JARO THERMAL

SPECIFICATION FOR APPROVAL

Customer :
Customer Part No. :
Description : Thermoelectric module
JARO Model No. : JSC00072
Sample Issue No. :
Sample Issue Date :
☑ Preliminary Specification
☐ Formal Specification

PREPARED BY :	Chris Hsu	DATE :	12/28/2021
CHECKED BY :	Jay Su	DATE :	12/28/2021
APPROVED BY :	Claire Wang	DATE :	12/28/2021

PLEASE SEND ONE COPY OF THIS SPECIFICATION BACK AFTER YOU SIGNED APPROVAL FOR PRODUCTION PRE-ARRANGEMENT.

By:_____ (printed)

Signature:_____

Date:_____

Jaro Thermal USA offices
6600 Park of Commerce Blvd.
Boca Raton, Florida 33487
www.jarothermal.com
Ph: 561-241-6700
Fx: 561-241-3328

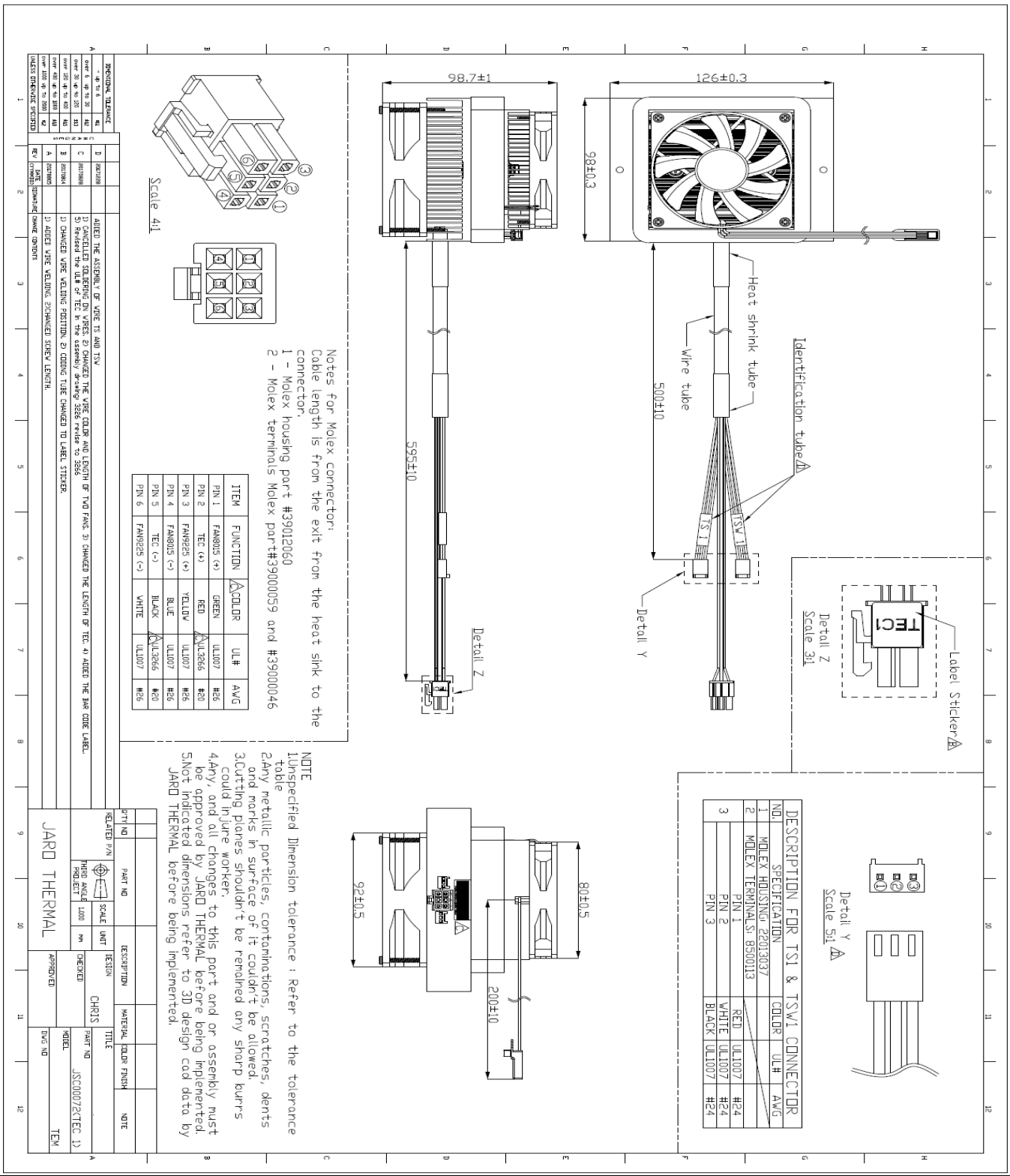
Jaro Thermal Taiwan office
Building H, No.119-1, Zhudong Rd., Renwu Dist., Kaohsiung City 81448, Taiwan
www.jarothermal.com
Ph: +886-7-375-2053
Fx: +886-7-374-7403

