

深圳市炬焯科技有限公司
CHIP SUN TECHNOLOGY CO., LTD

**APPROVAL
SHEET**



CUSTOMER: Quartz 1

DESCRIPTION: SMD5032 122.880MHz VCXO LV-PECL

MANUFACTURER PART NO.: FVO122.880M3.3SM5P-50D

CUSTOMER PART NO: _____

USED IN MODEL: _____

REVISION A1

承 认 APPROVAL		
工程部 TECHNOLOGY DEPT.	品质部 QUALITY DEPT.	采购部 PURCHASING DEPT.

Date: June 12, 2023



深圳市炬焯科技有限公司

CHIP SUN TECHNOLOGY CO., LTD

地址 ADD: 深圳市龙华新区大浪腾龙路淘金地电子商务孵化基地 B 座 206

Rm. 206, Tower B, Taojindi Building, Tenglong Road, Dalang Street,

Longhua New District, Shenzhen, China

电话 TEL: 86-755-83458798 传真 FAX: 86-755-83459818

网址 WEB ADD: <http://www.chinachipsun.com>

E-MAIL: sales04@chinachipsun.com

<u>Rev</u>	<u>Revise page</u>	<u>Revise contents</u>	<u>Date</u>	<u>Ref.No.</u>	<u>Reviser</u>
A1	ALL	Initial released	2023.06.10	N/A	DavidJiang

CHIP SUN TECHNOLOGY CO., LTD		
DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	2 / 11

1. VCXO SPECIFICATION

1.1 Frequency:	122.880MHz
1.2 Holder Type :	SMD5032
	±50ppm Overall
1.3 Frequency Tolerance:	Temperature stability is Inclusive of all conditions: Calibration Tolerance at +25°C, frequency stability over the operating temperature range, supply voltage change, output load changes, shock, vibration, and 1st year aging at +25°C.
1.4 Supply Voltage:	3.3V _{DC} ±10%
1.5 Input Current :	75mA max
1.6 Operating Temperature Range:	-40°C To +85°C
1.7 Storage Temperature Range:	-55°C To +125°C
1.8 Output Waveform:	LV-PECL
1.9 Output Load:	50 Ω V _{DD} -2V
1.10 Output Low Level V _{OL} :	1.680V max
1.11 Output High level V _{OH} :	2.275V min
1.12 Frequency Control Range :	±100ppm min (V _c =1.65±1.65V)
1.13 Linearity :	10% max.
1.14 Duty Cycle :	45~55% (at 50% V _{DC})
1.15 Rise& Fall Time :	1.0nS max/ 20%~80% output swing level
1.16 Start-up Time :	10mS max
1.17 RMS Phase Jitter:	1.5 pS max. (12KHz~20MHz)
1.18 Phase Noise :	-85dBc/Hz Typ. (100Hz offset) -110dBc/Hz Typ. (1KHz offset) -115dBc/Hz Typ. (10KHz offset) -120dBc/Hz Typ. (100KHz offset)
1.19 Insulation resistance:	500M Ω (DC100±10V)min
1.20 Aging:	±3ppm/Year max.

CHIP SUN TECHNOLOGY CO., LTD		
DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	3 / 11

