A great diversity of interconnect & thermal solutions

達鉅電子股份有限公司
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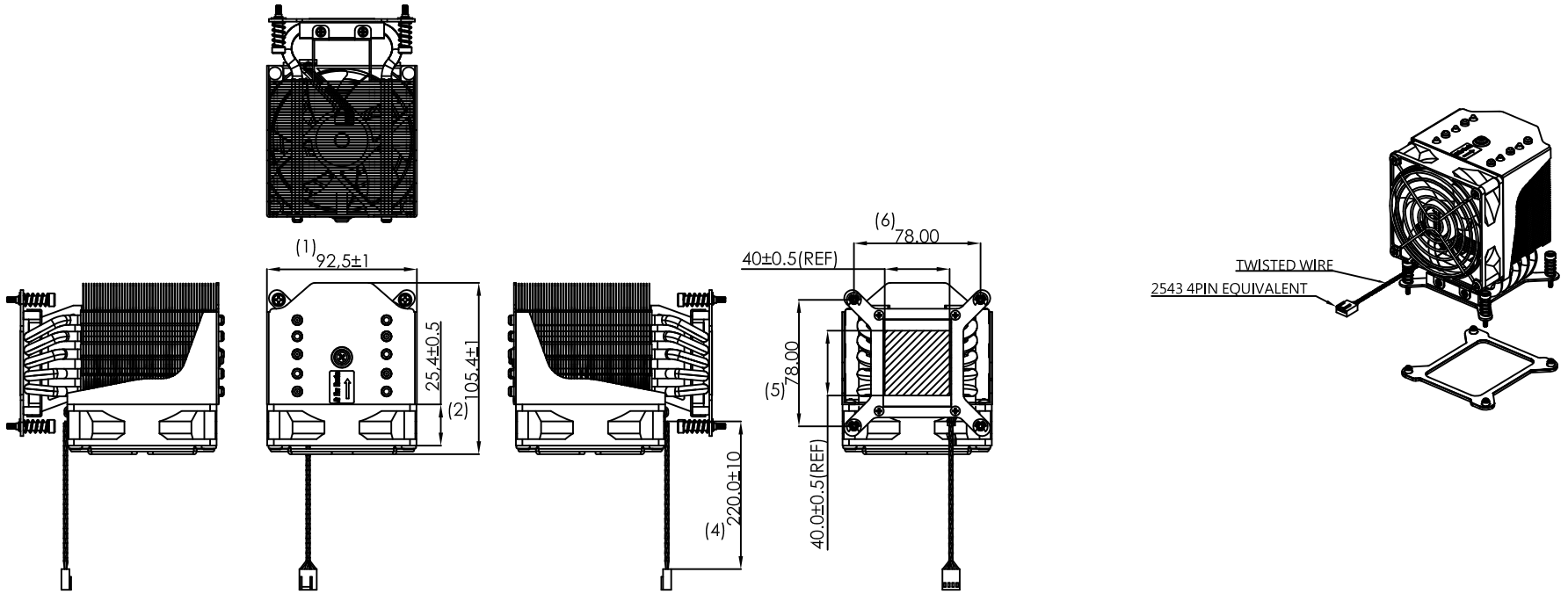
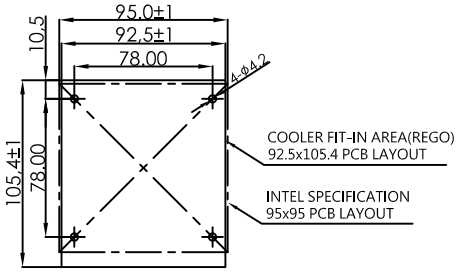
APPROVAL SHEET

