PRODUCT SPECIFICATION SHEET



Customer			
Customer P/N	TBA		
Product Type	Temperature Compensated Crystal Oscillator		
Part Number	2TG2600001	Version	S6
Part Description	SMD TCXO 2.5 x 2.0		
Nominal Frequency	26.000000MHz		

Prepared	Li Xiang
Reviewed	Kuro Peng
Approved	Xing Yue
Date	2023/5/8

Customer's Approval & Date：

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RoHS COMPLIANT

Pb Lead-Free

Moisture Sensitivity Level 1

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* Attention

If you intend to use products on the controlling equipment that relate to medical, aeronautical, aerospace, military science, space and etc, please make sure to let us know your intentions in advance.

Ultrasonic related process may cause damage to crystal blank by resonance itself. If ultrasonic related process is used, we strongly recommend to assess the damage risk under related ultrasonic conditions before use in production.

1. History of Specification Revision

Ver.	Contents	Date	Reviser	Remark
S0	Initial release	2019/9/9	Han Shuang	
S1	Change Phase Noise information	2020/4/17	Han Shuang	
S2	Change marking information	2020/10/30	Han Shuang	
S3	Add Marking and Packing	2022/6/13	Li Xiang	
S4	Change electrical specifications	2022/9/1	Li Xiang	
S5	Add attention information &Update suggested reflow profile	2023/2/17	Li Xiang	
S6	Change electrical specifications	2023/5/8	Li Xiang	

2. Electrical Specifications

2.1 Operation conditions

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Nominal frequency		26.000000		MHz	-
2	Supply voltage (Vcc)	1.68	1.8	3.63	V	-
3	Current consumption	-	-	1.5	mA	-
4	ESD		HBM＞2000V		-	JESD22-A114-B
5	MSL		Level 1		-	IPC/JEDEC J-STD-033C
6	Operating temperature range	-40	-	+85	℃	-
7	Storage temperature range	-40	-	+85	℃	-

2.2 Output characteristics

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Output type		Clipped sine wave		-	Decoupling capacitor is required in external circuit
2	Standard output Load		10 KΩ//10 pF		-	-
3	Output level	0.8	-	-	V_{pp}	-
4	Duty cycle	45	50	55	%	Ground level
5	Harmonics	-	-	-5	dBc	-
6	Start-up time vs. frequency	-	-	2.0	ms	Within ±0.5 ppm
7	Start-up time vs. output level	-	-	2.0	ms	≥90% of Vpp

2.3 Frequency characteristics

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Nominal frequency		26.000000		MHz	
2	Frequency tolerance after reflow	-2.0	-	+2.0	ppm	At 25±2℃ after 2 times reflow, refer to nominal frequency
3	Frequency stability vs. temperature	-0.5	-	+0.5	ppm	Within -40 to +85°C, refer to frequency at 25°C
4	Frequency slope vs. temperature 1	-0.05	-	+0.05	ppm/°C	From -20 to +65°C.
5	Frequency slope vs. temperature 2	-0.1	-	+0.1	ppm/°C	From -30 to +85°C.
6	Frequency slope vs. temperature 3	-0.35	-	+0.35	ppm/°C	From -40 to -30°C.
7	Frequency stability vs. supply voltage	-0.2	-	+0.2	ppm	±5% Vcc variation
8	Frequency stability vs. load variation	-0.2	-	+0.2	ppm	±10% load variation
9	Frequency Aging	-1.0	-	+1.0	ppm	First year

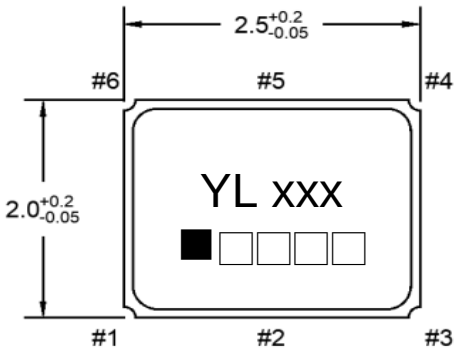
2.4 Phase noise characteristics

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Phase noise at 1kHz offset	-	-130	-	dBc/Hz	-