1.21 Output Waveform : Refer to fig.1

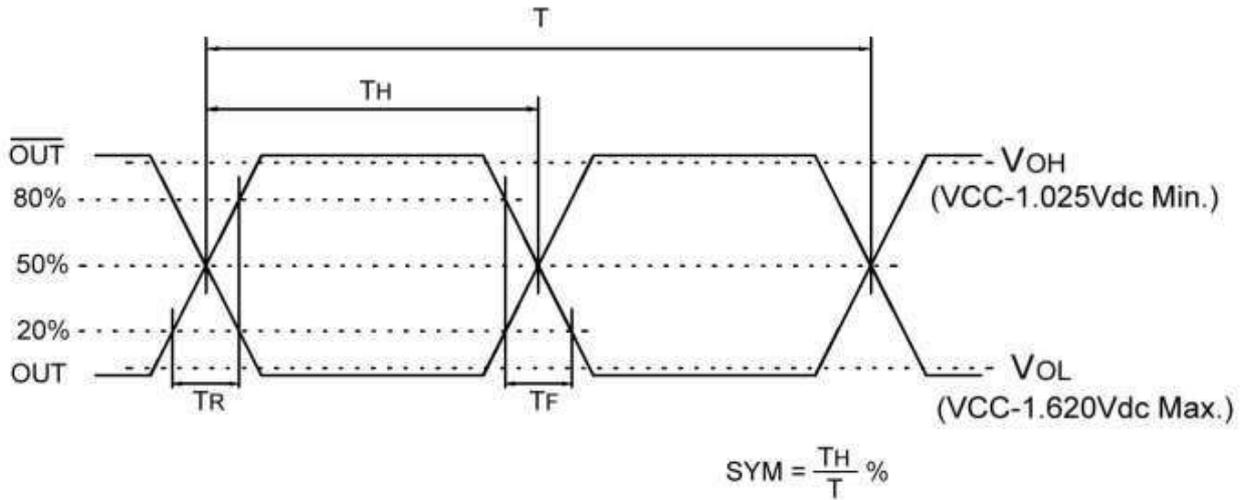
Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurement and tests are as follow:

