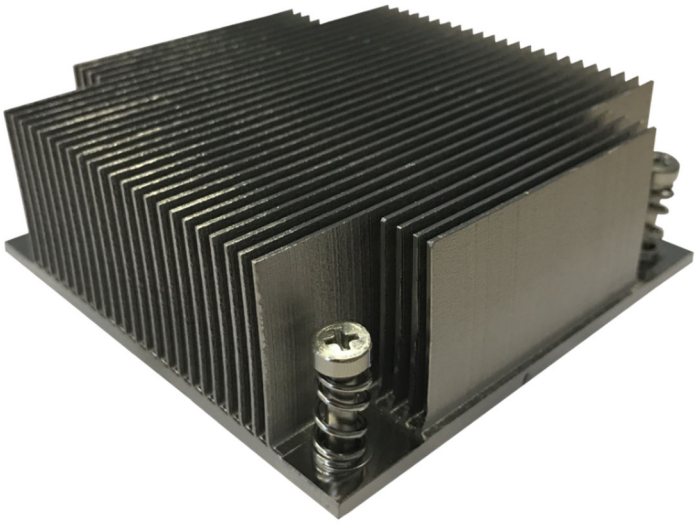
T2NP-CSI7-0000Z-3

HSM Part# 104592 ↑back to content list

Application	**2U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with copper spreader
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 38H (mm) / 320g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T2NP-CSI7-0000Z-2

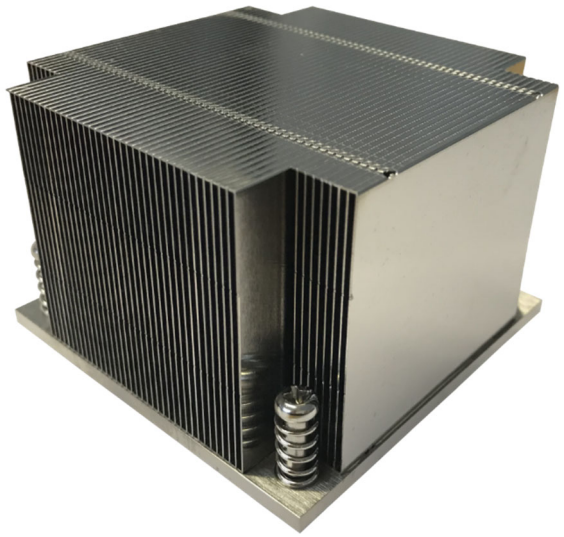
HSM Part# 104400 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with copper spreader
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 38H (mm) / 320g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S2NP-FSI7-0000D

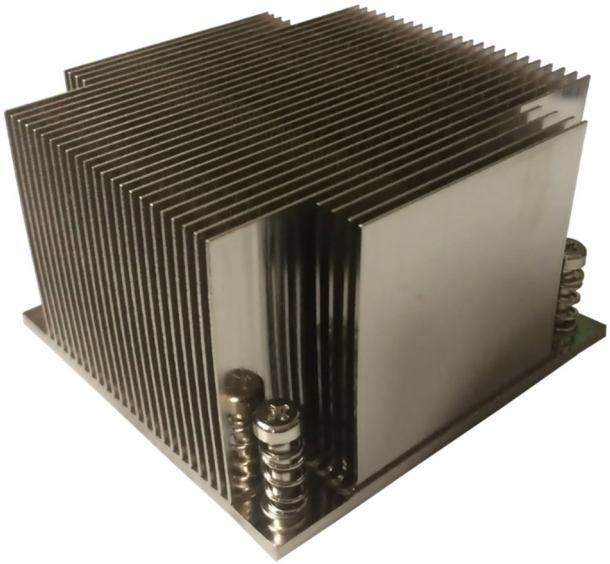
HSM Part# 102966 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with heatpipe-inlay and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 64.5H (mm) / 438g
Thermal Resistance	Rth = 0.195°C/W @35CFM
RoHS compliant	Yes

T2NP-CSI7-0000Z

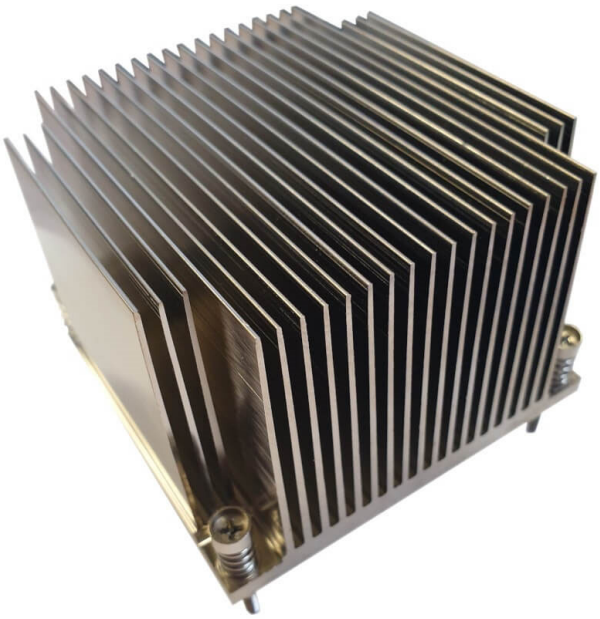
HSM Part# 103954 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with 5.5mm copper slug
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 60H (mm) / 462g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T2NP-CSI7-0000Z

HSM Part# 104847 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with copper base
Fastener	Screw & Spring
Dimensions overall / Weight	84L x 84W x 60.8H (mm) / 480g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E2NA-CSI7-E124Z

HSM Part# 104232 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	F129025BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-4.500 RPM / 11.55-42.10 CFM / 21-40 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	123.64L x 123.64W x 61.4H (mm) 536g
Thermal Resistance	Rth = 0.238°C/W @ 95W
RoHS compliant	Yes

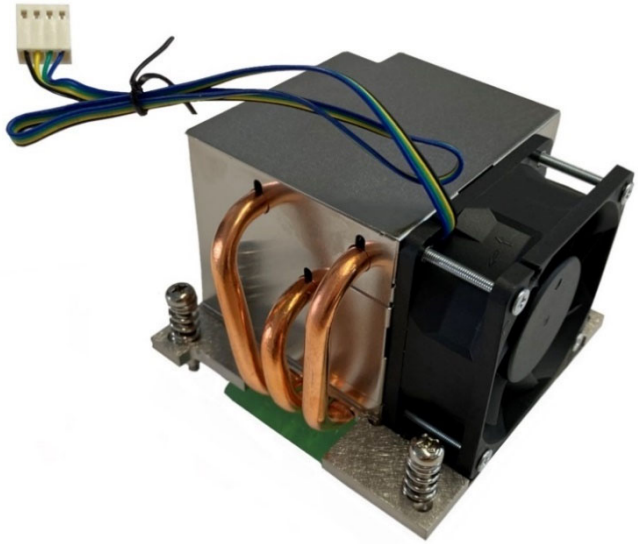
T2NA-ASI7-E126D

HSM Part# 102883 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Fan Part Number / Bearing	R126020BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.800-6.600 RPM / 8.93-32.74 CFM / 22-47 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 88W x 65H (mm) / 417g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S2NA-FSI7-E126Z

HSM Part# 104941 ↑back to content list



Application	**2U active solution modified for Fujitsu D3243-S**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum stacked fins with copper base and 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	F126025BU-AF8P1bR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.600-6.800 RPM / 8.03-34.13 CFM / 21-45 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 390g
Thermal Resistance	Rth = 0.182°C/W
RoHS compliant	Yes

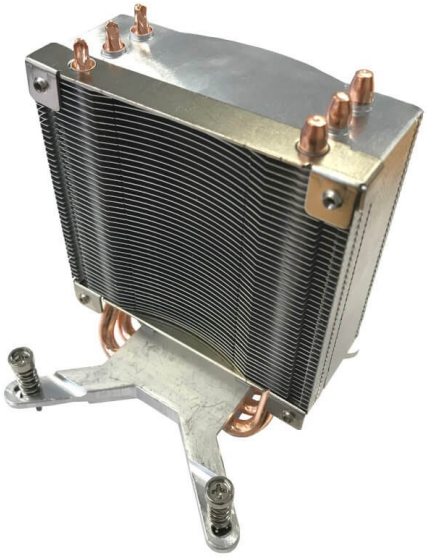
E2NA-CSI7-E124D

HSM Part# 102355 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum Sunflower with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	F129025BU-AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-4.500 RPM / 16.57-76.92 CFM / 21-49 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	123.64L x 123.64W x 61.4H (mm) / 536g
Thermal Resistance	Rth = 0.232°C/W
RoHS compliant	Yes

S3NP-DSI7-0000Z-3

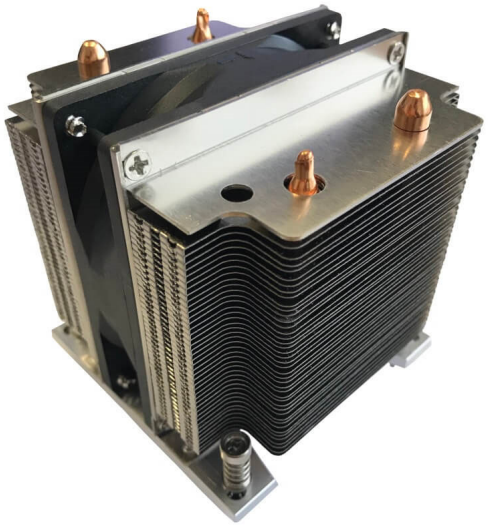
HSM Part# 104341 ↑back to content list



Application	**3U passive solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with heatpipes
Fastener	Screw & Spring
Dimensions overall / Weight	92L x 92W x 116H (mm) / 290g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S3SA-DSI7-T123Z

HSM Part# 104499 ↑back to content list



Application	**3U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum stacked fins with 2 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AD209225HBPA03 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	max. 3.500 RPM / max. 58 CFM / 36.7 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	95L x 92W x 103.6H (mm) / 500g
Thermal Resistance	Rth = 0.116°C/W
RoHS compliant	Yes

S3NA-DSI7-T121Z

HSM Part# 104428 ↑back to content list

Application	**3U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AD209225MBPA02 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	2.000 RPM / 30 CFM / 24.5 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 92W x 116H (mm) / 290g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S3NA-DSI7-T123Z-1

HSM Part# 104417 ↑back to content list

Application	**3U active solution**
Specification	
Socket type	Socket LGA115x
Heat Sink Material	Aluminum with 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AD209225HBPA03 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	3.500 RPM / 58 CFM / 37 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	92L x 92W x 116H (mm) / 290g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

Cooling Solutions for Intel Socket LGA1366

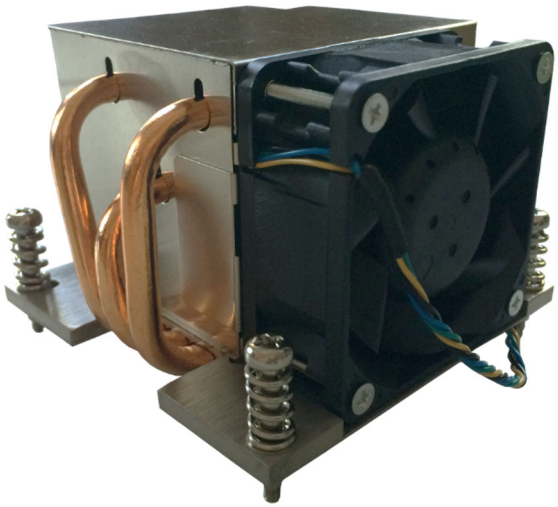
T1SA-BSI6-D125D

HSM Part# 102079 ↑back to content list

Application	**1.5U active solution**
Specification	
Socket type	Socket LGA1366
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0712HHB-4K45 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	5.400 RPM / 39.45 CFM / 43 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	89L x 89W x 37H (mm) / 523g
Thermal Resistance	Rth = 0.252°C/W
RoHS compliant	Yes

S2NA-FSI6-D126D

HSM Part# 102957 ↑back to content list



Application	**2U active solution**
Specification	
Socket type	Socket LGA1366
Heat Sink Material	Aluminum with 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0612EH-BZ46 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	750-6.800 RPM / 38 CFM / 46 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 390g
Thermal Resistance	Rth = 0.221°C/W
RoHS compliant	Yes

S2NA-FSI6-D129D

HSM Part# 103039 ↑back to content list

Application **2U active solution**

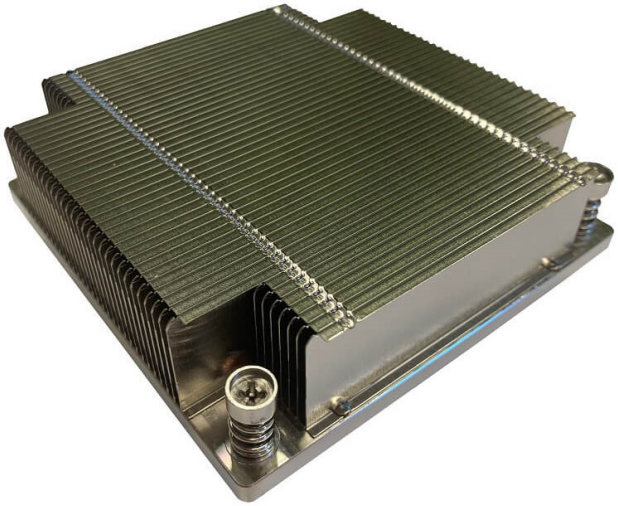
Specification

Socket type	Socket LGA1366
Heat Sink Material	Aluminum with copper base and 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0612DH-8X12 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	0-9.000 RPM / 0-50.4 CFM / 19-55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 390g
Thermal Resistance	Rth = 0.221°C/W
RoHS compliant	Yes