We keep the world cool™

DIMENSION DRAWING

JARO MODEL: JSC00072

1.) Assembly drawing



ITEM	FUNCTION	COLOR	UL#	AWG
PIN 1	FAN8015 (+)	GREEN	UL1007	#26
PIN 2	TEC (+)	RED	UL3266	#20
PIN 3	FAN9225 (+)	YELLOW	UL1007	#26
PIN 4	FAN8015 (-)	BLUE	UL1007	#26
PIN 5	TEC (-)	BLACK	UL3266	#20
PIN 6	FAN9225 (-)	WHITE	UL1007	#26

NO.	DESCRIPTION FOR TS1 & TSW1 CONNECTOR SPECIFICATION	COLOR	UL#	AWG
1	MOLEX HOUSING: 22013037			
2	MOLEX TERMINALS: 850113			
3	PIN 1	RED	UL1007	#24
	PIN 2	WHITE	UL1007	#24
	PIN 3	BLACK	UL1007	#24

REV	DATE (YYMMDD)	SIGNATURE	CHANGE CONTENTS
A	050708		1) ADDED THE ASSEMBLY OF WIRE TS AND TSW
B	050804		1) CANCELLED SOLDERING ON WIRES. 2) CHANGED THE WIRE COLOR AND LENGTH OF TWO FANS. 3) CHANGED THE LENGTH OF TEC. 4) ADDED THE BAR CODE LABEL. 5) Revised the UL# of TEC in the assembly drawing 3826 rev.to 3866.
C	060728		1) CHANGED WIRE WELDING POSITION. 2) COOLING TUBE CHANGED TO LABEL STICKER.
D	061108		1) ADDED WIRE WELDING. 2)CHANGED SCREW LENGTH.

DIMENSIONAL TOLERANCE

over 6 up to 30	±0.2
over 30 up to 120	±0.3
over 120 up to 400	±0.5
over 400 up to 1000	±0.8
over 1000 up to 2000	±1.2

UNLESS OTHERWISE SPECIFIED

RELATED P/N | QTY NO | PART NO | DESCRIPTION | MATERIAL | COLOR FINISH | NOTE

THIRD ANGLE PROJECT | SCALE 1/1.000 | UNIT mm | REVISION

TITLE
PART NO

DIMENSION DRAWING

JARO MODEL: JSC00072

2.) TEC

1. The test data

	Specification			Remark
1.1	Electrical resistance	2.10± 0.15Ω		LCR-Meter RT 25℃
1.2	Max. Current	7.2A		Max. current for ΔTmax
1.3	Max. Voltage	17.1 V		Max. voltage for ΔTmax
		T h =27℃	T h =50℃	
1.4	Qc max	55.0	60.0	Max. absorption heat @△T=0℃
1.5	△T range	62~68	62~78	Max. temperature difference (△T= T h – T c)
1.6	Allowed temperature	125 ℃		Soldering material (Pb-free): OM525 (42Sn-57.7Bi-0.2CuX)

2. Precaution

2-1. Recommend to use no more than 100℃ at the hot side of TEC

2-2. Dropping or mechanical shock may damage to TEC, leading to malfunction.

2-3. Surface flatness controlled under 50㎛.