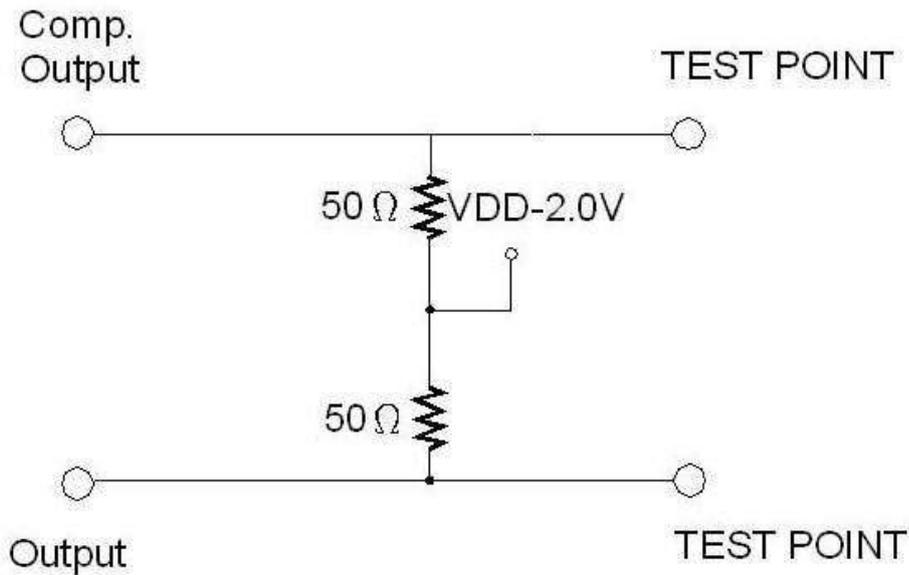
Ambient temperature : 25±3°C

Relative humidity : 40%~70%

2. Output Waveform

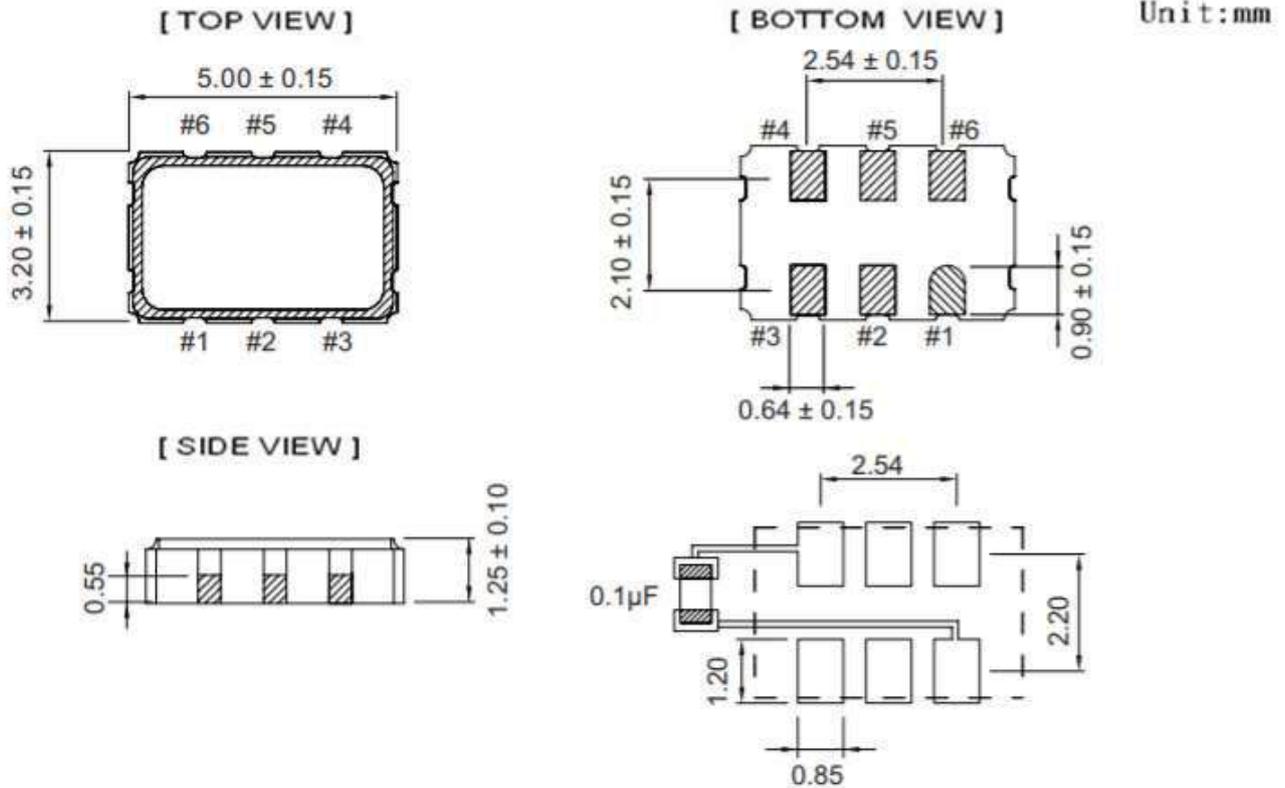


3. Test circuit



CHIP SUN TECHNOLOGY CO., LTD		
DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	4 / 11

4.VCXO-SMD5032 MARKING & DIMENSIONS



To ensure optimal oscillator performance, place a by-pass capacitor of $0.1\mu\text{F}$ as close to the part as possible between V_{DD} and GND pads.