Cooling Solutions for Intel Socket LGA1700

S1NP-GSD1-0000Z

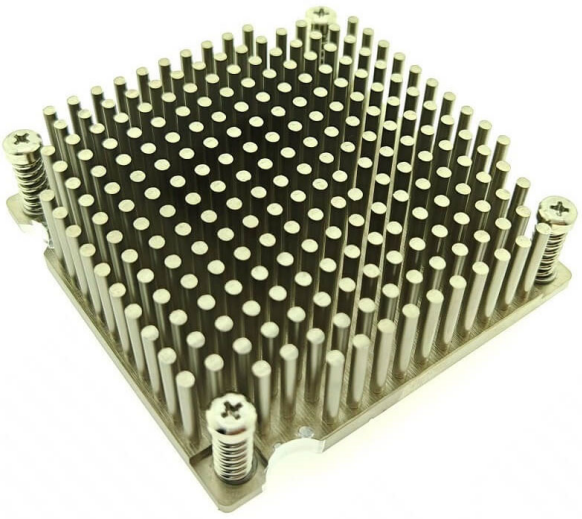
HSM Part# 104973 ↑back to content list



Application	**1U passive solution designed to meet 130W TDP of Intel CPU**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum base with zipper fin, 2 heatpipes and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 27H (mm) / 243g
Thermal Resistance	Rth = 0.11°C/W @135W
RoHS compliant	Yes

Pin Heatsink 90x90x29mm

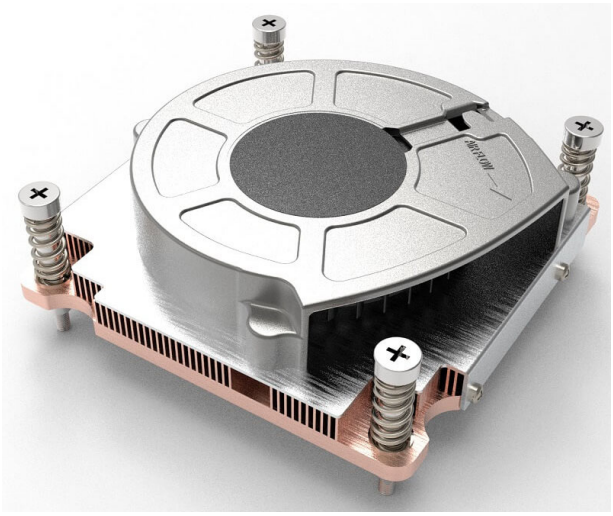
HSM Part# 105109 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper slug, base 5mm thickness
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 29H (mm) / 300g
Thermal Resistance	*tba*
Thermal Material	X23-7762
RoHS compliant	Yes

T1NA-BSD1-E125Z-1

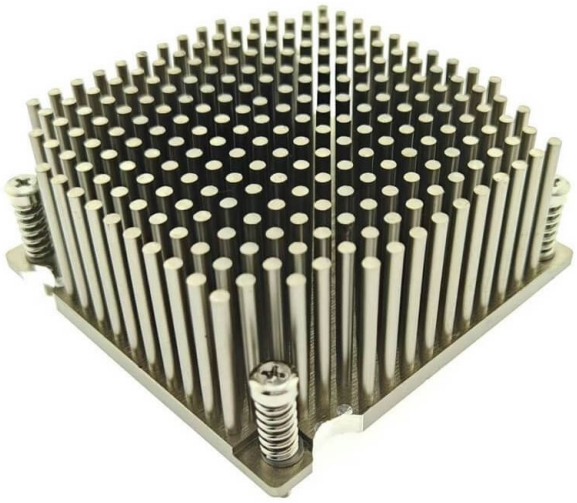
HSM Part# 105105 ↑back to content list



Application	**1U active solution designed to meet requirements of 65W TDP @55°C**
Specification	
Socket type	LGA1700
Heat Sink Material	Copper with die cast fan
Fastener	Screw & Spring
Fan Part Number / Bearing	Everflow T128015BUAF91JaR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-6.600rpm / max. 21.73 CFM / max. 64 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 28H (mm) / 500g
Thermal Resistance	*tba*
RoHS compliant	Yes

Pin Heatsink 90x90x41mm

HSM Part# 105108 ↑back to content list



Application	**1.5U passive solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper slug, base 5mm thickness
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 41H (mm) / 354g
Thermal Resistance	0.51°C/W
Thermal Material	X23-7762
RoHS compliant	Yes

E2SA-CSD1-E124Z

HSM Part# 105017 back to content list

Application	**1.5U active solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	R128015BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-4.200rpm / 13.31-46.57 CFM / 19-39.9 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	121.3L x 121.3W x 42.1H (mm) / 338g
Thermal Resistance	*tba*
RoHS compliant	Yes

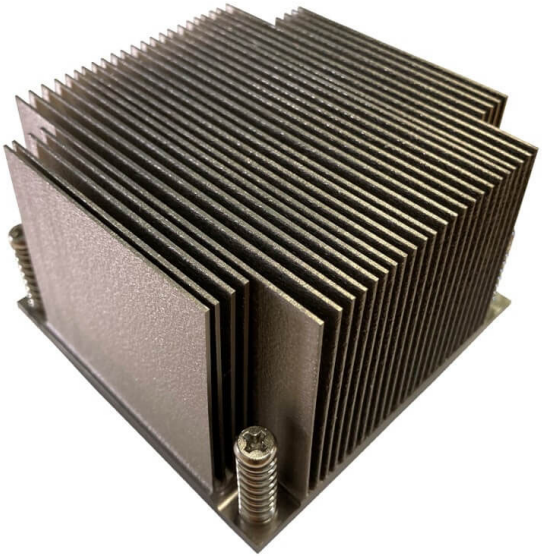
Pin Heatsink 90x90x65mm

HSM Part# 105110 back to content list

Application	**2U passive solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper slug, base 5mm thickness
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 65H (mm) / 455g
Thermal Resistance	*tba*
Thermal Material	X23-7762
RoHS compliant	Yes

T2NP-CSD1-0000Z

HSM Part# 105025 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper slug
Fastener	Screw & Spring (backplate #104994 included)
Dimensions overall / Weight	90L x 90W x 60H (mm) / 470g
Thermal Resistance	*tba*
RoHS compliant	Yes

S2NA-FSD1-E126Z

HSM Part# 104958 ↑back to content list

Application	**2U active cooling solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with 3 heatpipes and copper slug
Fastener	Screw & Spring
Fan Part Number / Bearing	R126025BU-AFX65aR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	2.000-14.000rpm / 10.5-72.8 CFM / max. 68 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 390g
Thermal Resistance	Rth = 0.134°C/W
RoHS compliant	Yes

S2NA-FSD1-E126Z-1

HSM Part# 105179 ↑back to content list

Application	**2U active cooling solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with 3 heatpipes and copper slug
Fastener	Screw & Spring
Fan Part Number / Bearing	F126025BU-AF8P1bR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.600-6.800rpm / 8.03-34.13 CFM / max. 45 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 390g
Thermal Resistance	Rth = *tba*
RoHS compliant	Yes

E2NA-CSD1-E124Z

HSM Part# 105018 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	LGA1700
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	F129025BU(AF6A5bR) / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-4.500rpm / 16.57-76.92 CFM / 21-49 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	121.3L x 121.3W x 61.4H (mm) / 536g
Thermal Resistance	*tba*
RoHS compliant	Yes

S3SA-DSD1-E121Z

HSM Part# 104977 ↑back to content list

This product can only be purchased from our partner RUTRONIK.

Application **3U active cooling solution**

Specification

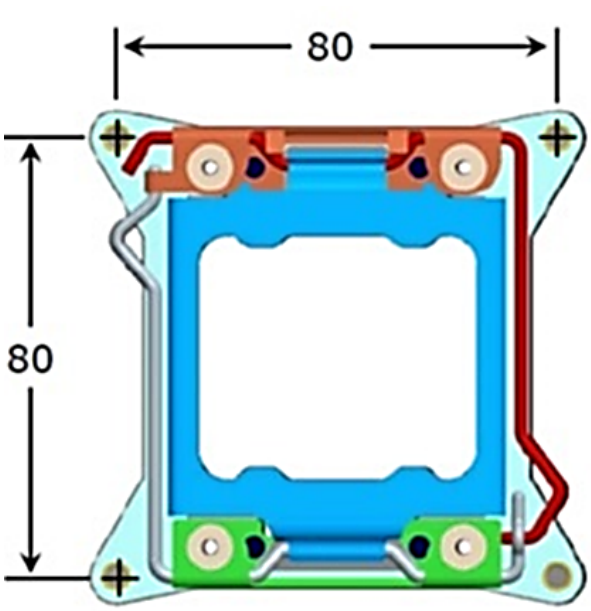
Socket type	LGA1700
Heat Sink Material	Aluminum with copper base and 4 heatpipes
Fastener	Screw & Spring (backplate #104994 included)
Fan Part Number / Bearing	F129025BUAF4Q8aR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	800-3.450rpm / 16.29-70.24 CFM / 21-43 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	95L x 92W x 103H (mm) / 457g
Thermal Resistance	Rth = 0.152°C/W
RoHS compliant	Yes

Cooling Solutions for Intel Sockets LGA20xx

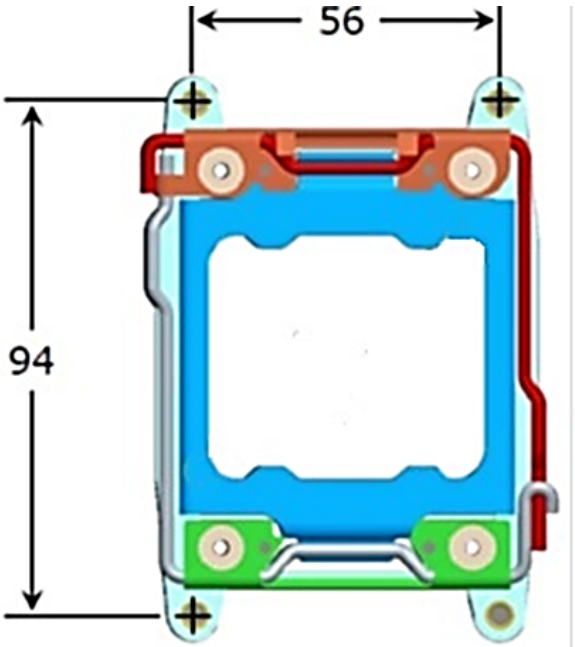
*** Information Socket 2011 ***

There are 2 versions of socket 2011.

Some mainboard-manufacturers don’t indicate which version is mounted on the board. To find out what version you have, please check dimensions.



Square ILM



Narrow ILM Concept

T1NP-GSI8-0000D-1

HSM Part# 103589 ↑back to content list

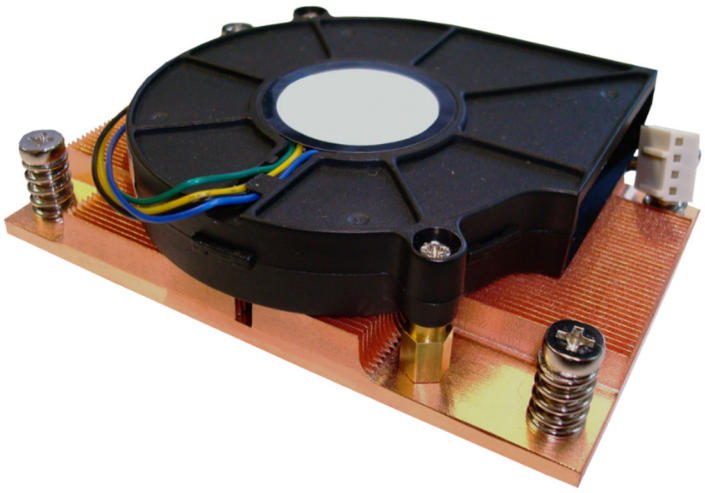
No standard part

Application	**1U passive solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with copper vapor chamber
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 25H (mm) / 440g
Thermal Resistance	Rth = 0.216°C/W @ 30 CFM
RoHS compliant	Yes

T1SA-BSI8-E125D

HSM Part# 103657 ↑back to content list

No standard part

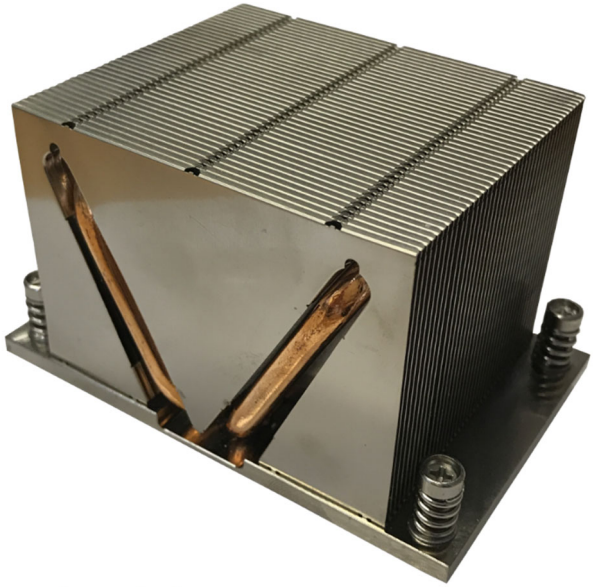


Application	**1U active solution**
Specification	
Socket type	Socket LGA20xx narrow
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	B127515BU AF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-5.500 RPM / 1.93-11.83 CFM / 18-51 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	106L x 70W x 26.5H (mm) / 490g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S2NP-FSI8-0000D

HSM Part# 103969 ↑back to content list

No standard part



Application	**2U passive solution**
Specification	
Socket type	Socket LGA20xx narrow
Heat Sink Material	Aluminum with heatpipes and copper base
Fastener	Screw & Spring
Dimensions overall / Weight	107L x 70W x 62H (mm) / 302g
Thermal Resistance	Rth = 0.209°C/W @ 20 CFM
RoHS compliant	Yes