2-4. To attach between Heat Sinks, thermal grease should be pasTEC to both sides of TEC

2-5. Recommend to apply 70~80% range of V max and I max as a operating voltage or current

2-6. To prevent moisture infiltration, silicone or epoxy material sealed through TEC

2-7. Storage condition: - 5~35℃ (Temperature), 20~75% (Relative humidity)

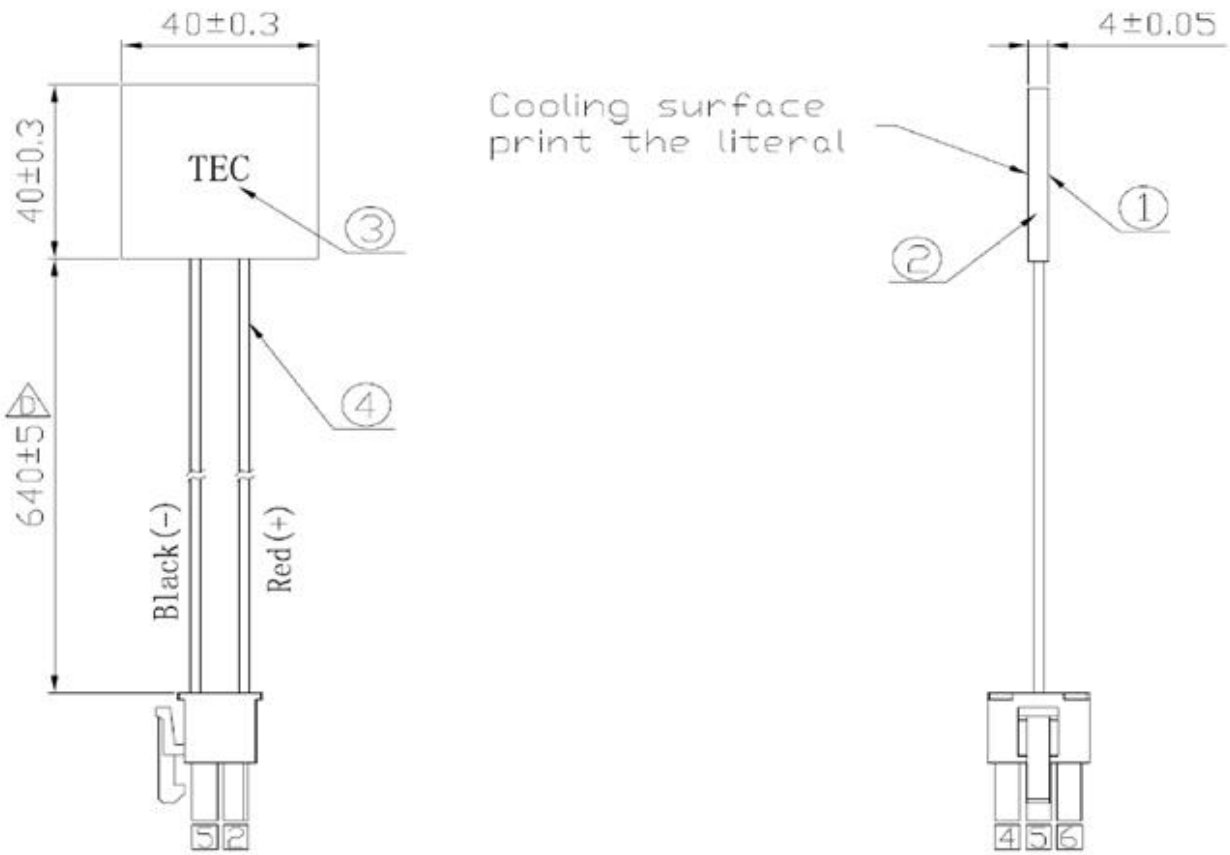
DIMENSION DRAWING

JARO MODEL: JSC00072

Specification		
Rev. Date : 2017-8-28	Model Name : TEC1-127-06-4040-400	Page : 2 / 2

3.Drawing

Product	Thermoelectric Cooling	
Class	Outline drawing	
Serial number	Item	Specification
1	Ceramic plate	96% Al 2 O 3 , White color
2	Seal	Sealed with TM-704 (Silicone) between hot and cold plate
3	Mark	Print TEC on the cold side surface
4	Lead wire	AWG#20 UL3266 125℃ PVC