BRAND	REGO
PART NUMBER	RGD3328AD-002
DESCRIPTION	3U CPU COOLER FOR SOCKET LGA 1700 PROCESSORS
CUSTOMER	
CUSTOMER P/N	

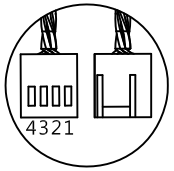
AUTHORIZED SIGNATURES			
NAME			
DATE			





PCB LAYOUT

SCALE 4:1

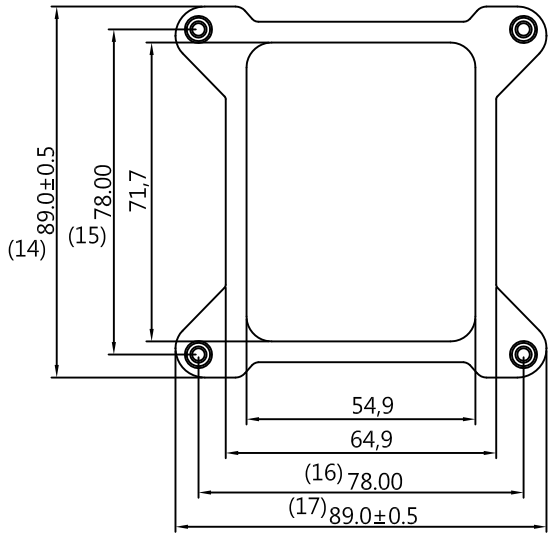


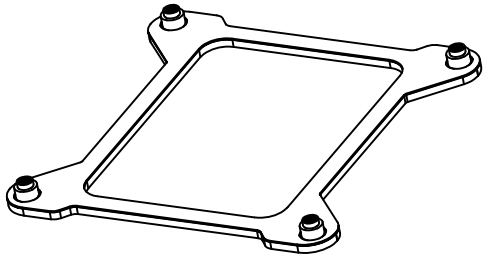
NOTES
1.LEAD WIRE UL 1061 AWG#26
PIN 1:BLACK WIRE---(-)
PIN 2:RED WIRE------(+)
PIN 3:WHITE WIRE---(FG)
PIN 4:BLUE WIRE---(PWM)
2.HOUSING:2543-4P(BEIGE) EQUIVALENT

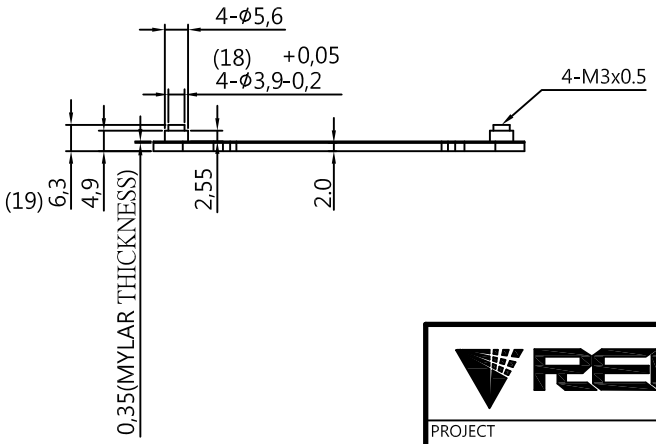
NOTES:

NO	PART NAME / NUMBER	DESCRIPTION	PCS
0	RGE-ST002-1	ϕ30	1
1	AG09212VB257B10(00PCU967)-RG01	92x25.4	1
2	1-0200090877	D6x9.8L	4
3	FAN GUARD	ϕ89.9x5T	1
4	RGD3328-N		1
5	THERMAL GREASE	X23-7762 (40x40x0.15)	1
6	850-BP1700	89x89x6.3	1

PROJECT	APPROVED: CHRIS	MATERIAL: N/A	DATE: 2022/06/01	.X° ± 3°
TITLE: 3U CPU COOLER FOR SOCKET LGA 1700 PROCESSORS	CHECKED: LEVI	FINISH: N/A	SCALE: 1 : 1	.X ± 0.30 / .XX ± 0.20 / .XXX ± 0.10
PART NO: RGD3328AD-002	DRAWN: VIC	UNITS: mm	REV: A	SHEET: 1 OF 1







NOTE :
1. MATERIAL:SPCC
2. FINISH：(1)PLATE—ELECTROPHORETIC DEPOSITION BLACK(EPD BLACK)
(2)STAND OFF—ZINC PLATING
3. MATERIALS USED MUST MEET THE ROHS STANDARD。