E2SA-CSI8-E124D

HSM Part# 103305 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	F129025BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	Up to 4.500 RPM / 76.92 CFM / 49 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	126.8L x 126.8W x 34H (mm) / 536g
Thermal Resistance	Rth = 0.202°C/W
RoHS compliant	Yes

S2NA-FSI8-D129D

HSM Part# 103144 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0612DH-8X12 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	Up to 9.000 RPM / 50.4 CFM / 55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	90L x 90W x 64.3H (mm) / 396g
Thermal Resistance	Rth = 0.224°C/W
RoHS compliant	Yes

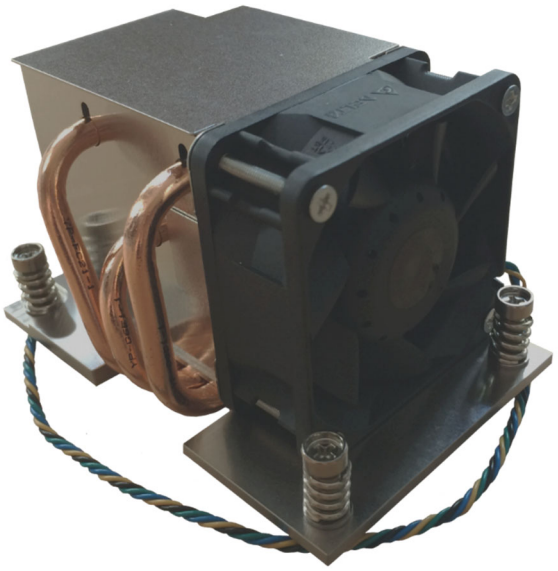
E2NA-ASI8-D124D

HSM Part# 103034 ↑back to content list

Application	**2U active solution**
Specification	
Socket type	Socket LGA20xx narrow
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Fan Part Number / Bearing	R127015BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.200-4.800 RPM / 33.43 CFM / 45 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	101.6L x 71.4W x 65H (mm) / 427g
Thermal Resistance	Rth = 0.260°C/W
RoHS compliant	Yes

S2NA-FSI8-D129D-1

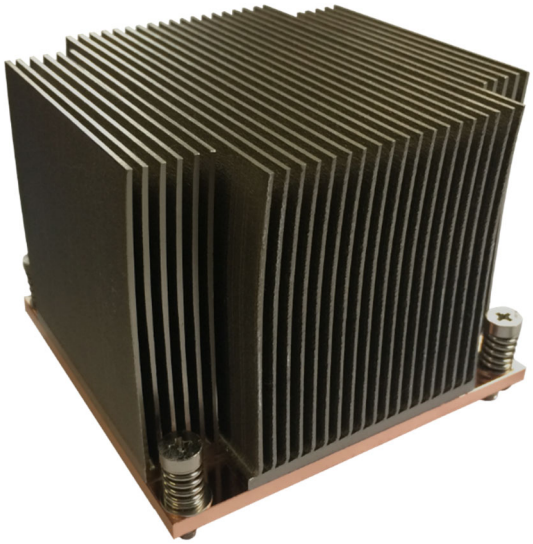
HSM Part# 103254 ↑back to content list



Application	**2U active solution**
Specification	
Socket type	Socket LGA20xx narrow
Heat Sink Material	Aluminum with copper base and 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0612DH / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	9.000 RPM / 50.4 CFM / 55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	107L x 70W x 60H (mm) / 320g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T3NP-CSI8-0000Z

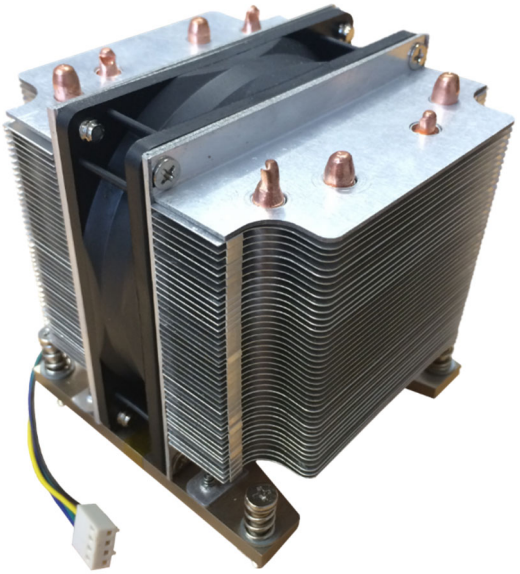
HSM Part# 104250 ↑back to content list



Application	**3U passive solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with copper base
Fastener	Screw & Spring
Dimensions overall / Weight	90L x 90W x 70H (mm) / 695g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S3SA-DSI8-T124Z

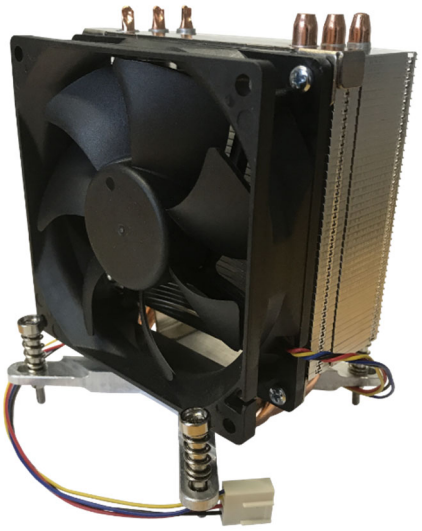
HSM Part# 104082 ↑back to content list



Application	**3U active solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with 4 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AD209225HBPA10 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	4.500 RPM / 70 CFM / 42 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	95L x 92W x 100H (mm) / 500g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S3NA-DSI8-T123Z

HSM Part# 104461 ↑back to content list



Application	**3U active solution**
Specification	
Socket type	Socket LGA20xx square
Heat Sink Material	Aluminum with 3 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AD209225HBPA03 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	3.500 RPM / 58 CFM / 37 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	92L x 92W x 116H (mm) / 400g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

Cooling Solutions for Intel Socket LGA3647

S2NA-FSI9-D129D

HSM Part# 104443 ↑back to content list

Application **2U active solution**

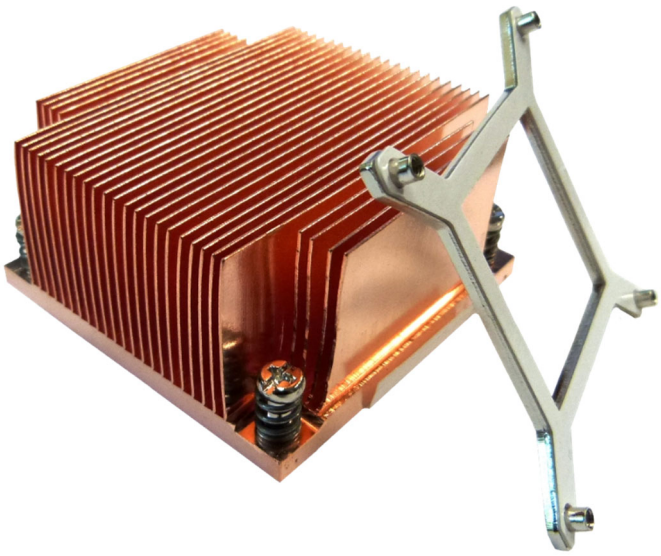
Specification

Socket type	Socket LGA3647
Heat Sink Material	Aluminum with copper base and 2 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	AFB0612DH-8X12 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	9.000 RPM / 50.4 CFM / 19-55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	108L x 78W x 64H (mm) / 525g
Thermal Resistance	Rth = 0.221°C/W
RoHS compliant	Yes

Cooling Solutions for Intel Socket G1/G2

T1NP-BSPG-0000D

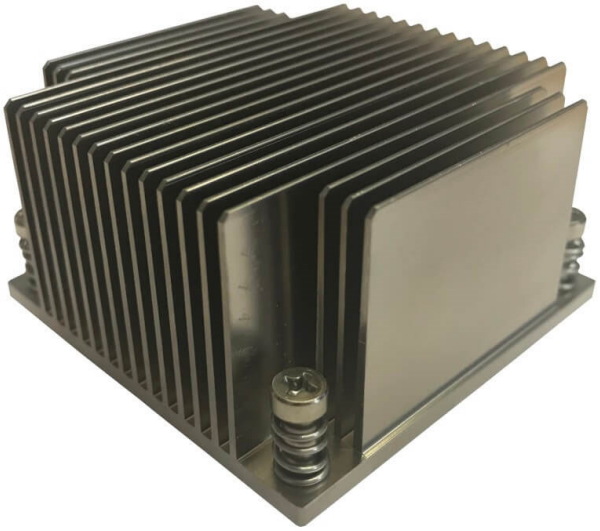
HSM Part# 103434 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Copper
Fastener	Screw & Spring, Backplate included
Dimensions overall / Weight	60L x 60W x 30H (mm) / 340g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E1NP-CSBG-0000Z

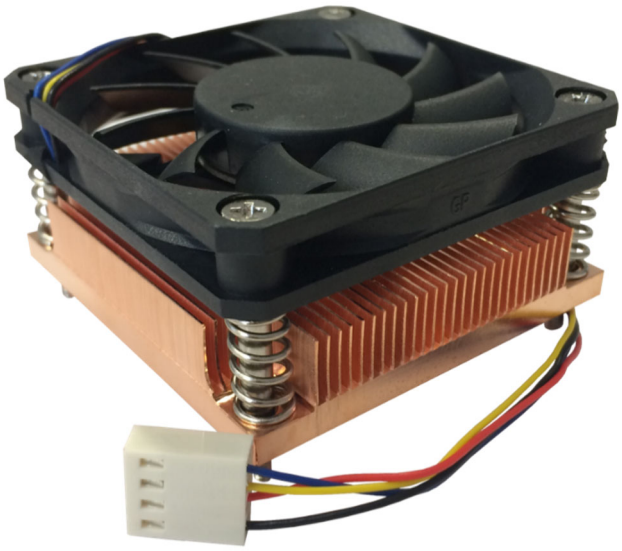
HSM Part# 104486 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Aluminum with copper spreader
Fastener	Screw & Spring
Dimensions overall / Weight	60L x 60W x 36H (mm) / 160g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T1NA-BSPG-T124Z

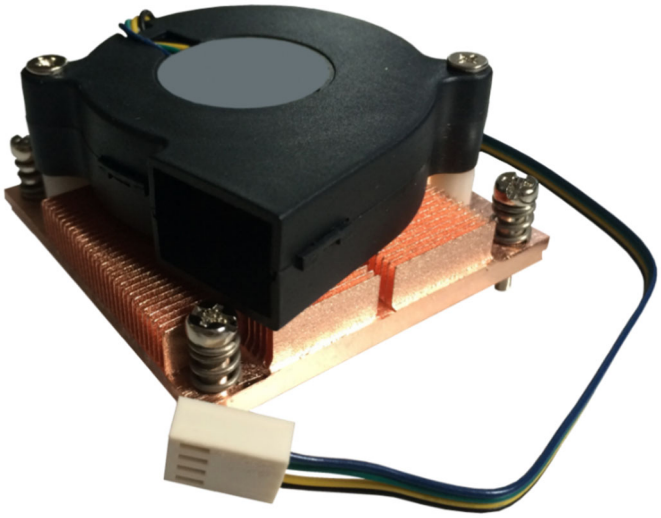
HSM Part# 104267 ↑back to content list



Application	**1U active solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	AD206010HBPA03 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	4.800 RPM / 16.31-18.12 CFM / 32.22-35.8 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	60L x 60W x 27H (mm) / 226g
Thermal Resistance	Rth = 0.62°C/W @ 55W
RoHS compliant	Yes

T1NA-BSPG-P126D-1

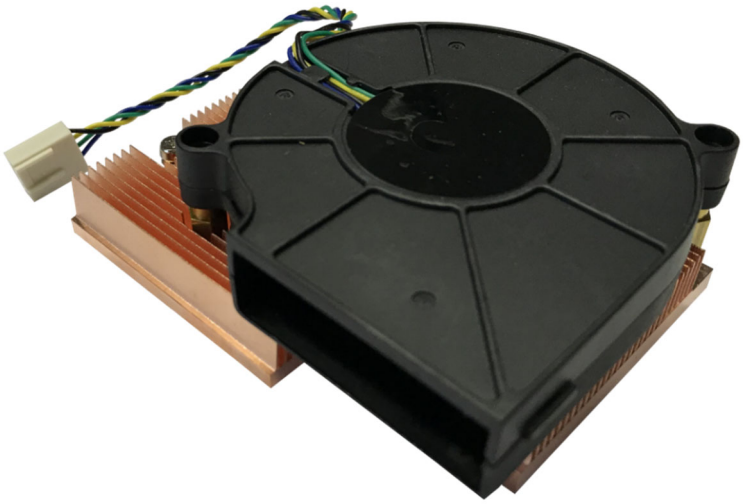
HSM Part# 103246 ↑back to content list



Application	**1U active solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Copper
Fastener	Screw & Spring, Backplate included
Fan Part Number / Bearing	PLB05015B12HH / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.900-6.500 RPM / 5.16 CFM / 47.5 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	60L x 60W x 27H (mm) / 226g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T1NA-BSPG-E125D-2

HSM Part# 103624 ↑back to content list



Application	**1U active solution designed for Kontron KTQM87**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Copper
Fastener	Screw & Spring
Fan Part Number / Bearing	B127515BUAF / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	5.500 RPM / 11.83 CFM / 55 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	93L x 68W x 29H (mm) / 350g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