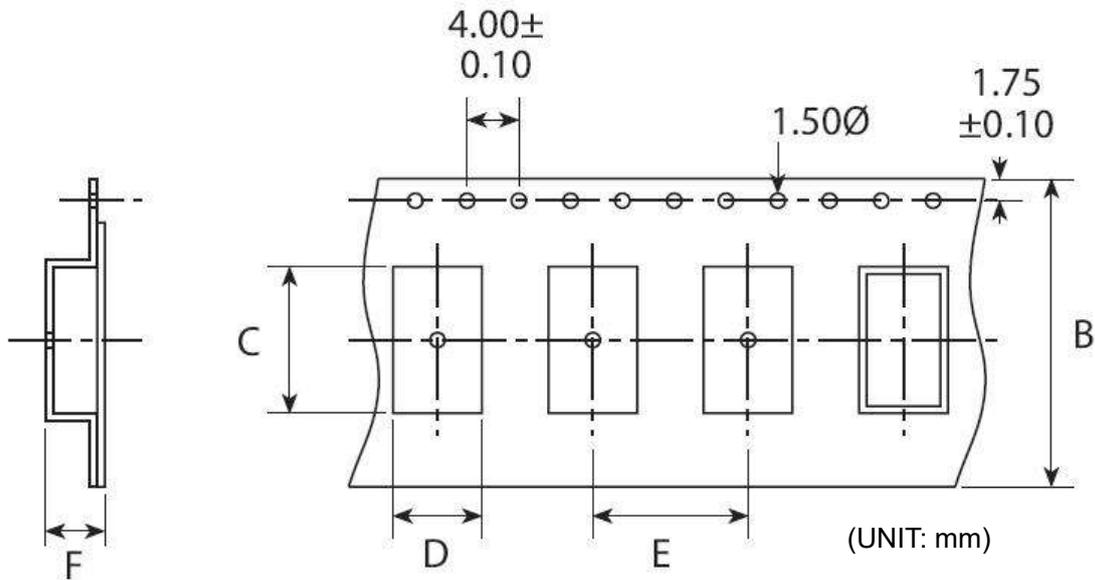
Pin	Function
#1	Vcon
#2	Tri-State
#3	GND
#4	Output
#5	Comp. Output
#6	V_{DD}

CHIP SUN TECHNOLOGY CO., LTD

DESCRIPTION	VCXO-SMD5032 122.880MHz ± 50 ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	5 / 11

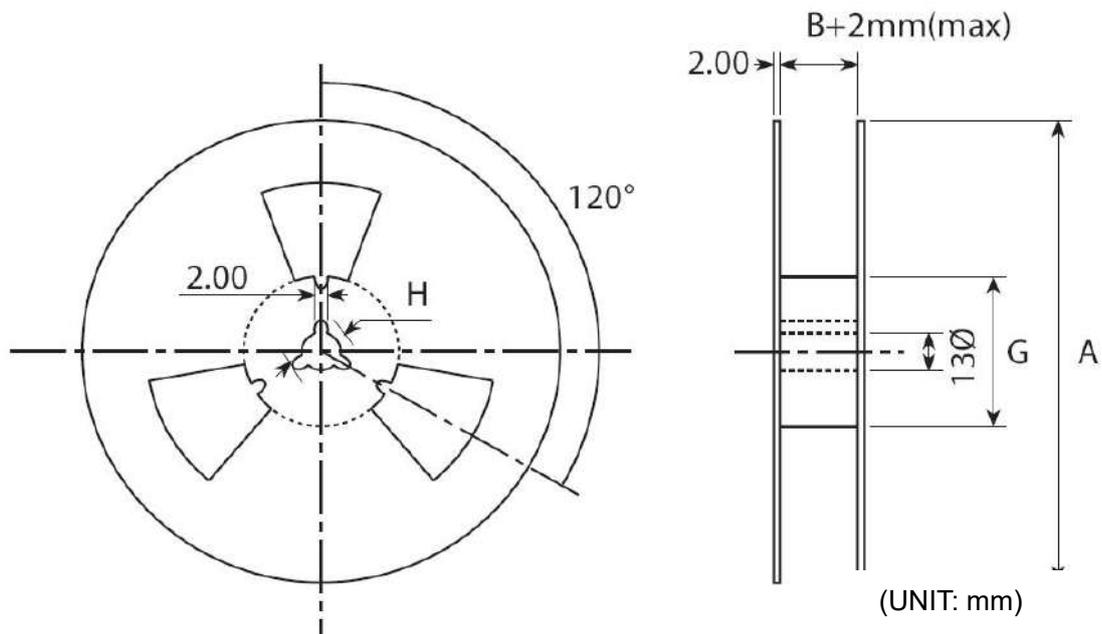
5. VCXO-SMD5032 EMBOSS CARRIER TAPE & REEL

a.) Dimensions of Carrier Tape



	A	B	C	D	E	F	G
SMD5032	180±2.0	12.0±0.2	5.40±0.10	3.60±0.10	8.0±0.1	1.4±0.1	60.5±1.0

b.) Dimensions of Reel



CHIP SUN TECHNOLOGY CO., LTD

DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	6 / 11

c.) Storage condition

Temperature: +40deg.C Max.