REGO

PROJECT	APPROVED: CHRIS	MATERIAL: SEE NOTE	DATE: 2021/05/18	.X° ± 3° / .X ± 0.30 / .XX ± 0.20 / .XXX ± 0.10
TITLE: SOCKET 1700 BACK PLATE	CHECKED: LEVI	FINISH: SEE NOTE	SCALE: 1 : 1	
PART NO: 850-BP1700	DRAWN: VIC	UNITS: mm	REV: A	SHEET: 1 OF 1

D A T A - S H E E T

Engineering

BRUSHLESS AXIAL COOLING FANS

Customer	:	Ref: (RoHS)
Adda Model No	:	
Samples attached	: Piece(s),	
Safety Approval	:	

Specifications

ITEM	SPECIFICATION / CONDITION
BEARING TYPE	: TWO BALL
RATED VOLTAGE	: 12 VDC
OPERATING VOLTAGE RANGE	: 11.4 VDC — 12.6 VDC
OPERATING DUTY CYCLE RANGE	: 30% ~ 100%
START－UP DUTY CYCLE	: 30% Max (AT RATED VOLTAGE)
RATED CURRENT	: 1.00 Amp + 10 %MAX (Duty cycle 100%)
	(Approximately REAL CURRENT 0.60 Amp)
RATED POWER	: 12.00 Watt + 10 %MAX (Duty cycle 100%)
	(Approximately REAL POWER 7.20 Watt)
RATED SPEED	: 5000 RPM ± 10 % (Duty cycle 100%)
	: Rotatable (Duty cycle 0%)
	(IN FREE AIR AT RATED VOLTAGE)
AIR FLOW	: 91.442 CFM (min.: 82.297 CFM)
AIR FLOW	: 2.587 CMM (min.: 2.328 CMM)
	(IN FREE AIR AT RATED VOLTAGE)
STATIC AIR PRESSURE	: 0.480 Inch H_2O (min.: 0.388 Inch H_2O)
STATIC AIR PRESSURE	: 12.192 mm H_2O (min.: 9.875 mm H_2O)
	(IN FREE AIR AT RATED VOLTAGE)
NOISE LEVEL	: 52.5 dB (A) (max.: 56.5 dB(A))
MOTOR PROTECTION	: BY IC
POLARITY PROTECTION	: YES
LIFE EXPECTANCY	: 70000 Hours at 40℃ / 65% RH
NET WEIGHT	: 115 Gram. (REF.)
PACKING	: 180 pcs. Per Export Carton.

Unless otherwise stated, the relative humidity is 65%, and the temperature is 25℃ for the standard testing.

Should you have any doubt, please refer to the environmental conditions specified in the acknowledgement document.

Real Current and Real Power are for reference.

SPECIFICATION

1 · 0 SCOPE

1.1 If the information or other related document is inconsistent with this acknowledgement document, please refer to the acknowledge document.

1.2 This documentation defines the mechanical & electrical characteristics of DC brushless fans.

1.3 The specification of this product is described in details in the acknowledgement document. No guarantee is given to our product under the use of over specifications.

1.4 For any change or amendment to the specifications, such change will be noticed in writing beforehand.

1.5 If the product is used on the MIS system, please specify the specification in the purchase order.

2 · 0 MATERIAL

2 · 1 Frame : UL94V-0 Glass Filled polyester (P.B.T)

2 · 2 Fan Blade : UL94V-0 Glass Filled polyester (P.B.T)

2 · 3 RoHS : (V) YES

HF : ( ) YES

3 · 0 DIMENSIONS & CONSTRUCTION

All dimensions, Direction of rotation and air flow were specified as per drawing attached.

4 · 0 CHARACTERISTICS & DEFINITION

4 · 1 Rated Current/Rated Speed/Rated Power：

All shall be measured after 3 minutes of continuous rotation at rated voltage in free air.