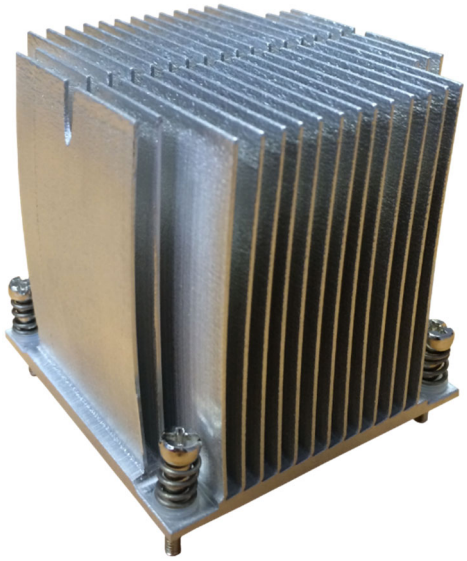
E1NA-CSBG-P123Z

HSM Part# 103597 ↑back to content list

Application	**1U active solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Aluminum with copper core
Fastener	Screw & Spring
Fan Part Number / Bearing	PLA06010B12M / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.000-3.800 RPM / 15.97 CFM / 30 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	60L x 60W x 29H (mm) / 157g
Thermal Resistance	Rth = 0.524°C/W @ 60W and 32°C amb
RoHS compliant	Yes

E2NP-ASPG-0000D-1

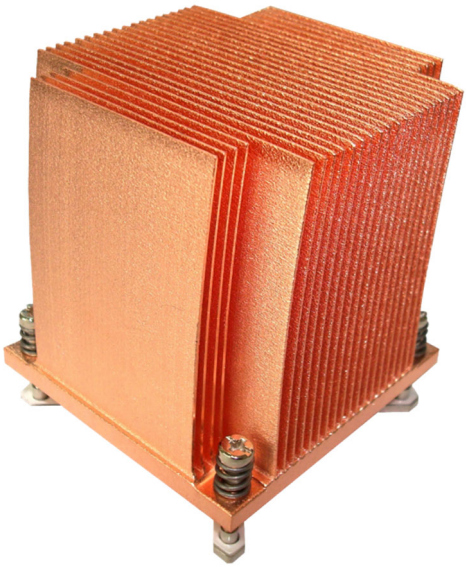
HSM Part# 103290 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Aluminum
Fastener	Screw & Spring, Backplate included
Dimensions overall / Weight	60L x 58W x 58H (mm) / 145g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T2NP-BSPG-0000D

HSM Part# 103157 ↑back to content list



Application	**2U passive solution**
Specification	
Socket type	Socket G1/G2
Heat Sink Material	Copper
Fastener	Screw & Spring, Backplate included
Dimensions overall / Weight	60L x 60W x 60H (mm) / 520g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E2NP-ASG-0000D

HSM Part# 103449 ↑back to content list

Application **2U passive solution with 4mm base thickness only**

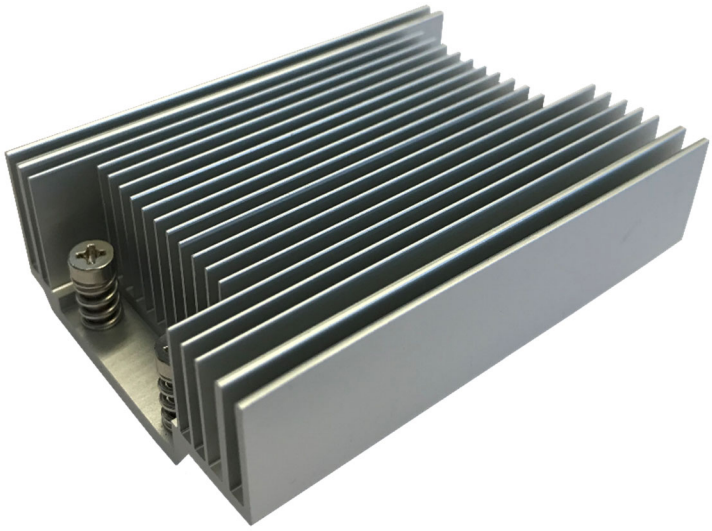
Specification

Socket type	Socket G1/G2
Heat Sink Material	Aluminum
Fastener	Screw & Spring, Backplate #102435 included
Dimensions overall / Weight	60L x 58W x 58H (mm) / 145g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

Cooling Solutions for AMD Socket S1

E1NP-ASS1-0000H

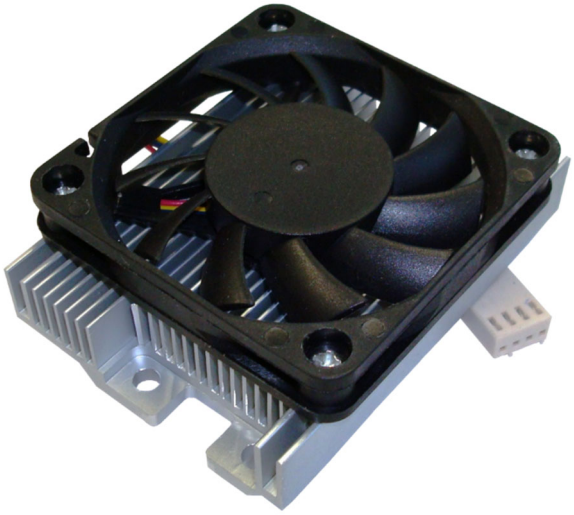
HSM Part# 104064 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket S1
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Dimensions overall / Weight	75.2L x 55W x 26H (mm) / 90g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E1NA-ASS1-P123F

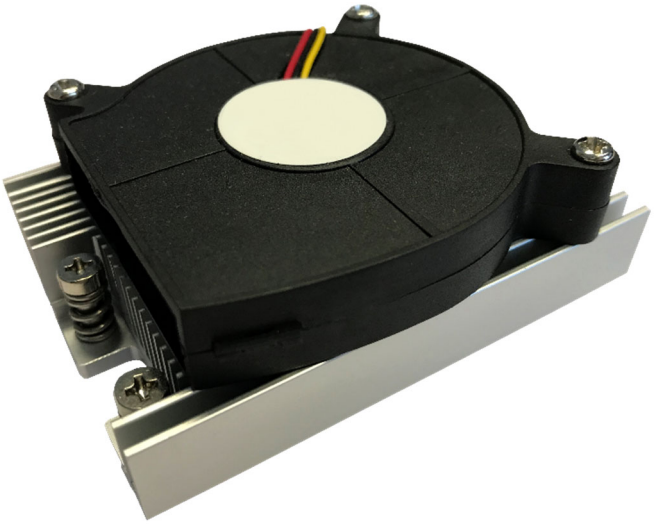
HSM Part# 103537 ↑back to content list



Application	**1U active solution for Fujitsu MB D3003S & D3313S**
Specification	
Socket type	Socket S1
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Fan Part Number / Bearing	PLA06010B12M / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	3.800 RPM / 15.97 CFM / max. 30 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	75L x 60W x 27.3H (mm) / 105g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E1NA-ASS1-C115F

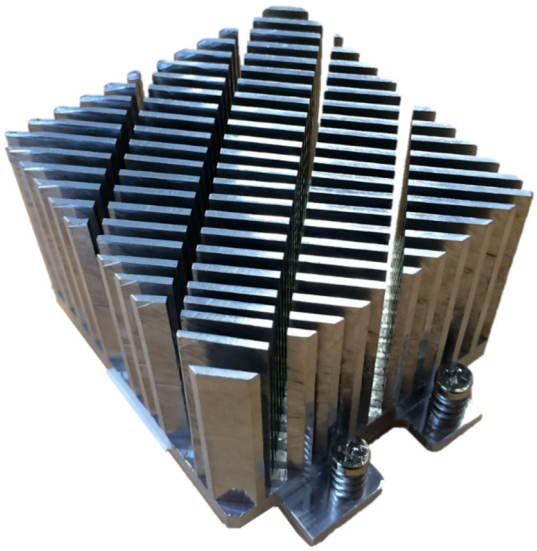
HSM Part# 103664 ↑back to content list



Application	**1U active solution for Fujitsu D3xx3S**
Specification	
Socket type	Socket S1
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Fan Part Number / Bearing	FBD5712B12W9-81-3RC1 / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	5.500 RPM / 3.9 CFM / 36 dB-A
PWM / Smart Fan / Standard	4-Pin
Dimensions overall / Weight	75L x 57W x 29.3H (mm) / 110g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

T2SP-ASS1-0000D

HSM Part# 103438 ↑back to content list

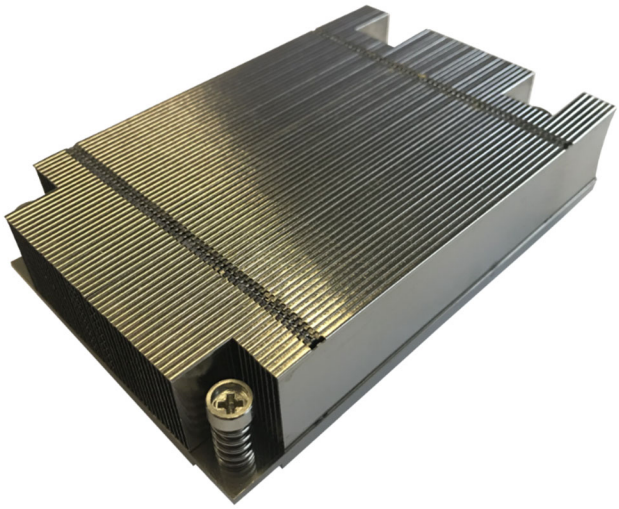


Application	**2U passive solution for Fujitsu MB D3003S**
Specification	
Socket type	Socket S1
Heat Sink Material	Aluminum
Fastener	Screw & Spring, Backplate included
Dimensions overall / Weight	74.5L x 56W x 46H (mm) / 198g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

Cooling Solutions for AMD Socket SP3

S1NP-HSA5-0000Z

HSM Part# 104502 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket SP3
Heat Sink Material	Aluminum with vapor chamber
Fastener	Screw & Spring
Dimensions overall / Weight	119.3L x 78.9W x 25H (mm) / 326g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

JYC0P13ATPTC

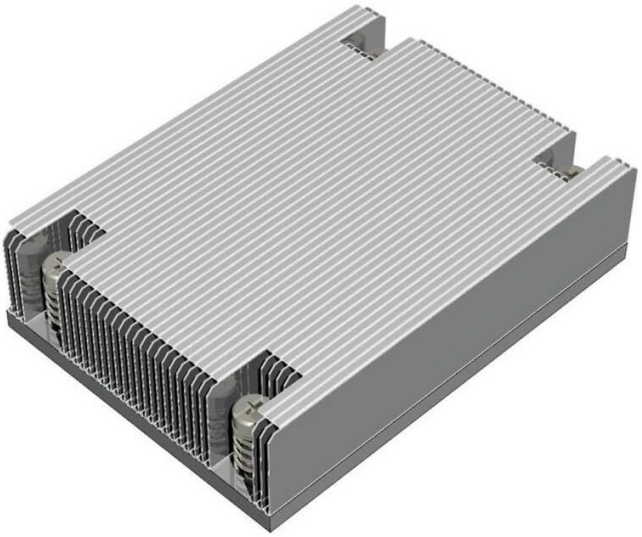
HSM Part# 104929 ↑back to content list

Application	**1U passive solution**
Specification	
Socket type	Socket SP3
Heat Sink Material	Aluminum with vapor chamber
Fastener	Screw & Spring
Dimensions overall / Weight	119.3L x 78.9W x 25H (mm) / 326g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

Cooling Solutions for AMD AM4/AM5 (Ryzen)

S1NP-FSRY-0000Z-1

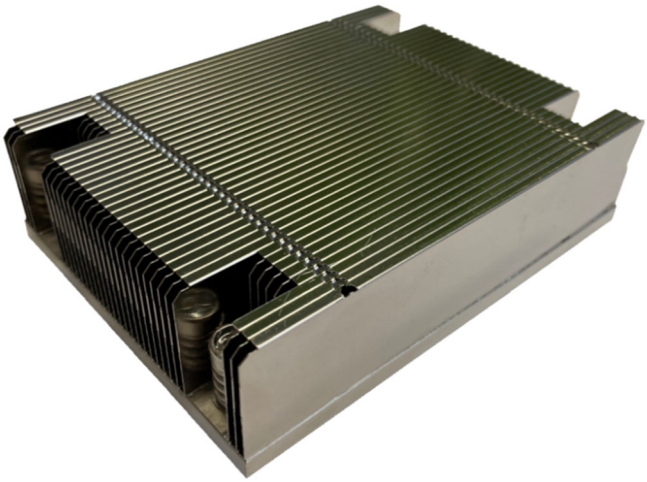
HSM Part# 104860 ↑back to content list



Application	**1U passive solution designed to meet 105W TDP**
Specification	
Socket type	Socket AM4/AM5
Heat Sink Material	Aluminum with heatpipes and copper plate
Fastener	Screw & Spring
Dimensions overall / Weight	104L x 76W x 27H (mm) / 216g
Thermal Resistance	Rth = 0.174°C/W @46 CFM
RoHS compliant	Yes

S1NP-FSRY-0000Z-2

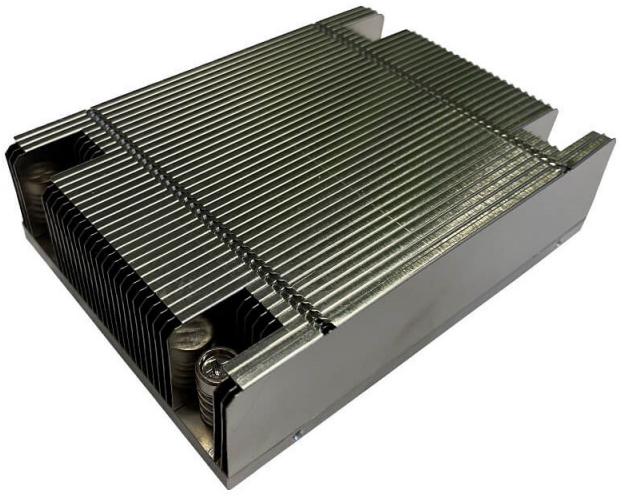
HSM Part# 105133 ↑back to content list



Application	**1U passive solution designed to meet 65W TDP**
Specification	
Socket type	Socket AM4/AM5
Heat Sink Material	Aluminum with stacked fins
Fastener	Screw & Spring (UNC 6-32)
Dimensions overall / Weight	104L x 76W x 27H (mm) / 198g
Thermal Resistance	Rth = *tba*
RoHS compliant	Yes