Relative Humidity: 80% Max.

d.) Standard packing quantity

1,000PCS / REEL

e.) Material of the tape

Tape	Material
Carrier tape	A – PET
Top tape	Polyester

f.) Label contents

.The type of product

.Our specification No.

.Your Part No.

.Lot No.

.Nominal Frequency

.Quantity

.Our Company Name

PART NUMBER	
Lot. NO:	
HOLDER TYPE	
FREQUENCY	
REMAKS	
QUANTITY	
CHIP SUN TECHNOLOGY CO., LTD	

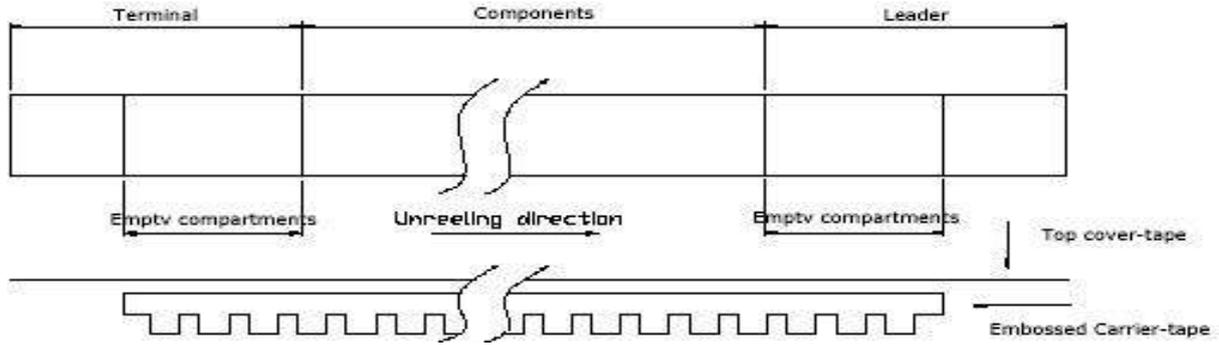
Sticks label for every reel.

g.) Taping dimension

Leader	Cover-tape	The length of cover-tape in the leader is more than 400 mm including empty embossed area.
	Carrier-tape	After all products were packaged, must remain more than twenty pieces or 400 mm empty area, which should be sealed by cover-tape.
Terminal	Cover-tape	The tip of cover-tape shall be fixed temporary by paper tape and roll around the core of reel one round.
	Carrier-tape	The empty embossed area which are sealed by top cover-tape must remain more the 40 mm.

CHIP SUN TECHNOLOGY CO., LTD

DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	7 / 11



h.) Joint of tape

The carrier-tape and top cover-tape should not be jointed.

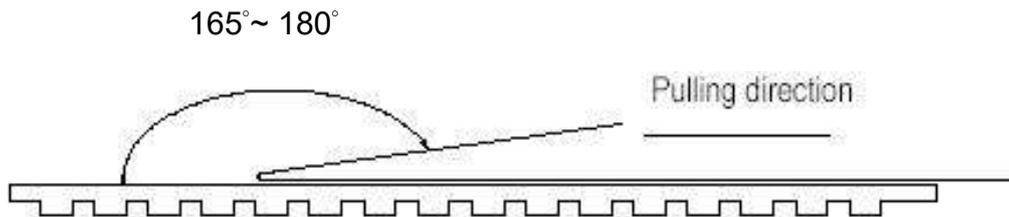
i.) Release strength of cover tape

It has to be between 0.1N to 0.7N under following condition.