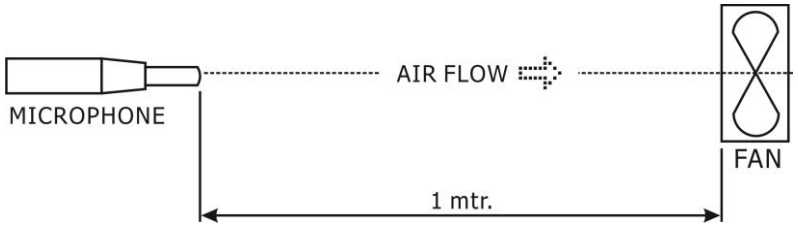
4 · 2 Start Voltage ：The voltage which is able to start the fan to operate by suddenly switching ’ ON ’ .

4 · 3 Locked Rotor Current：Locked current shall be measured within one minute of rotor locked, after 3 minutes of continuous rotation at rated voltage in free air.

4 · 4 Air Flow & Static Pressure：The air flow data and static pressures should be determined in accordance with AMCA-210 standard in a doublechamber testing with intake-side measurement.

4 · 5 Noise Level ：The measurement of noise level is carried out with referenceto ISO7779 in a semi-anechoic chamber with the microphone positioned 1 meter from the air intake.Testing fan shall be hung in clean air .

NOISE LEVEL MEASUREMENT



SPECIFICATION

5.0 MECHANICAL INSPECTION

5.1 Rotation Direction
Counterclockwise when look into impeller side.

5.2 Protection
All fans have integrated protection against locked rotor condition so that there will be no damage to winding or any electronic component.
Restarting is automatic as soon as any constraint to rotation has been released.
As fan placed at dead angle position, and the switch was changed from off to on. Restarting was automatic normal as soon as and proved that this fan is good fan.

5.3 Locked Rotor Protection
No damage shall be found after 72 hours continuously at condition of rotation locked.
Restarting is automatic as soon as constraint to running has been released.

5.4 Avoid the damage, check the correct voltage and proper polarity before connecting with power.

5.5 Free Drop Shock
In minimum package condition, the fan should withstand drops on any three faces from a height of 30cm onto a wood board of 10mm thick.

5.6 Please do not stick a grease and/or an oil to the fan housing or blade which may have a harmful influence by a chemical reaction at high humidity.

5.7 If the fan is reinstalled, please pay special attention to the noise due to the vibration (or resonance).

5.8 During the testing of the fan, please make sure the finger guard is used for safety.

6.0 ELECTRICAL INSPECTION

6.1 Insulation Resistance
Not less than 10M ohm between housing and positive end of lead wire (red) at 500V DC.

6.2 Dielectric Strength
No damage should be found at 500 VAC for 60 seconds, measured with 1mA trip current between housing and positive end of lead wire.

6.3 Life Expectancy
The continous duty life at given temperature after which, 90% of testing units shall still be running.

6.4 While the fan is running, do not intentionally lock the fan for a long time since the overheating of the motor produced by the long-time locking will damage the fan.

7.0 ENVIRONMENTAL

7.1 Improper use such as disassembling the fan, being covered with dust, or dipping the fan in water that results in defects is not covered in the warranty. Do not use the fan in the environment with corrosive air or liquid. ADDA does not warrant damage to the product caused by outside elements (as dust, condensation, humidity or insects).

7.2 Operating Temperature:-10℃ to +70℃ .

7.3 Operating Humidity:65%+/-20% RH.

7.4 Storage Temperature:-40℃ to +70 ℃.

7.5 Storage Humidity:65%+/-20% RH.

7.6 Do not place or store the fan in the environment with high/low temperature/humidity. If the fan is stored for more than 6 months, functional test is highly recommended before using.