S1NP-FSRY-0000Z-3

HSM Part# 105148 ↑back to content list



Application	**1U passive solution designed to handle 170W TDP**
Specification	
Socket type	Socket AM4/AM5
Heat Sink Material	Aluminum with copper base and 2 heatpipes
Fastener	Screw & Spring (UNC 6-32)
Dimensions overall / Weight	104L x 76W x 27H (mm) / 211g
Thermal Resistance	Rth = 0.228°C/W @ 30 CFM
RoHS compliant	Yes

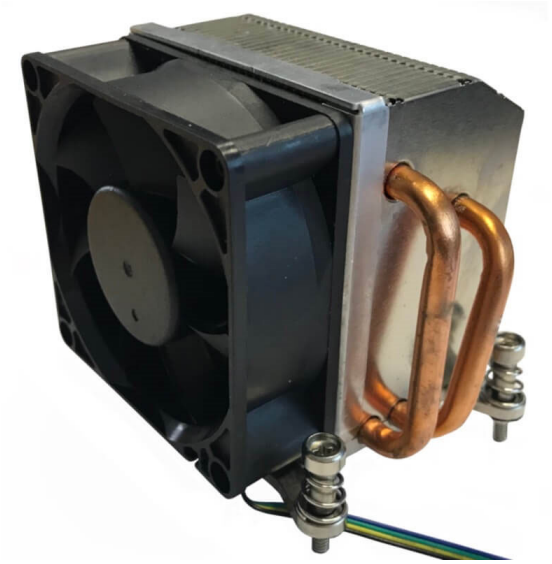
S2NP-FSA7-0000Z-2

HSM Part# 104863 ↑back to content list

Application	**2U passive solution designed to handle 95W**
Specification	
Socket type	Socket AMD Ryzen
Heat Sink Material	Aluminum with copper base and 3 heatpipes
Fastener	Screw & Spring (symmetrical screw position 90x54mm)
Dimensions overall / Weight	104L x 78W x 60H (mm) / 450g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

S2NA-FSA7-E126Z-1

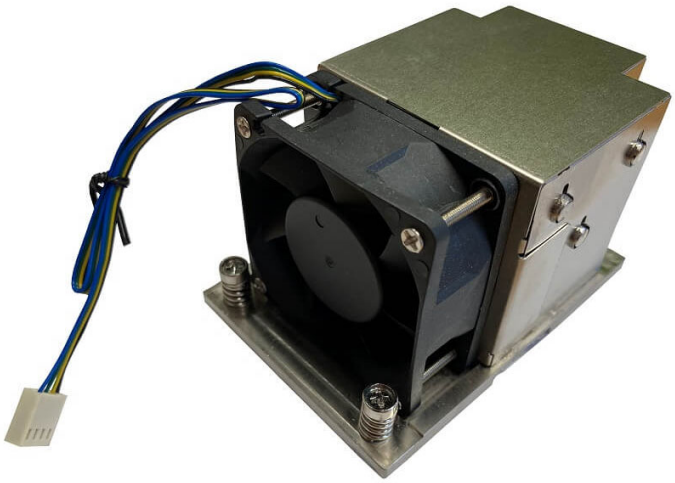
HSM Part# 104820 ↑back to content list



Application	**2U active solution designed to handle 65W – 120W**
Specification	
Socket type	Socket AMD Ryzen
Heat Sink Material	Aluminum with copper base and 2 heatpipes
Fastener	Screw & Spring
Fan Part Number / Bearing	Everflow Fan / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	750-6.800 RPM / max. 38 CFM / max. 46 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	100L x 75W x 72H (mm) / 430g
Thermal Resistance	Rth = 0.221°C/W
RoHS compliant	Yes

S2NA-FSA7-E126Z-2

HSM Part# 105134 ↑back to content list



Application	**2U active solution**
Specification	
Socket type	Socket AMD Ryzen
Heat Sink Material	Aluminum with copper base and 3 heatpipes
Fastener	Screw & Spring (UNC 6-32)
Fan Part Number / Bearing	Everflow F126025BUAF8P1bR / Two Ball Bearing
Fan Speed / Air Flow / Noise Level	1.600-6.800 RPM / max. 34.13 CFM / max. 45 dB-A
PWM / Smart Fan / Standard	PWM
Dimensions overall / Weight	102L x 81W x 62.3H (mm) / 332g
Thermal Resistance	Rth = 0.205°C/W
RoHS compliant	Yes

BGA Cooling Solutions

E1NP-ASPBX-0000F

HSM Part# 103362 ↑back to content list

Application	**1U passive solution**
Specification	
Socket type	BGA Chip Sink
Heat Sink Material	Aluminum, surface black anodized
Fastener	with Push Pin or Screw & Spring (with thermal grease)
Dimensions overall / Weight	65L x 58W x 11H (mm) / 49g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

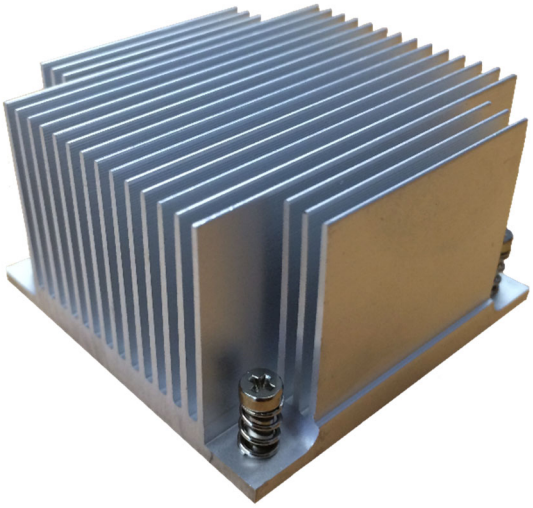
E1SP-AWBX-0000D

HSM Part# 100732 ↑back to content list

Application	**1U passive solution**
Specification	
Socket type	BGA Chip Sink
Heat Sink Material	Aluminum
Fastener	TIM double side adhesive 3M 9448B
Dimensions overall / Weight	30.5L x 30.5W x 12.3H (mm) / 8g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E1NP-ASBI1-0000G

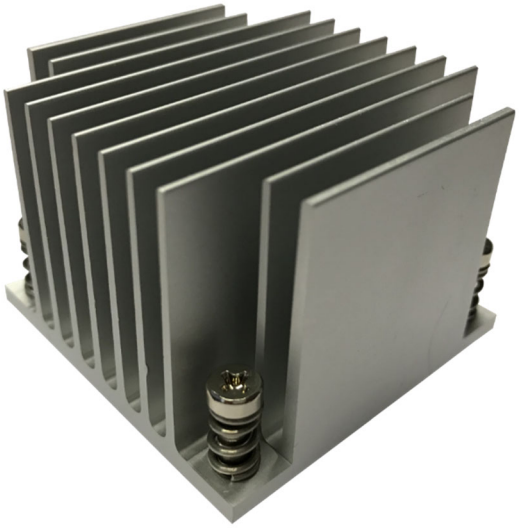
HSM Part# 102364 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket uFCBGA479
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Dimensions overall / Weight	50L x 50W x 30H (mm) / 98g
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

E1NP-ASBI1-0000F

HSM Part# 103278 ↑back to content list



Application	**1U passive solution**
Specification	
Socket type	Socket uFCBGA479
Heat Sink Material	Aluminum
Fastener	Screw & Spring
Dimensions overall / Weight	49L x 50W x 36H (mm) / 98g (hole distance 41x41mm)
Thermal Resistance	Rth = ***tba***
RoHS compliant	Yes

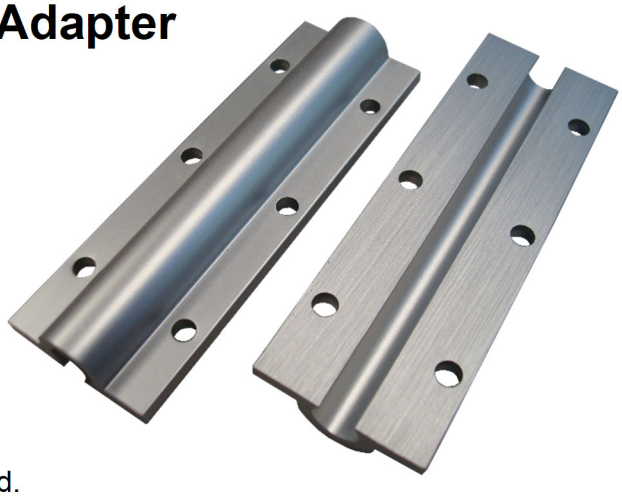
Heat Pipe

Heatpipe Adapter & Heatpipe Sets

We can look back on more than 18 years experience in customized Heatpipe solutions. We can supply you everything from the Heatpipe to the adapter through to ready for assembling sets.
We have Heatpipes with different diameters and lengths. The bends are made according to the specific requirements of our customers.

HPAN-819AL_fp Omega Adapter

HSM #103685 ↕back to content list

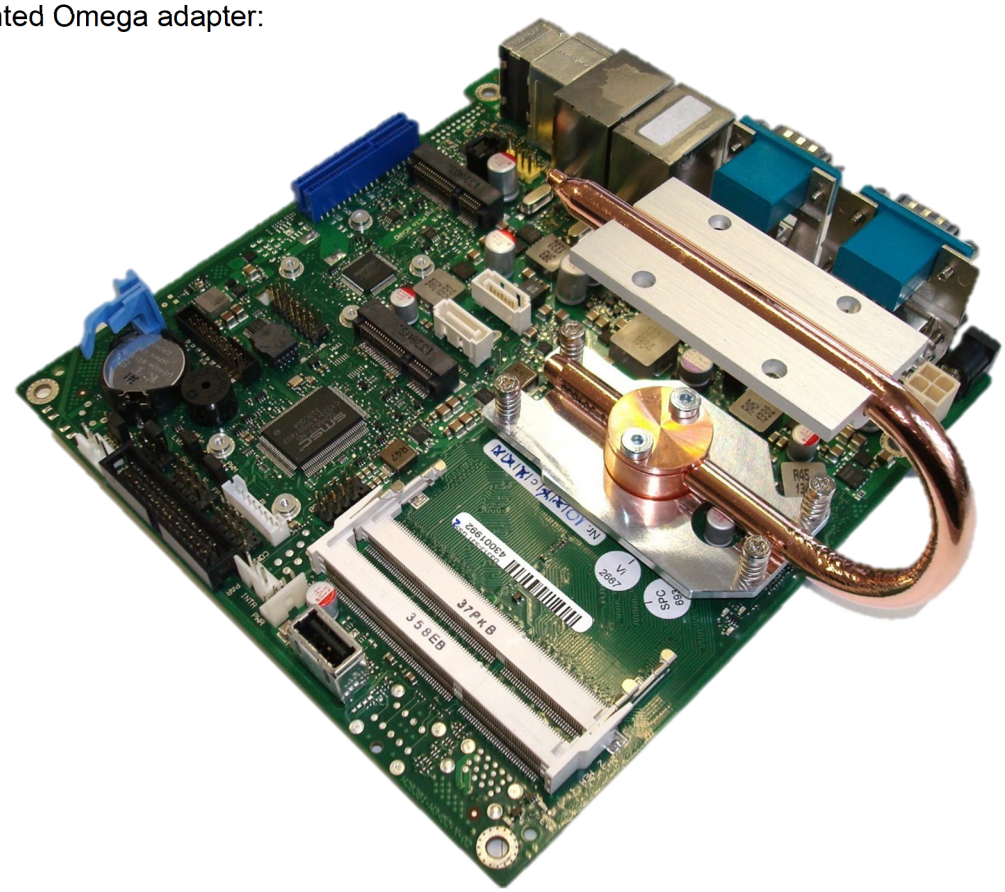


Aluminum Block for 1x 8mm Heatpipe
Dimensions: 90x30x10.65mm
RoHS II & REACh compliant