Pulling direction 165° to 180°

Speed 300mm/min.

Otherwise unless specified.



Other standards shall be based on JIS C 0806-1990.

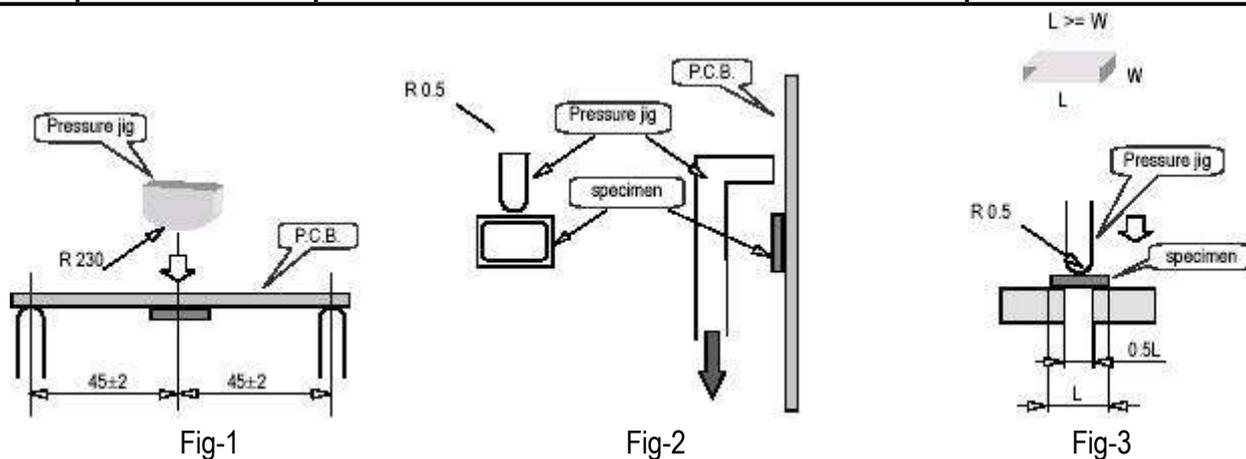
6. Mechanical Endurance: Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

	Item	Conditions	Specifications
6.1	Drop	Should be satisfied after dropping three times from the height of 100 cm onto hard wooden board of thickness more than 30mm.	The parameters of table 3 must be satisfied
6.2	Vibration	Should be satisfied after supplying following (1)Vibration Frequency: 10~55Hz (2)Cycle: 1 to 2 Min. (3)Full Cycle: 0.8mm P-P. (4)Direction: X.Y.Z (5)Time: 2 Hours / Each Direction	The parameters of table 3 must be satisfied

CHIP SUN TECHNOLOGY CO., LTD

DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	8 / 11

6.3	Substrate Bending	Mount the specimen on substrate. Apply the following pressure Direction: see Fig -1 Speed: 0.5 mm/sec Hours: 5 ± 1 sec Amount of substrate: 3 mm Max.	The parameters of table 3 must be satisfied
6.4	Adhesion	Mount the specimen on substrate. Apply the following pressure Direction: see Fig -2 Weight: 10N Hours: 10 ± 1 sec	The parameters of table 3 must be satisfied
6.5	Body strength	Mount the specimen on substrate. Apply the following pressure Direction: see Fig -3 Weight: 10N Hours: 10 ± 1 sec	The parameters of table 3 must be satisfied



6.6	Seal	Less than 2.0 x 10 ⁻⁹ Pa.m ³ /sec by Helium leak detector. Also, no serial bubble is observed by Fluorinate tests.	
6.7	Solder ability	3 sec Dip in 235°C±5°C solder. (Use ROSIN type flux for solder.)	More than 90% of lead shall be covered by new solder.