DIMENSION DRAWING

JARO MODEL: JSC00072

3.) DC Fan - JED0801512LF1A0R P.S.: (FDBAR)-X(1957B)
UL / CUL File No. E175370

DIMENSIONS

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

Description: DC Fan with:

Lead Wire: UL1007 , AWG#26, IC11961
PIN 1: Blue wire = Negative (-), PIN 2: Green wire = Positive (+)
Exposed wire length : 695 ± 10mm
Terminals: Molex 39-00-0046

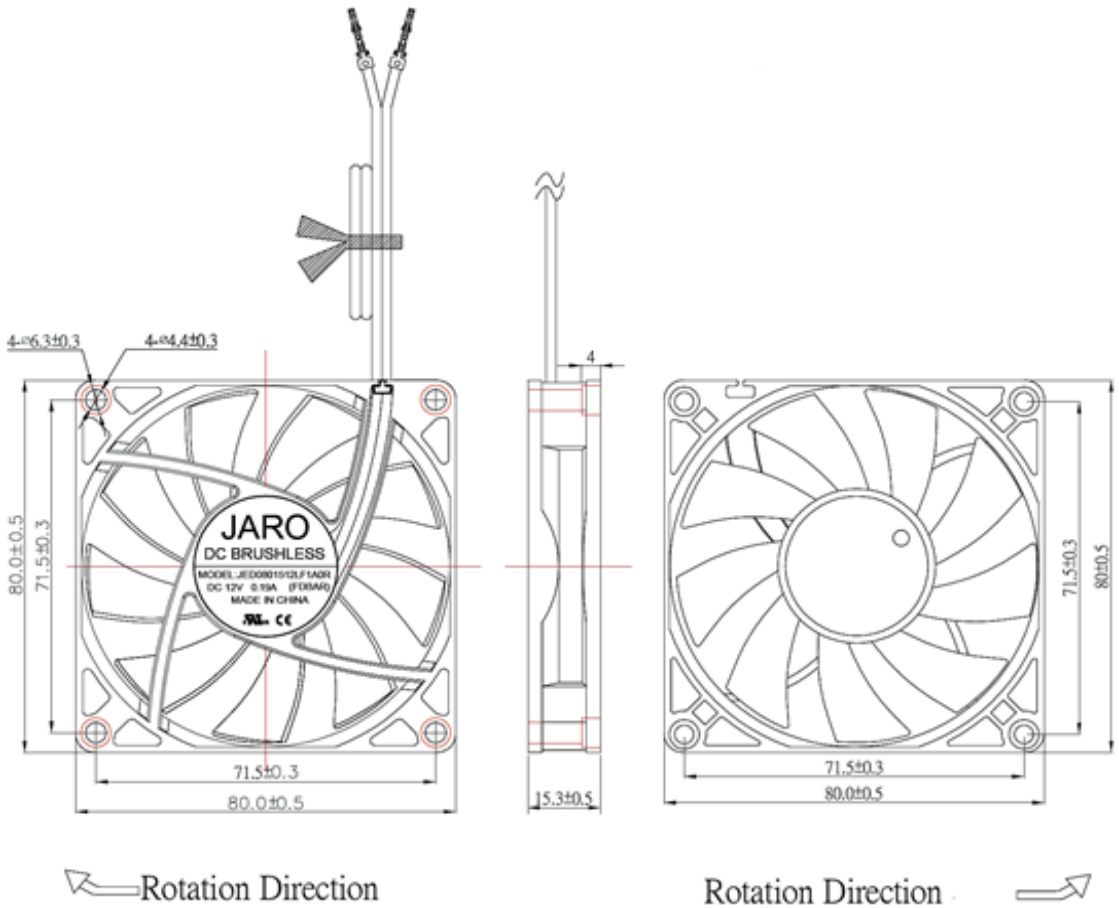


DIAGRAM OF DIMENSIONS: Dimensions in millimeters
NOT TO SCALE. ALL COMPONENTS MUST BE RoHS/REACH COMPLIANT.