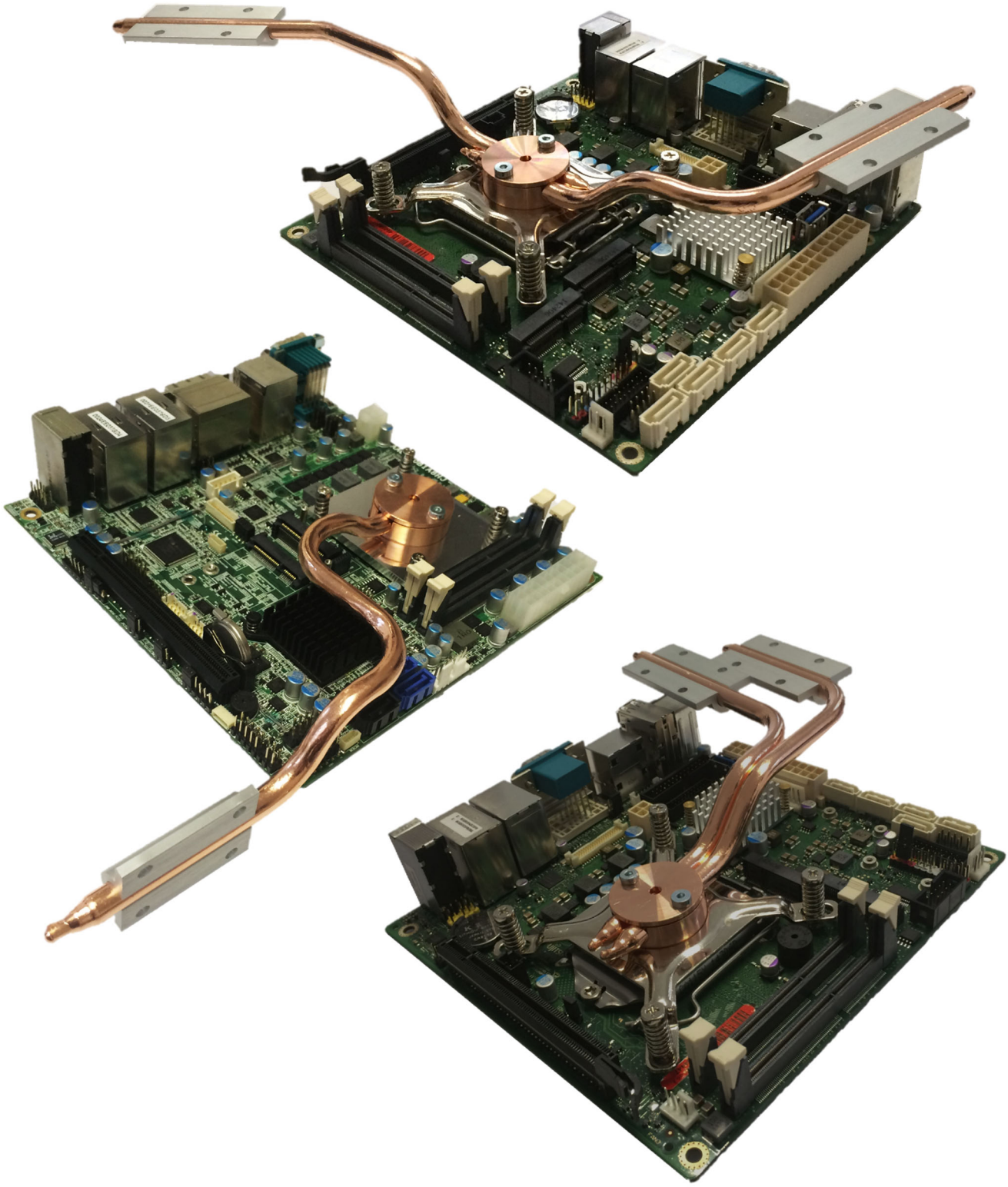
European Patent Number 15180418.4

Compared to previous adapters our Omega Adapter will no longer cause damage to the Heatpipe while mounting.
Also the thermal property could be improved.
Other positive side effects are less material needed and thus reduced weight.

On the following picture you can see a Heatpipe solution for the Fujitsu MB D3313S with our patented Omega adapter:



Here you can find some samples of our Heatpipe Kit Solutions:

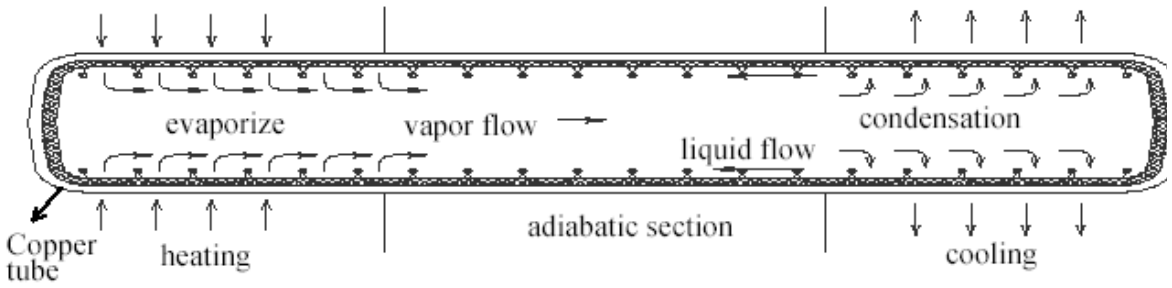


If you are looking for a suitable solution for your system, please don't hesitate to contact us.

back to content list

Introduction Heatpipe ↑back to content list

Heat Pipe is a two-phase heat transfer device with an extremely high thermal conductivity. They are evacuated vessels which are filled with a small quantity of a working fluid. They are totally passive and are used to transfer heat from a heat source to a heatsink with minimal temperature gradients by enthalpy difference between phase change (ie. latent heat) of working fluid.



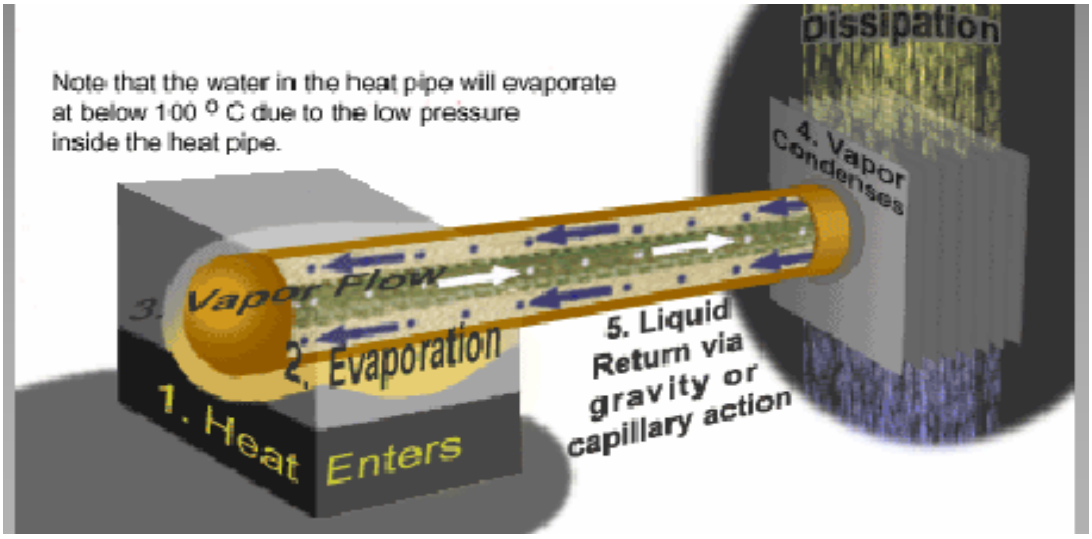
Configuration of Heat Pipe

Basic Element of the Heat Pipe

- Container (closed and vacuum)
- Working fluid
- Wick (capillary construction)

Operating Principle

- Evaporating Section
- Vapor Flowing
- Condensing Section
- Liquid Sucked
- Heat transfer power is: Where Q = Heat transfer power (W = J/sec)
  = Mass Flow (kg/s)
  L = Latent Heat (J/kg)

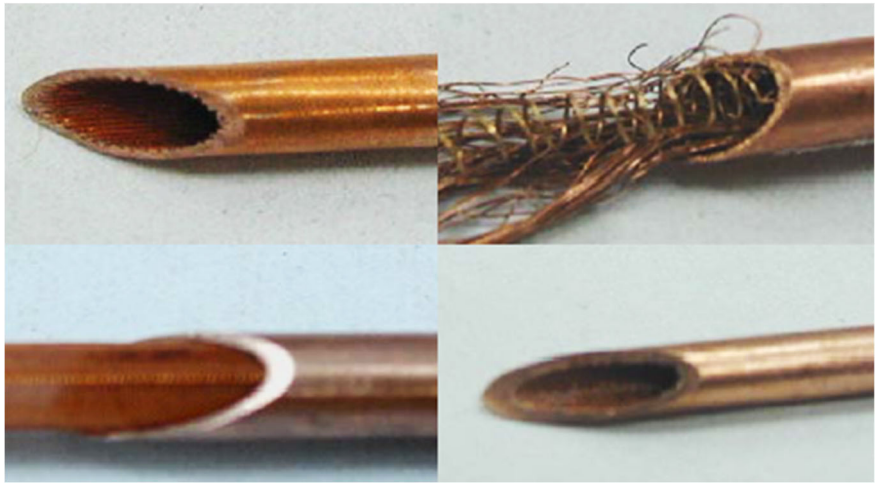


Wick Structure

Capillary force comes from Wick structure

- Capillary force let working fluid suck from condensing to evaporating section

Axial Groove



Spiral & Fiber

Screen Mesh

Sintered Powder

Comparison between 4 types of Wicks

Wicking Material	Conductivity (Straight)	Overcome Gravity	Thermal Resistance	Stability	Conductivity Lost (bended and flatten)
Axial Groove	Good	Poor	Low	Good	Low
Screen Mesh	Average	Average	Average	Average	Average
Fine Fiber	Poor	Good	High	Poor	Average
Sintering	Average	Excellent	High	Average	High

Reliability Test

Accelerated Life Test
- Heat pipes are heated at 180°C for 36hrs in a thermal oven

Uniformity of Temperature Test
- After accelerated life test, Criteria: $\Delta T \leq 2°C$

Q_{max} Test
- Find out max. thermal power transfer, Criteria: Match design spec

Fail Temp. Test
- Ensure heat pipe strength is strong enough, Criteria: $T_{fail} \geq 300°C$

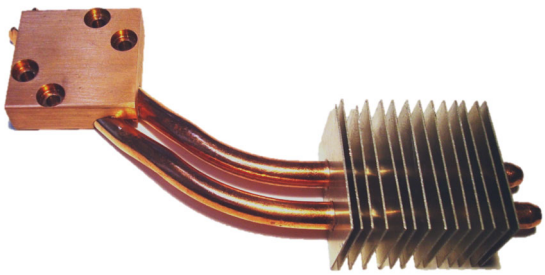
Thermal Cycle Test
- Judge endurance and fatigue life of Heat pipes by exposing heat pipes in periodic thermal cycles

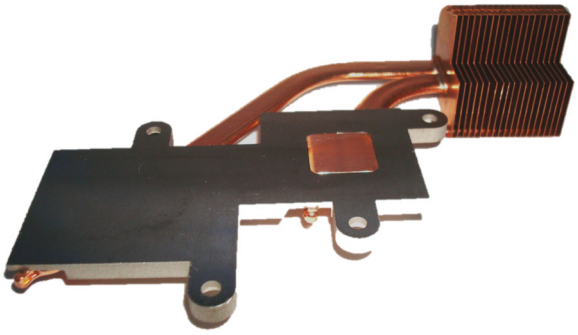
Leaking Test
- Test leakage and stability of heat pipes by treating heat pipes under high temperature