CHIP SUN TECHNOLOGY CO., LTD

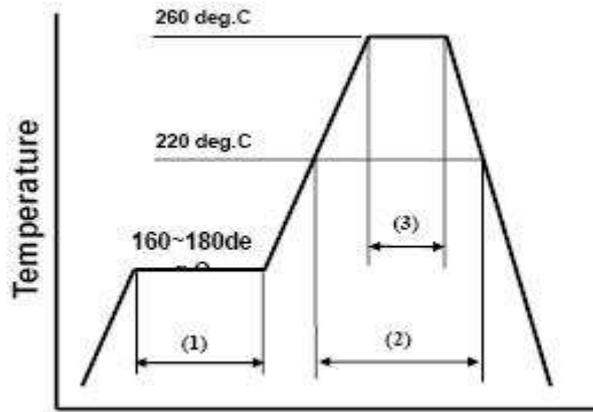
DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	9 / 11

6.8

Resistance to Soldering Heat

Run in Reflow
 Reflow soldering shall be allowed
 Only two(2) time.

Available for Lead Free Soldering



The parameters of table 3 must be satisfied

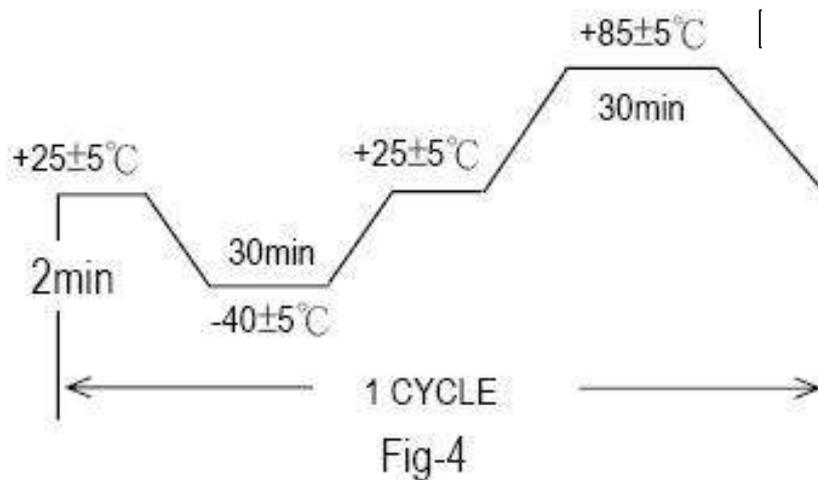
(1)	Preheat	160~180 deg.C	120sec.
(2)	Primary heat	220 deg.C	60sec.
(3)	Peak	260 deg.C	10sec. Max.

CHIP SUN TECHNOLOGY CO., LTD

DESCRIPTION	VCXO-SMD5032 122.880MHz ±50ppm 3.3V LV-PECL	Page:
DATE	2023-06-12	10 / 11

7. Environmental Endurance: Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

	Item	Conditions	Specifications
7.1	Humidity	Should be satisfied after letting it alone at $+60^{\circ}\text{C}\pm 2^{\circ}\text{C}$ in humidity of 90%~95% for 500 hours.	The parameters of table 1 must be satisfied. No physical damage.
7.2	Storage in Low Temperature	Should be satisfied after letting it alone at $-40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 500 hours.	The parameters of table 1 must be satisfied. No physical damage.
7.3	Storage in High Temperature	Should be satisfied after letting it alone at $+85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ for 500 hours.	The parameters of table 1 must be satisfied. No physical damage.
7.4	Temperature Cycle	Should be satisfied after supplying the following temperature cycle (100 cycles). (Refer to Fig-4). Temperature shift from low to high, high to low shall be done in $1^{\circ}\text{C}/\text{min}$.	The parameters of table 1 must be satisfied. No physical damage.



CHIP SUN TECHNOLOGY CO., LTD		
DESCRIPTION	VCXO-SMD5032 122.880MHz $\pm 50\text{ppm}$ 3.3V LV-PECL	Page:
DATE	2023-06-12	11 / 11