OSCILLATOR SPECIFICATION

Customer : _____

Customer P/N : _____

TKD P/N : OO24M026000jD1

Part Name : SMD 2520 XO CMOS

Product Description : 26.000000MHz

Issue Date : 2019/05/05

CUSTOMER'S APPROVAL

(PLEASE RETURN A COPY WITH APPOVAL)

Hubei TKD Electronic Technology Co.,LTD
湖北泰晶电子科技股份有限公司

APPROVED	DESIGNER
王斌	代伟

SALES : TEL :027-65521387 FAX : 027-65521932 Mail : whtkd@sztkd.com
Q C D :TEL : 0722-3308231 FAX : 0722-3309768 Mail : tkdqc1@sztkd.com

REV.	Description of Revision History	Date	Designer	Checked By
A	New revision	2019/05/05	Dai Wei	Wang Bin

CONTENT

OSCILLATOR SPECIFICATION

1. Description: SMD 2520 XO CMOS

2. Nominal Frequency: 26.000000MHz

3. ELECTRICAL CHARACTERISTICS:

[1]FREQUENCY CHARACTER ISTICS:

NO	Parameter	Min.	Typ.	Max.	Units	Test Condition
1-1	Nominal Frequency		26.000000		MHz	
1-2	Frequency stability (Overall)	-30		+30	ppm	Frequency stability includes frequency tolerance @25 ℃ and frequency stability operating temperature range and voltage variance and in first year aging.
	1-2-1 Tolerance		20		ppm	Frequency at 25℃
	1-2-2 vs.Temperature range		30		ppm	Referenced to the frequency at 25℃
	1-2-3vs. Supply voltage				ppm	Supply voltage varied ±10% at 25℃
	1-2-4 Aging	-3		3	ppm	Frequency drift in first year
1-3	Operating Temperature range	-20		+70	℃	The operating temperature range over which the frequency stability is measured
1-4	Storage Temperature range	-55		+125	℃	

[2]POWER SUPPLY:

NO	Parameter	Min.	Typ.	Max.	Units	Test Condition
2-1	Supply voltage	1.62	1.8	1.98	V	
2-2	Current			7	MA	At maximum supply voltage

[3]OUT PUT:

NO	Parameter		Min.	Typ.	Max.	Units	Test Condition
3-1	Output waveform			CMOS			
3-2	Duty Cycle		45	50	55	%	
3-3	Start Time				2	mSec	
3-4	Transition time: Rise/Fall Time				4	nSec	
3-5	Output Level	Output High(Logic “1”)	1.62			V	
3-6		Output Low(Logic “0”)			0.18	V	
3-7	Output Load				15	pF	
3-8	Tri-state	Output Active	1.26 or Floating			V	Pin 1 Tri-state
3-9		Output in High-Impedance state			0.54	V	

[4]JITTER:

NO	Parameter	Min.	Typ.	Max.	Units	Test Condition
4-1	Period Jitter (Pk-Pk)			40	pSec	
4-2	RMS Phase Jitter			1	pSec	(12KHz to 20MHz @26MHz at 25℃)

[5]PHASE NOISE:

NO	Parameter	Min.	Typ.	Max.	Units	Test Condition
5-1	100Hz offset		-112		dBc/Hz	(@26MHz & 3.3V at 25℃)
5-2	1KHz offset		-140		dBc/Hz	
5-3	10KHz offset		-156		dBc/Hz	
5-4	100KHz offset		-160		dBc/Hz	
5-5	1MHz offset		-160		dBc/Hz	

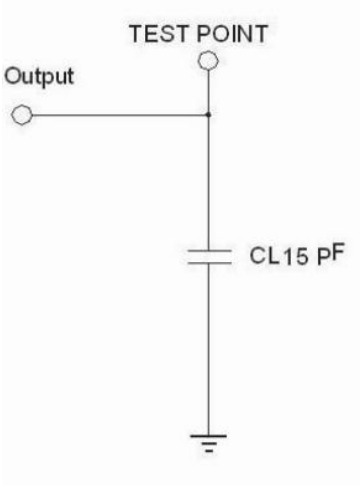
[6]CUSTOMER SPECIAL REQUIREMENT:

6	

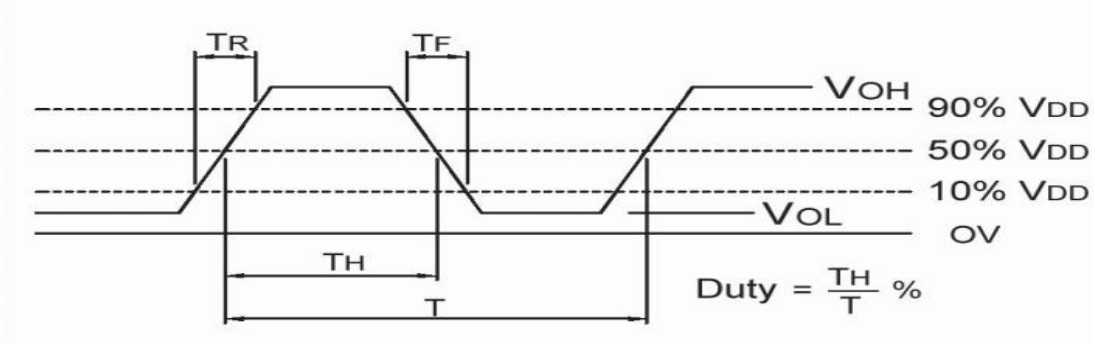
[7]ENVIRONMENTAL:

NO	Parameter	Reference Std.	Test Condition
7-1	Vibration Test	JESD22-B103 Condition 1	10~2000Hz, 1.52mm, 20g, each axis for 4 hrs
7-2	Thermal Shock	JESD22-A104 Condition B	-55℃， +125℃; soak time is 10 mins, with total 200 cycles
7-3	Mechanical Shock	JESD22-B104 Condition B	1500g half-sine, 0.5ms, each axis for 3 times.

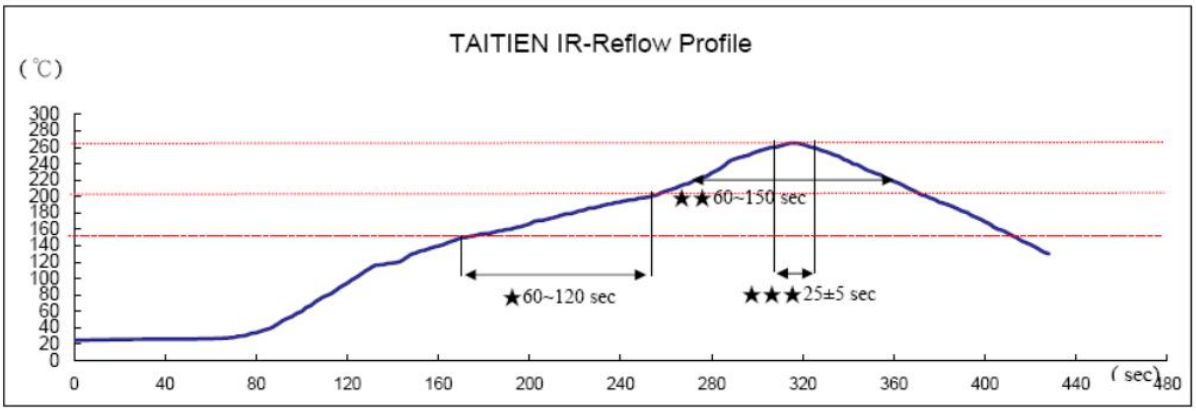
■TEST CIRCUIT (CMOS LOAD)



■OUTPUT WAVEFORM (CMOS LOAD)