SPECIFICATION

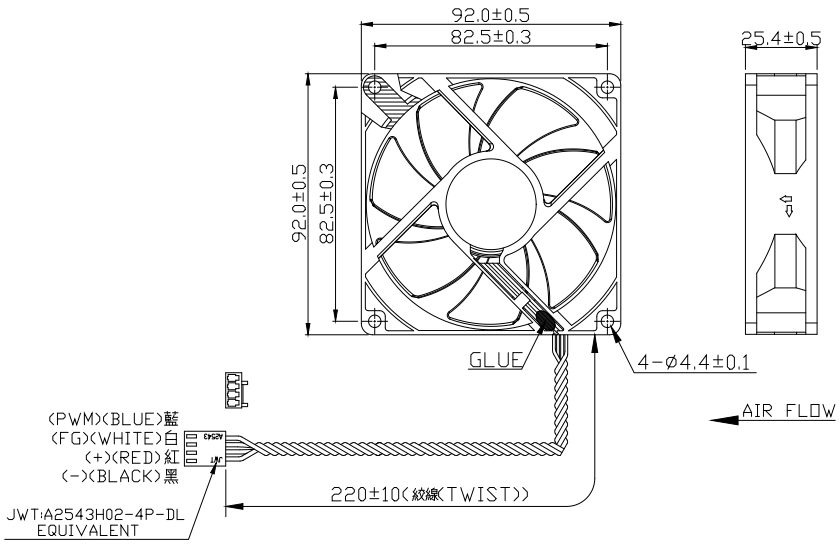
8.0 REMARKS

8.1 Material and construction are subject to change without advance notice. The changes should be within specification.

8.2 All fans shall meet the quality inspection under sampling plan MIL-STD-105E as follow:

Critical	0.25%
Major	1.00%
Minor	2.50%

9.0 OUTLINE STYLING & DIMENSIONS



LEAD WIRES : UL 1061, AWG26 ;
Red = positive ; Black = negative.
White = FG ; Blue = PWM

10.0 Notes:

10.1 Please do not touch and push Fan Blade with fingers or others,fan blade and ball bearings may be damaged and it causes noise defect.And suitable fan guard should be fitted to the fan to guard against any potential for personal injury.

10.2 Do not carry the fan by its lead wires.

10.3 If the fan does not have the polarity protection function, the connection of the colored wires should be red + red, and black + black, or else the fan will be damaged in no time.

10.4 For the models without reverse connection of polarity protection, please do not connect the lead wire in reverse

10.5 Please don't install this fan in series with 2x voltage inputs. For example, if a single fan rated at 12V, then don't install two of them in series with 24V input.

10.6 Every specific fan is designed for its certain application (project). Therefore, if you want to use this fan in other application (project), please inform REGO first so that we can confirm whether there is any issue which might be incurred from the reason of this different application (project) or not.

10.7 The"Life Expectancy" of this fan has not been evaluated for use in combination with any end application. Therefore,the Life Expectancy in the Test Reports(L10 and MTTF Report) that relate to this fan is for reference only and shall not construe any kind of warranty of REGO to the life of any specific fan,either expressed or implied.

10.8 The period of product warranty,unless otherwise agreed by REGO in writing,shall be 12 months starting from the date of production.

10.9 In Lead Wire, there is a possibility to come off from frame.

10.10 In order to avoid abnormal bumping or interference caused by deformed impeller when fan is fastened, suggested distance of at least 0.5mm is strongly reserved in front of the frame (the sight from the impeller face) .

10.11 Hot swapping or Hot plugging is not allowed to cause damage to fans. Notice in advance is strongly requested if design for Hot swapping or Hot plugging is needed.

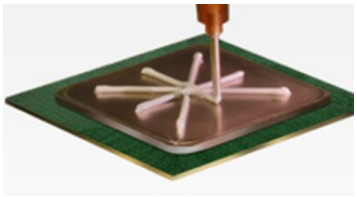
X23-7762 Technical Data Sheet

Product description

X23-7762, is a thermal interface material developed and manufactured by Shin-Etsu Chemical with ease of application in mind. Specifically formulated to include an application chemical to allow ease of screening and other application techniques. With a higher Thermal Conductivity coupled with lower Thermal Resistance exceeds thermal management requirements of high-performance semiconductor devices. Through superior heat dissipation, the X23-7762 allows electronic devices to remain cooler and increases their long term reliability.