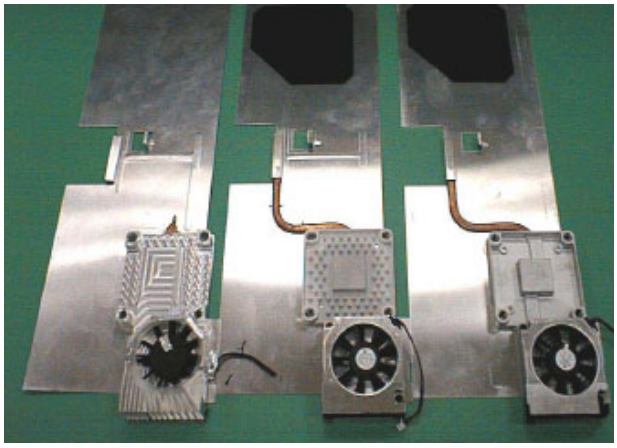
Typical Modification of Heat Pipe

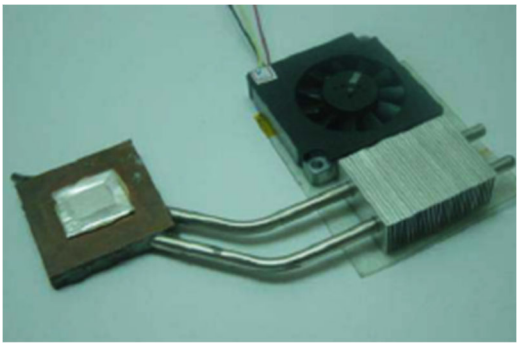
- Flatten
- Bending
- Leveling
- Hybrid

Applications of Heat Pipe

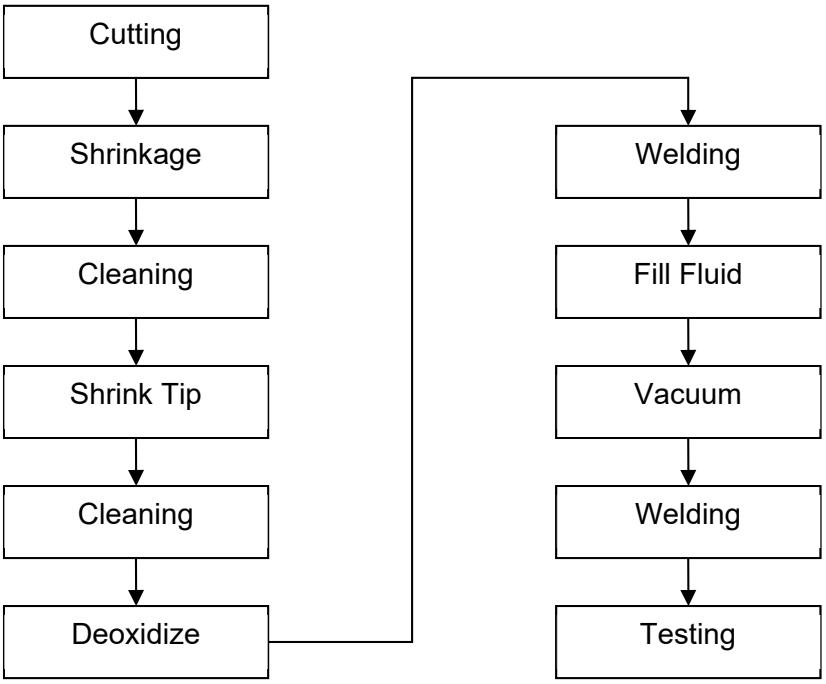






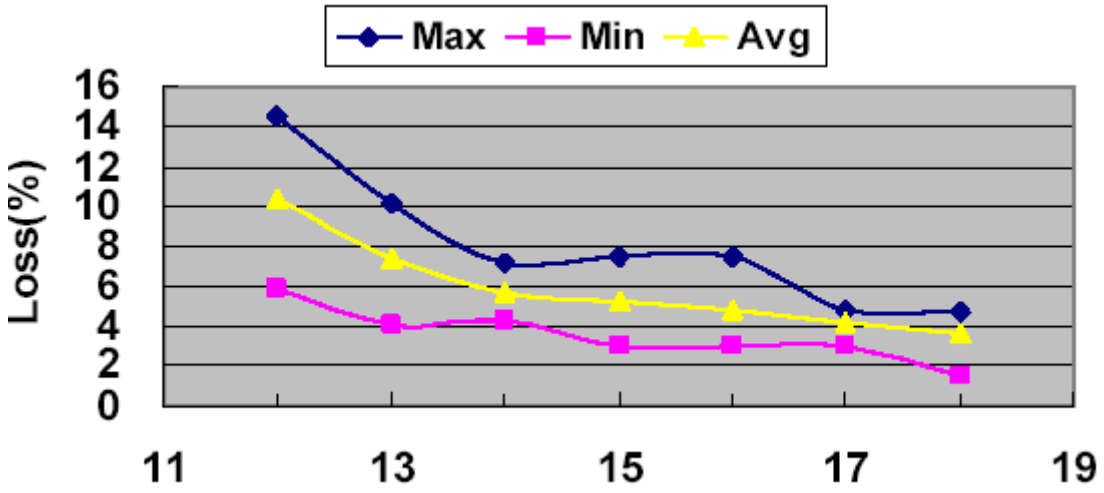


Heat Pipe Process Flow Chart



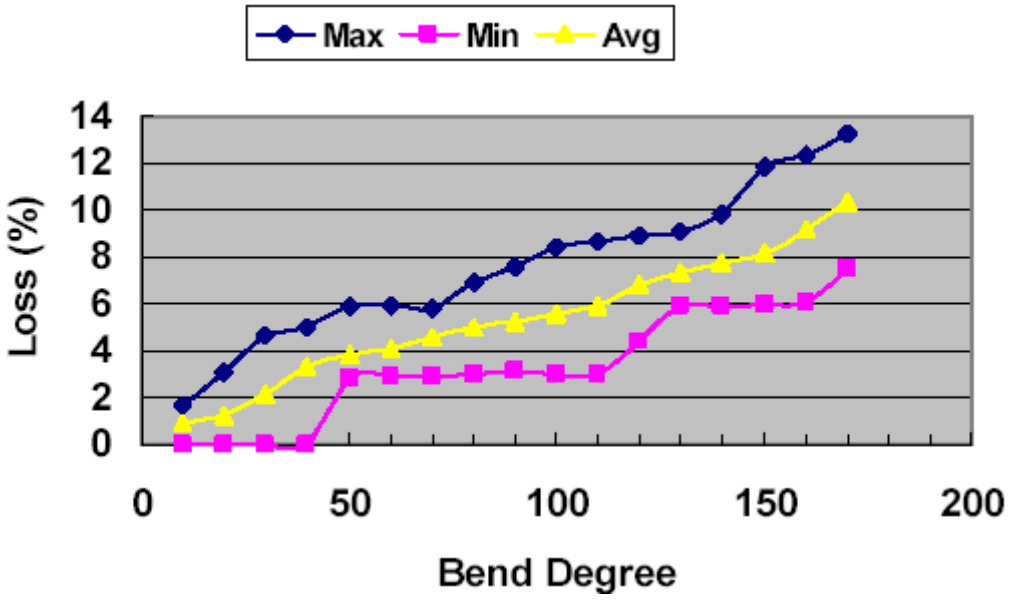
Heat Pipe Performance and Curved Radius

Performance Loss vs. Curved Radius for 90° bend Heat Pipes



Heat Pipe Performance vs. Bend Degree

Performance Loss vs. Bend Degree for 18mm Curved Radius Heat Pipes



Heat Pipe Specification 5mm

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø5 ± 0.05mm
	Flat	t: 2.5 ~ t: 4.5 ± 0.05mm
Wall Thickness		0.30 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Groove
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		25 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 12mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 50mm and 37mm in length, respectively. Condenser section is cooling by water cycling.		

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø5 ± 0.05mm
	Flat	t: 2.5 ~ t: 4.5 ± 0.05mm
Wall Thickness		0.30 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Sintered Powder
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		35 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 12mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 50mm and 37mm in length, respectively. Condenser section is cooling by water cycling.		

Heat Pipe Specification 6mm

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø6 ± 0.05mm
	Flat	t: 2.5 ~ t: 5.5 ± 0.05mm
Wall Thickness		0.30 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Groove
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		35 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 12mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 50mm and 37mm in length, respectively. Condenser section is cooling by water cycling.		

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø6 ± 0.05mm
	Flat	t: 2.5 ~ t: 5.5 ± 0.05mm
Wall Thickness		0.30 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Sintered Powder
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		35 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 12mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 50mm and 37mm in length, respectively. Condenser section is cooling by water cycling.		

Heat Pipe Specification 8mm

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø8 ± 0.05mm
	Flat	t: 2.2 ~ t: 7.5 ± 0.05mm
Wall Thickness		0.40 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Groove
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		55 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 25mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 40mm and 30mm in length, respectively. Condenser section is cooling by water cycling.		

Heat Pipe Specification		
ITEM		SPECIFICATION
Shape	Round	ø8 ± 0.05mm
	Flat	t: 2.8 ~ t: 7.5 ± 0.05mm
Wall Thickness		0.40 ± 0.02mm
Length		80~350 ± 1mm
Material of Container		OFHC
Working Fluid		Pure H_2O
Wick Structure		Sintered Powder
Fail Temperature (No Cooling)	Round	320°C Leakage
	Flat	140°C Inflation
Qmax		55 W
Copper-Water Heat Pipe Thermal Resistance Θ		Max. 0.3°C/W
Inclination		Any Direction
Flexibility		Curvature Rc≧ 25mm
Guaranty		3 Years
Ps. Qmax and Θ are tested in level condition. Evaporator and condenser are 40mm and 30mm in length, respectively. Condenser section is cooling by water cycling.		

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Customized Solutions

The HSM develop custom cooling solutions according to the requirements of the customer application. For such projects, we work closely with the motherboard manufacturer and Intel UK Swindon to get the needed technical details and 3D CAD files.

These are compact and high reliable systems for:

- ✓ Medical applications,
- ✓ Automotive data logger applications,
- ✓ Rugged embedded applications,
- ✓ Industrial control applications,
- ✓ Marine applications,
- ✓ Advertising and Kiosk applications.

Here some samples for special designed and customized solutions:

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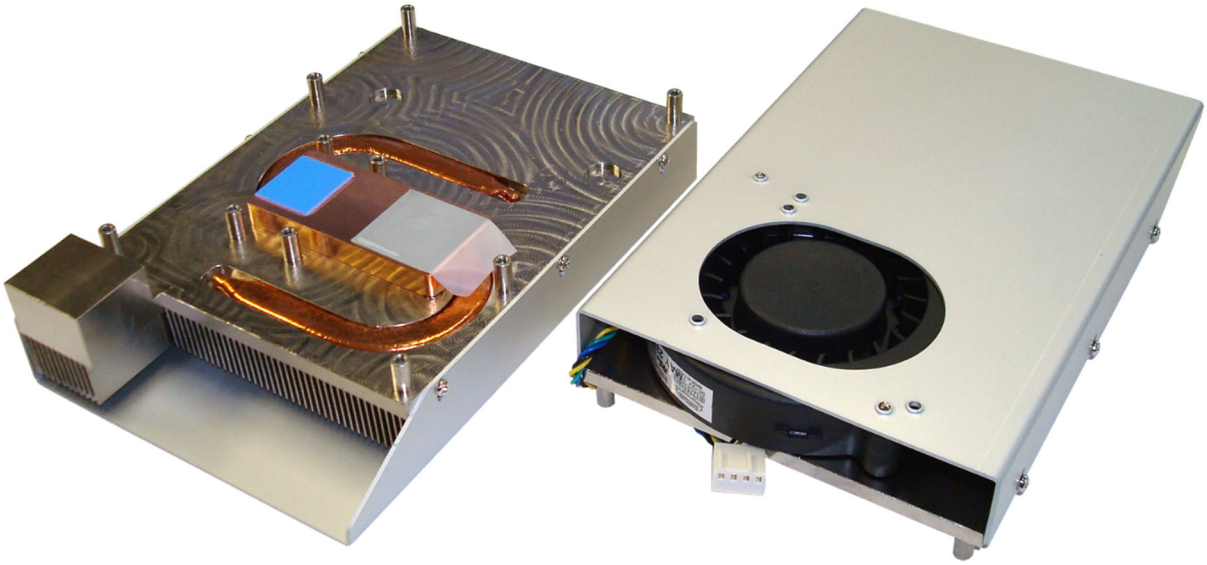