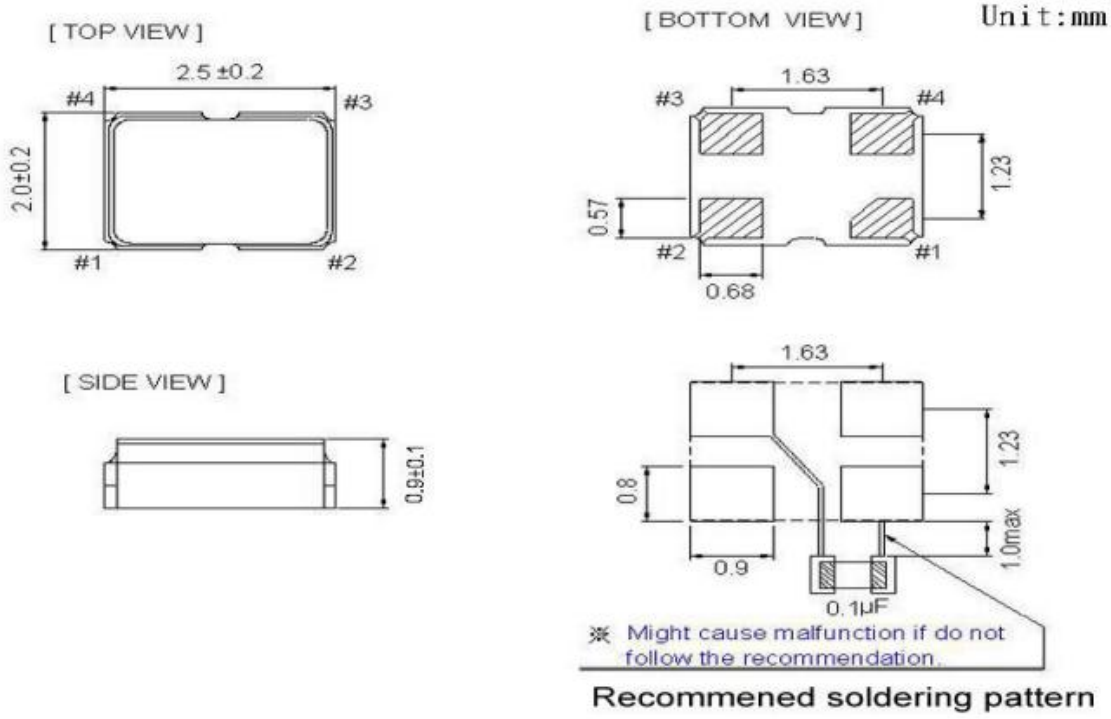
■RECOMMENDED IR REFLOW PROFILE



Reference Standard: JEDEC-STD 020
Test conditions: ★Pre-heating : 150℃ to 200℃, 60~120secs.
★★Heating : 217℃, 60~150sec.
★★★Peak temperature : 260±5℃, 25±5sec.

■PRODUCT DIMENSIONS

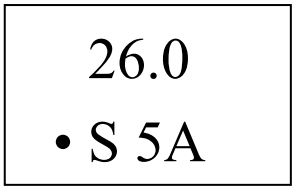
1. DIMENSIONS



2. PIN FUNCTIONS

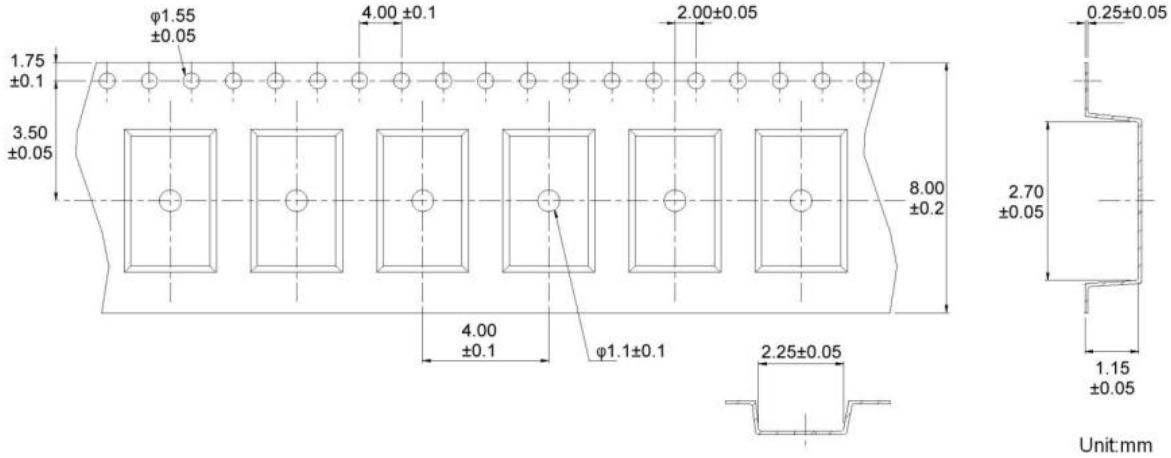
Pin	Function
#1	Tri-State
#2	GND
#3	Output
#4	Vdd

■PRODUCT IDENTIFICATION (MARKING)