Product characteristics

- Excellent thermal resistance (TR) and thermal conductivity (TC)
- Low viscosity at the time of application, easily applied via dispensing, stencil printing, or screen printing methods
- Stable homogeneous mixture for consistent thermal performance
- RoHS and REACH Compliant
- High volume production product from a proven industry leader Available worldwide through established supply chain networks



General properties

Attributes	Typical Values
Color	Grey
Viscosity (Pa·s) (pre-flash) *	140
Viscosity (Pa·s) (post-flash) *	700
Thermal Resistance ***(mm2-K/W)	12.8
Thermal Conductivity **(W/m °K) (post-flash)	6.5
BLT (µm) (Thin—BLT) (20psi)	72

*See page 2

Measured with hot disc method * Measured with laser-flash

Packaging Description	X23-7762
Syringes	0.5 gm, 1.0 gm
Cartridges	55 gm
Bulk	1 kg can
Custom Sizes Available	
Storage Conditions	60°F to 85°F

Packages

SEM's X23-7762 material is available in several cost effective packages offering unique advantages:

- **Syringes** offer most flexibility, with the ability to utilize the same product package for production and field requirements
- **Cartridges** can be utilized with either manual, automated or silk-screening equipment. The delivery system allows dispensing of the material, while protecting the integrity and exposure level of the unused portion.
- **Bulk** purchases with the lowest unit cost, are available for large scale production facilities where material is consumed at a rapid rate.

Caution

Shin-Etsu MicroSi (SEM) has been notified by customers that they were negatively impacted by using unauthorized and/or counterfeit thermal interface materials being sold as Shin-Etsu materials. Please note that Shin-Etsu Chemical Co., Ltd. And SEM, Inc. are not in a position to take any responsibility for the said unauthorized materials. Feel free to contact SEM, if you have any questions regarding this.

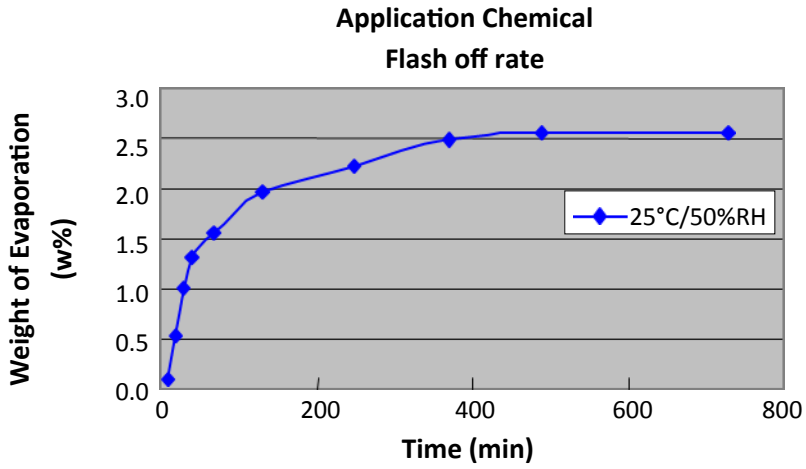
To ensure safety, follow the precautions stated in the material safety data sheet and technical references.

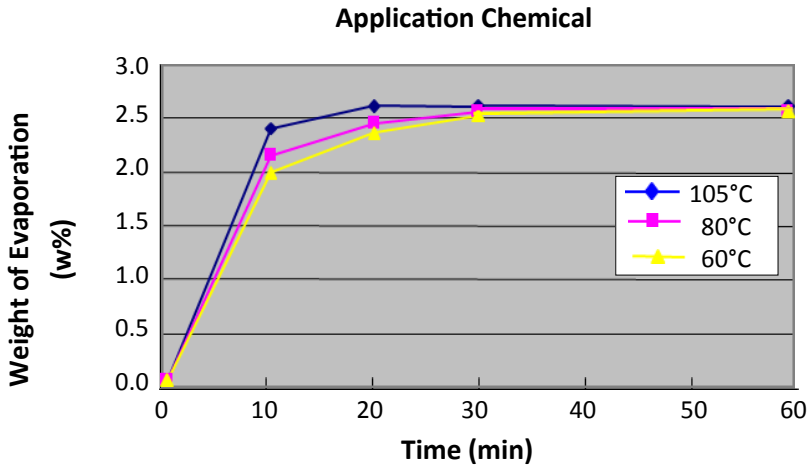
Typical values of different parameters have been shared in this sheet. It's the responsibility of the Purchasers to qualify the products for their respective applications. The contents in this document are subject to revision without notice to reflect latest data.