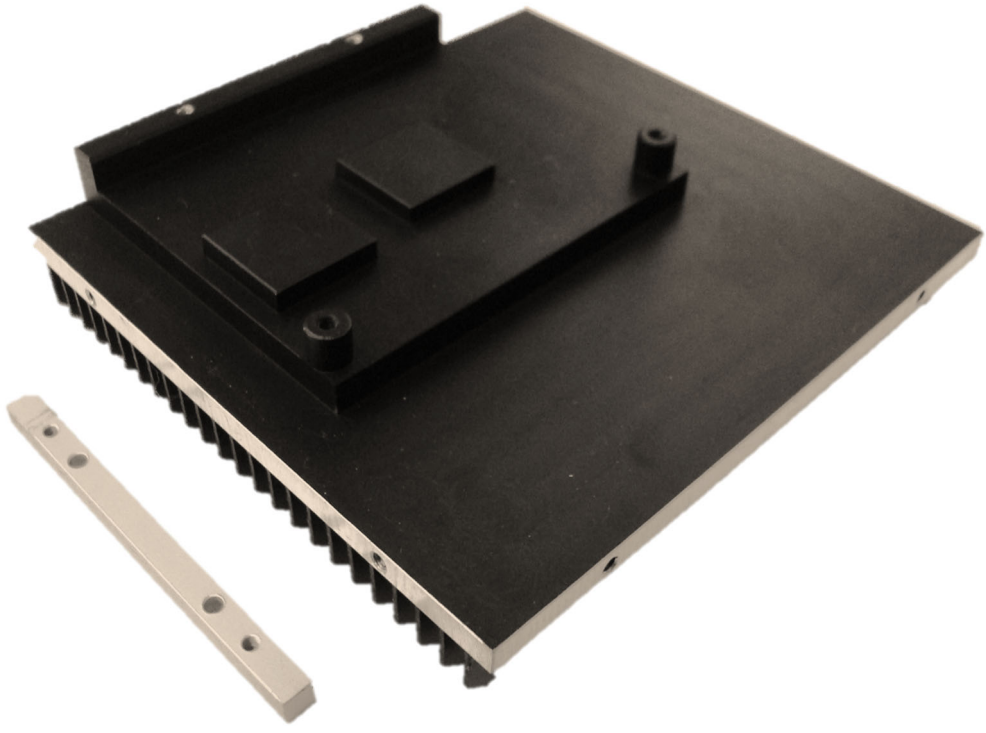

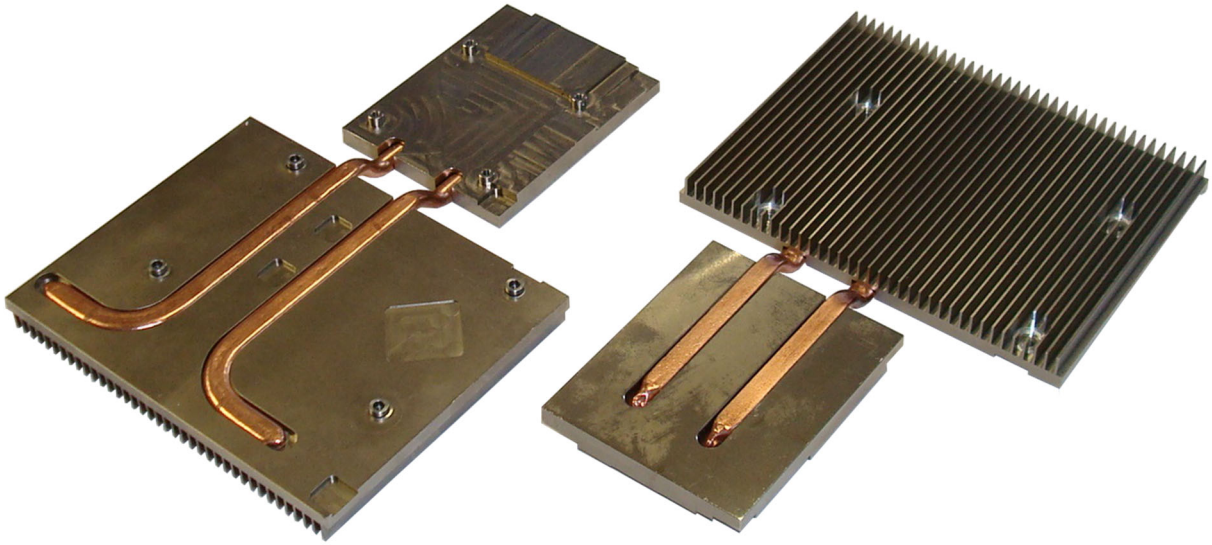

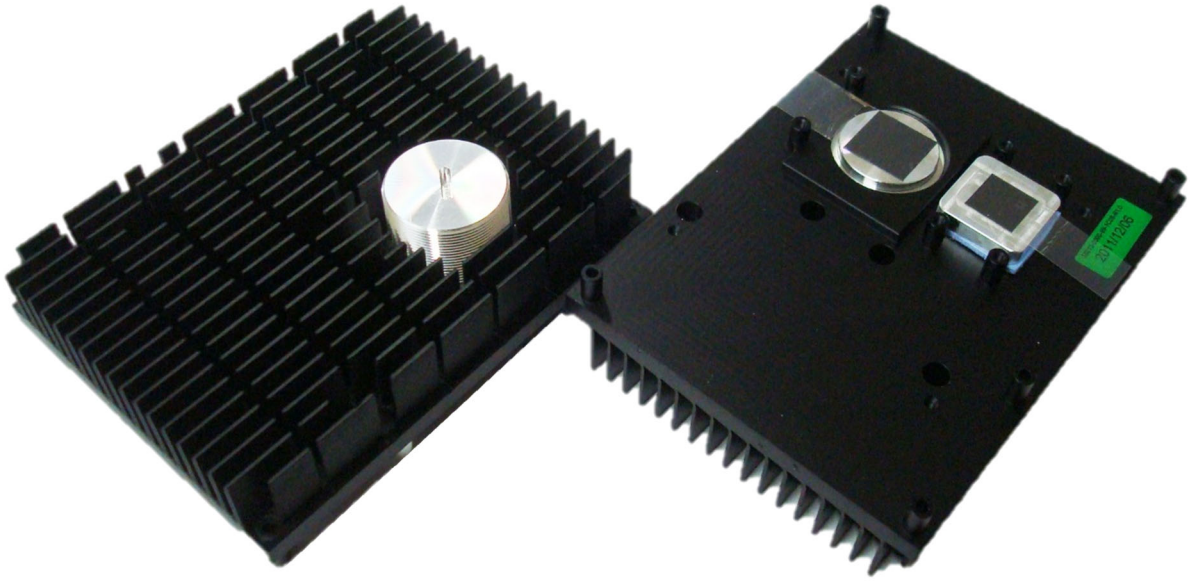

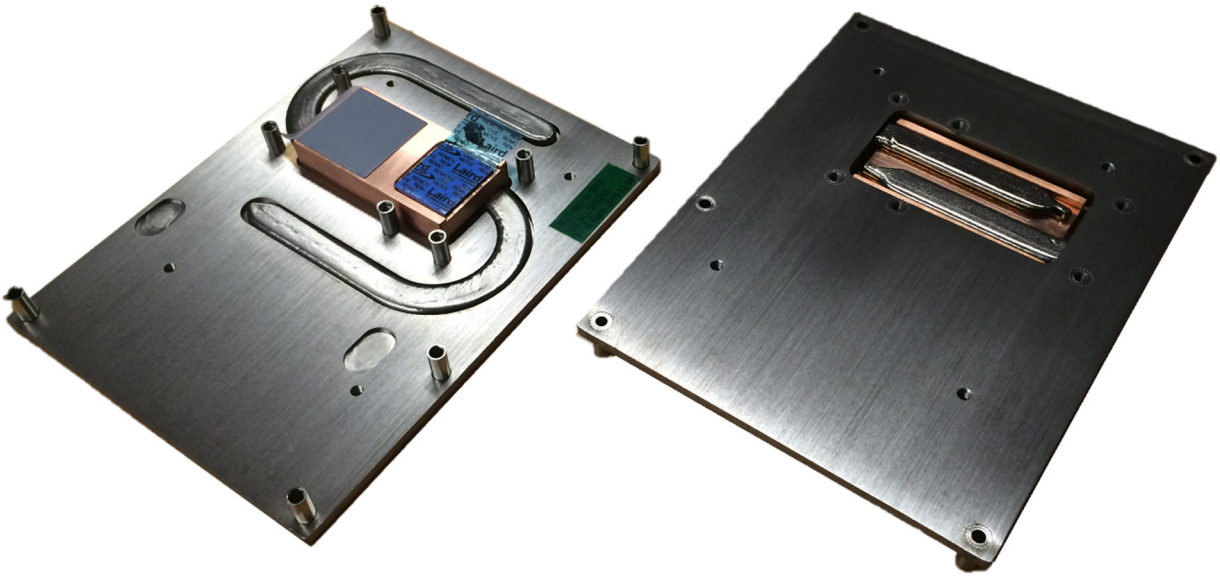

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Mounting Accessories

Backplate LGA115x

HSM Part# 104181 ↑back to content list

with 1mm Stand-Off, cutted
designed for Fujitsu MB D343X

Backplate LGA115x

HSM Part# 104141 ↑back to content list

with 2.42 Stand-Off
modified thread (8mm instead of 6.3mm)

Backplate LGA115x

HSM Part# 103701 ↑back to content list

with 1.8mm Stand-Off
designed for Fujitsu MB D3243S

Backplate LGA115x

HSM Part# 103619 ↑back to content list

modified according Kontron requirements

Backplate LGA115x

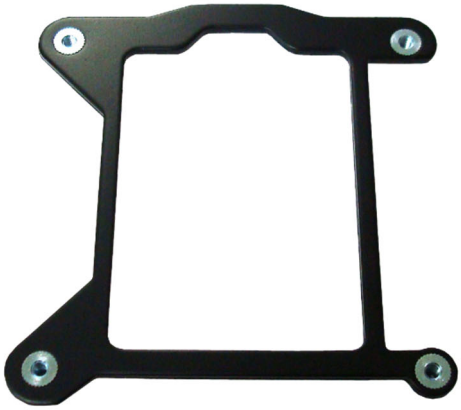
HSM Part# 103062 ↑back to content list

special cutted version without Stand-off

Backplate LGA115x

HSM Part# 102704 ↑back to content list

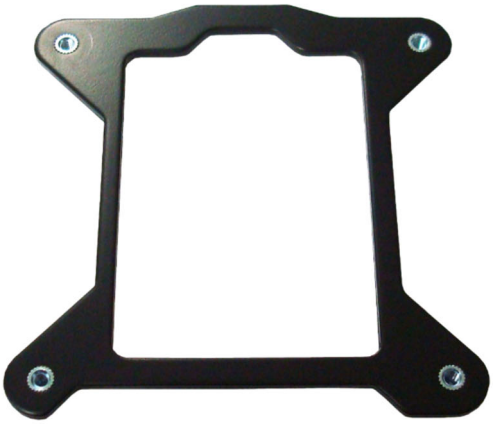
with 2.42mm Stand-Off
designed according to Intel DH67CF



Backplate LGA115x

HSM Part# 102608 ↑back to content list

with 2.42mm Stand-Off
designed according to Intel DH67CF



Backplate LGA115x

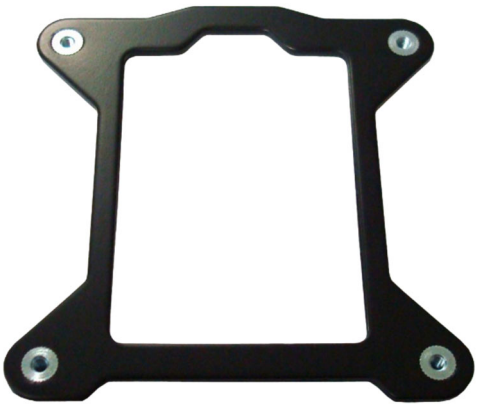
HSM Part# 102547 ↑back to content list

with 2.35mm Stand-Off

Backplate LGA115x

HSM Part# 102330 ↑back to content list

Standard Version



Backplate LGA115x

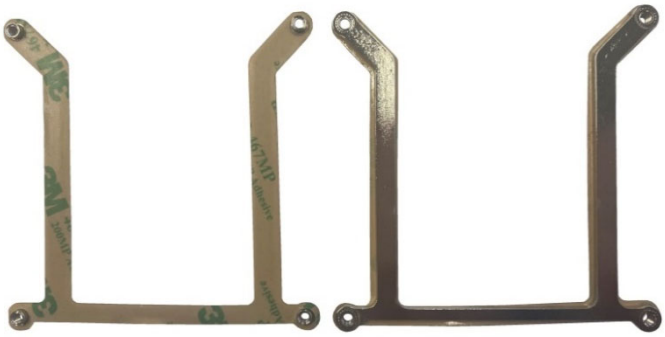
HSM Part# 104549 ↑back to content list

with 2.1mm Stand-Off

Backplate LGA115x

HSM Part# 104921 ↑back to content list

without Stand-Off (D36xxx)



Backplate LGA1700

HSM Part# 105155 ↑back to content list

with 2.5mm Stand-Off

Backplate LGA1700

HSM Part# 104994 ↑back to content list

with 2.4mm Stand-Off and 1.6mm tubes

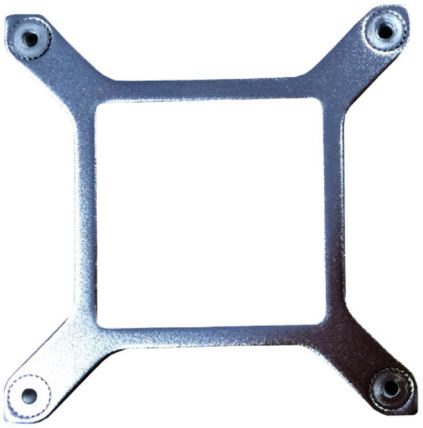
Backplate AMD Ryzen AM4

HSM Part# 104901 ↑back to content list

Backplate G1/G2

HSM Part# 104053 ↑back to content list

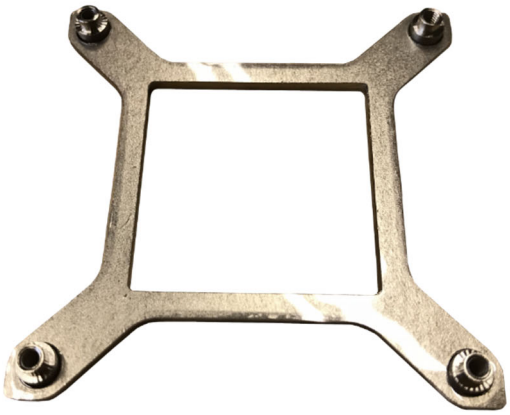
with 1.7mm Stand-Off & 6.1mm tube length
designed to meet PGA socket
requirements with BGA heatsink



Backplate G1/G2

HSM Part# 103971 ↑back to content list

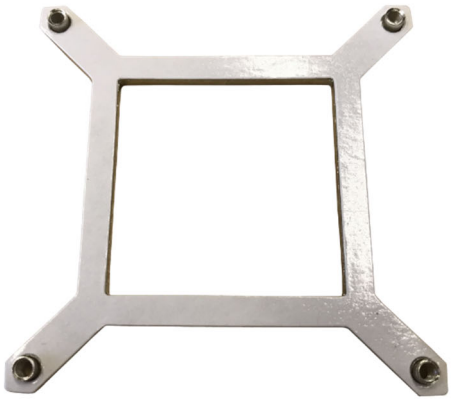
with 1.7mm Stand-Off
BGA



Backplate G1/G2

HSM Part# 103752 ↑back to content list

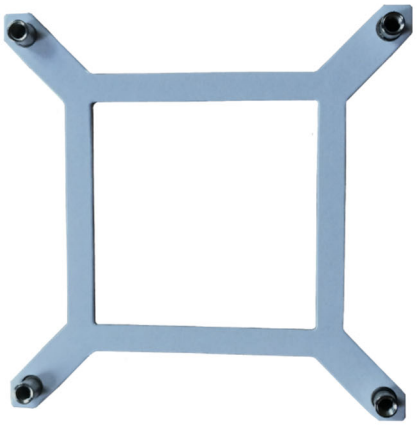
designed to fit on 1.6mm PCB



Backplate G1/G2

HSM Part# 102435 ↑back to content list

tube length 3.0mm



Backplate S1

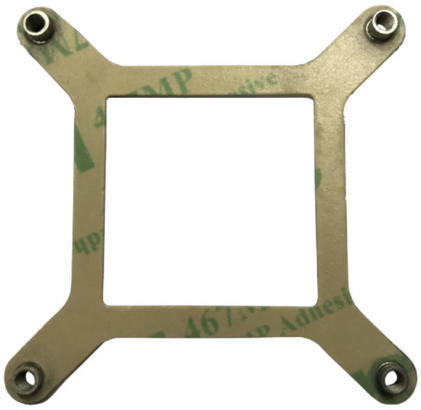
HSM Part# 102379 ↑back to content list

with metric M2.5 thread
BGA

Backplate 479

HSM Part# 104113 ↑back to content list

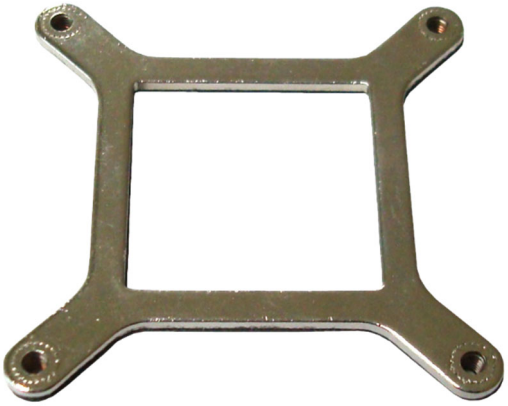
screw tube length 2.4mm
double side adhesive



Backplate 479

HSM Part# 102925 ↑back to content list

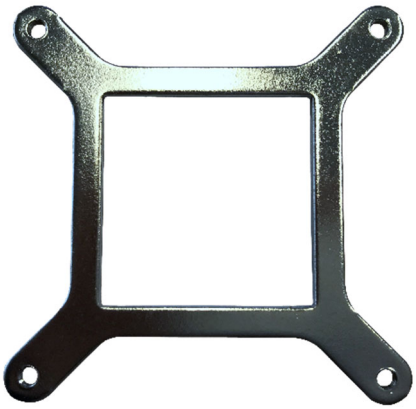
with 1.6mm Stand-Off



Backplate 479

HSM Part# 103375 ↑back to content list

for AOpen
50x50mm hole pitch



Certified according to
DIN EN ISO 9001:2015

CPU Heat Sink Catalogue

Revision 23

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