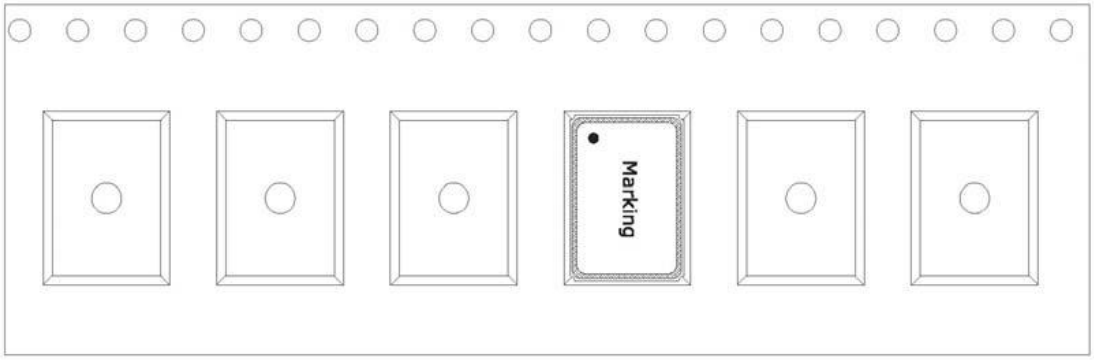


■PACKAGE INFORMATION

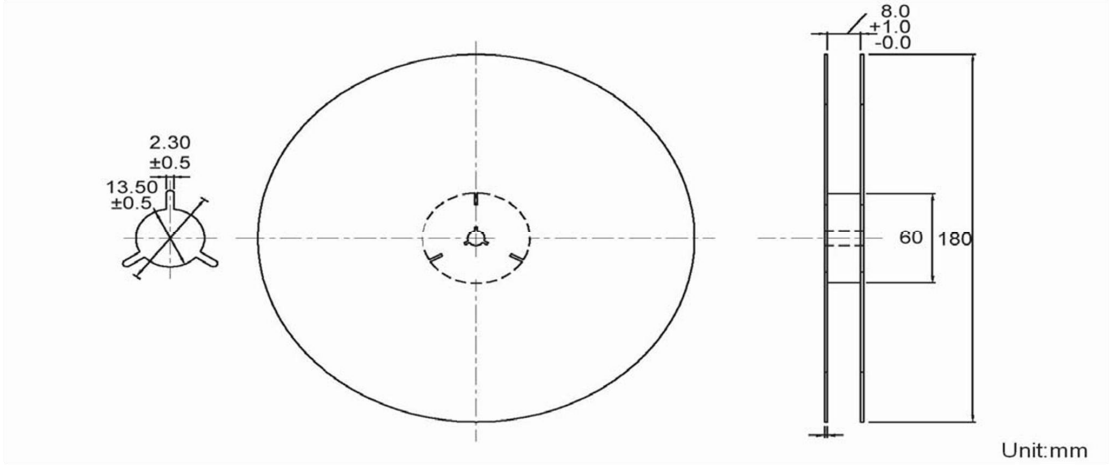
1.TAPE (CARRIER) DIMENSIONS



2. THE DIRECTION OF PACKING



3. REEL DIMENSIONS



Handling Instructions

1. Cautions for Handling

a) Prevention against electrostatic breakdown

Your full attention to static electricity is still requested.

b) Direction

Before mounting the crystal oscillator on board, Please confirm the direction to make sure the GND terminal and the terminal of power supply are not taken wrongly.

2. Prevention against Vibration and Shock

While the product is being transported or mounted onto board, if undue shock and vibration exceeding the specification is put on, there is risk that the built-in crystal blank is broken.

When undue shock and vibration exceeding the specification is put on the product, please be sure to make confirmation of the product's characteristics.

3. Soldering

In order to assure the reliability of the crystal oscillator, please use the product under the recommended conditions.

4. Surface mounting

a)This product is surface-mounting device.

So, Please pay attention to the following things.

b)Extreme deformation of board may make pattern off, the electrode of terminals off and solder broken. Full attention is requested especially when splitting the board with the oscillator mounted where the camber of the board occurs.

c)In case that automatic mounter is used, please choose the type with small shock generation and make confirmation of the shock before use.

5. Cleaning

Because cleaning will cause change to all characteristics, cleaning is forbidden.

6. Store keeping (method and duration)

Long-time storage in the high/low temperature and high humidity leads to deterioration of solderability. So, please keep the product in the temperature of +5~+35 and humidity of 45~70%.

Moreover, please keep the product in the circumstance with measures against static electricity.

The storage life is 6 months before the pack is opened and please use it within 168 hours after the pack is opened.

(Please keep it with desiccator etc. when you exceed 168 hours after the bag is opened. Please use it after confirming the product solderability.)