Please contact:
Shin-Etsu MicroSi
1.888.642.7674 www.microsi.com

X23-7762

In an effort to improve the application process, our X23-7762 thermal interface material utilizes an "Application Chemical" to reduce the viscosity of the material. This application chemical evaporates (flashes) out of the grease once exposed to the environment and /or upon heating, which allows the viscosity to increase to the final value.





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REGO
A great diversity of interconnect & thermal solutions

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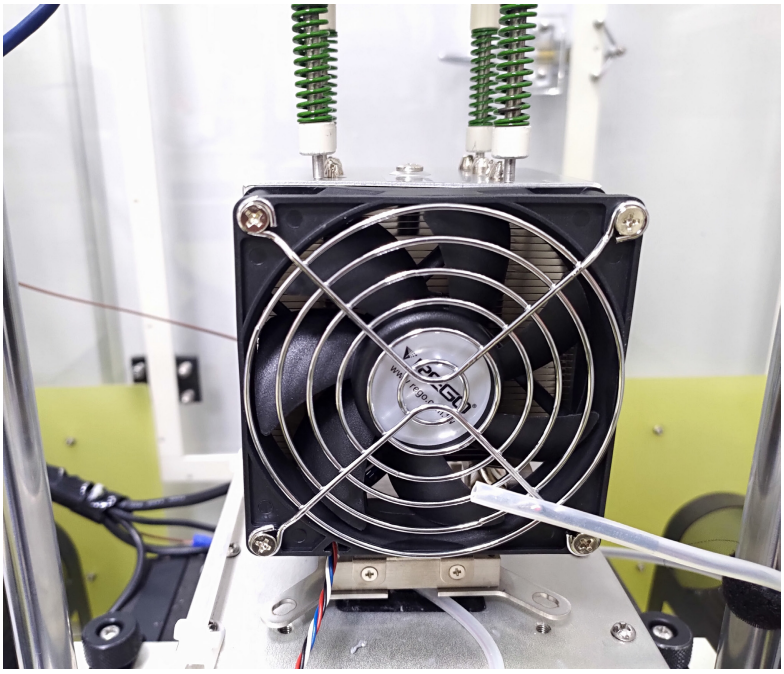
REGO ELECTRONICS INC.

Thermal Resistance Test Report



Product Information

Part number : RGD3328AD-002

Description : 3U CPU COOLER FOR SOCKET LGA 1700 PROCESSORS

Test Condition

Heat Flux : (1) 125 watts (2) 188 watts (3) 238 watts

Pressure : 28 lbs / 12.7 kgs

Test Duration : 20 minutes

Ta (Ambient Temperature) : 45 ℃

Convection : Natural Convection

Test Result

Test Result : (1) Tc = 60.1℃ , R= 0.088℃/w

(2) Tc = 65.2℃ , R= 0.092℃/w

(3) Tc = 70.1℃ , R= 0.092℃/w

Test Data

Test:

Sample	Tc	Ta	Fan Speed	F	Q	R
1	° C	° C	RPM	kgf	W	° C/W
	60.1	49.1	4765	12.74	125	0.088

Sample	Tc	Ta	Fan Speed	F	Q	R
2	° C	° C	RPM	kgf	W	° C/W
	65.2	47.9	4756	12.81	188	0.092

Sample	Tc	Ta	Fan Speed	F	Q	R
3	° C	° C	RPM	kgf	W	° C/W
	70.1	48.2	4762	13.23	238	0.092

Date:2022/06/14

Engineer: Ken

CPU Cooler Thermal Resistance Measurement Apparatus

with 4 sets of 650 watts Infrared Radiation Heaters

Operating Temperature：Room Temperature ~ 70°C。