Drawing Note: N/A

Safety : UL,CUL,CE

DIMENSION DRAWING

JARO MODEL: JSC00072

4.) DC Fan - JED0922512MF1A0F P.S.: (FDBAR)-X(1958B)
UL / CUL File No. E175370

DIMENSIONS

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

Description: DC Fan with:

Lead Wire: UL1007 , AWG#26, IC11961
PIN 1: White wire = Negative (-), PIN 2: Yellow wire = Positive (+)
Exposed wire length : 655 ± 10mm
Terminals: Molex 39-00-0046

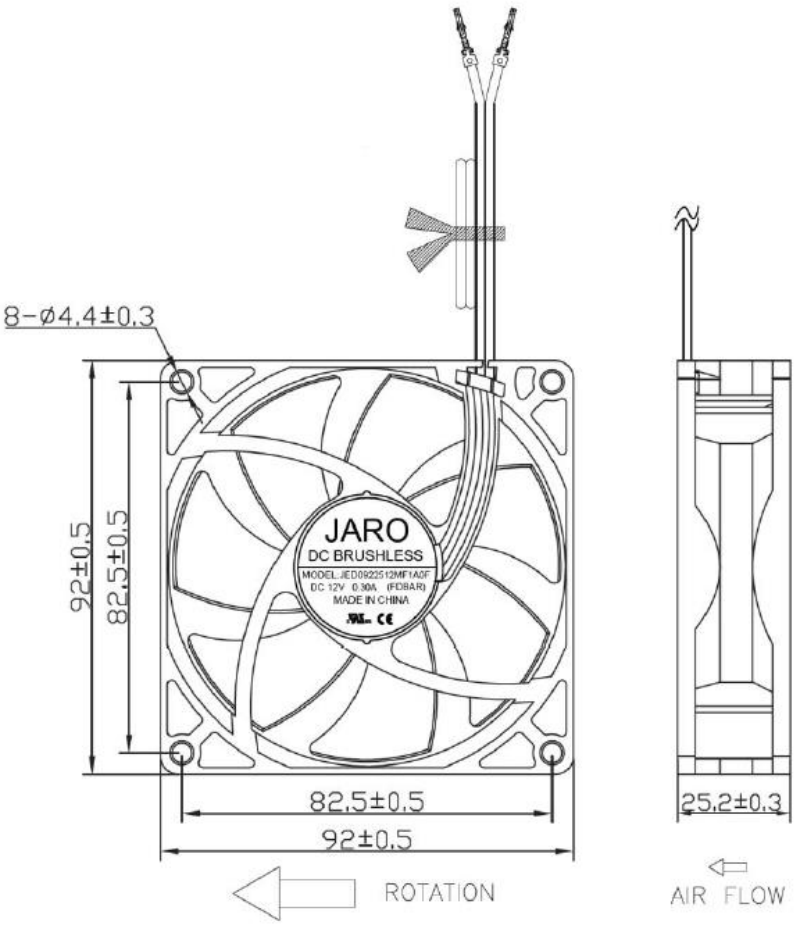


DIAGRAM OF DIMENSIONS: Dimensions in millimeters
NOT TO SCALE. ALL COMPONENTS MUST BE RoHS/REACH COMPLIANT.

Drawing Note: N/A

Safety : UL,CUL,CE

DIMENSION DRAWING

JARO MODEL: JSC00072

◎ TEC Performance

Condition	Cold	Hot
Cold Side Fan Off	-5℃ max.	42℃ max.
Cold Side Fan On	19℃ max.	45℃ max.

1) Temperature measured at hot and cold side heatsink fin
2) The current is only involved in TEC, not including fan
3) 12V is applied for the operation of TEC
4) Environmental temperature is 25.5℃

◎ Fan Specification

DC Fan 12V	80x15 mm	92x25 mm
Rated Power (W)	2.28 max.	3.60 max.
Real Power (W)	0.84 ±0.36W	1.44 ±0.60W
Rated Current (A)	0.19 +10% max.	0.30 +10% max.
Real Current (A)	0.07 ±0.03A	0.12 ±0.05A
Bearing Type	FDB	FDB
Air Flow (CFM) (IN FREE AIR AT RATED VOLTAGE)	19.03	39.41
Pressure (mmH2O) (IN FREE AIR AT RATED VOLTAGE)	0.70	1.90
Noise Level (dB)	22 (25 max.)	29 (33 max.)
Life Expectancy (L10)	70000 Hours at 45℃	70000 Hours at 45℃
Position	Cold side heatsink	Hot side heatsink