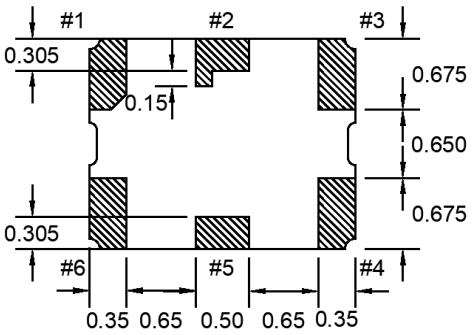
3. Product Design

3.1 Package dimensions and pad functions

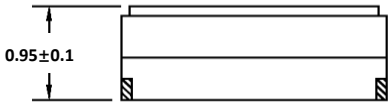
Top View



Bottom View

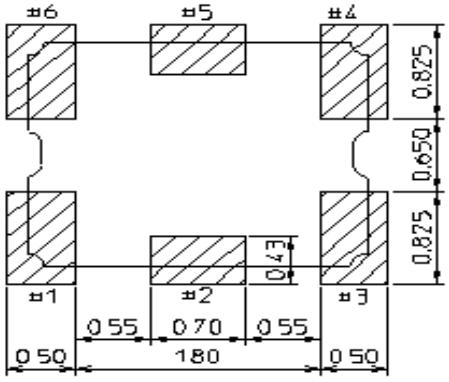


Side View



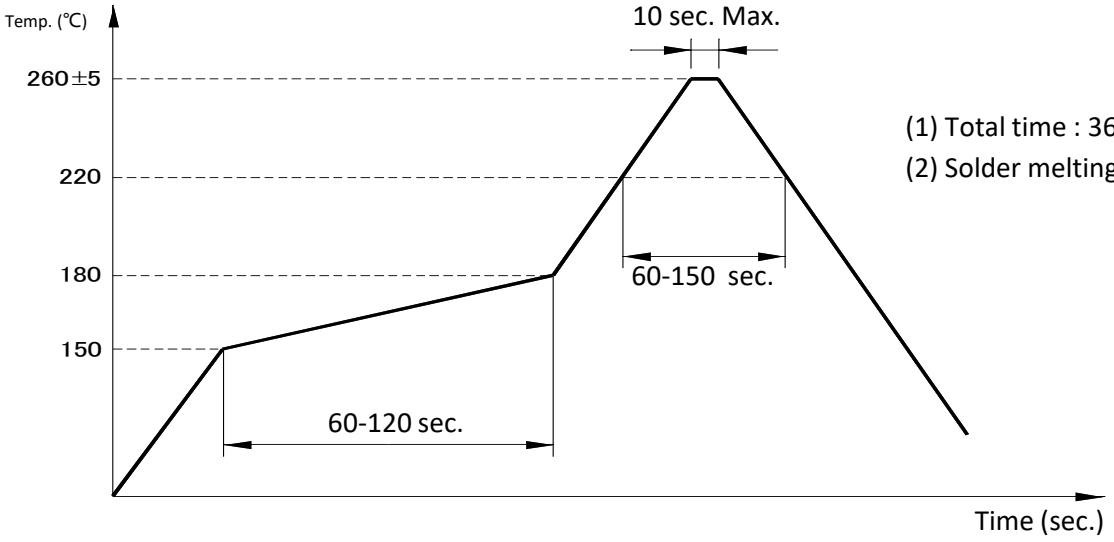
Pad	Function	Symbol
1	Ground	GND
2	N.C	N.C
3	Ground	GND
4	Output	OUT
5	N.C	N.C
6	Supply voltage	Vcc

3.2 Recommended land pattern



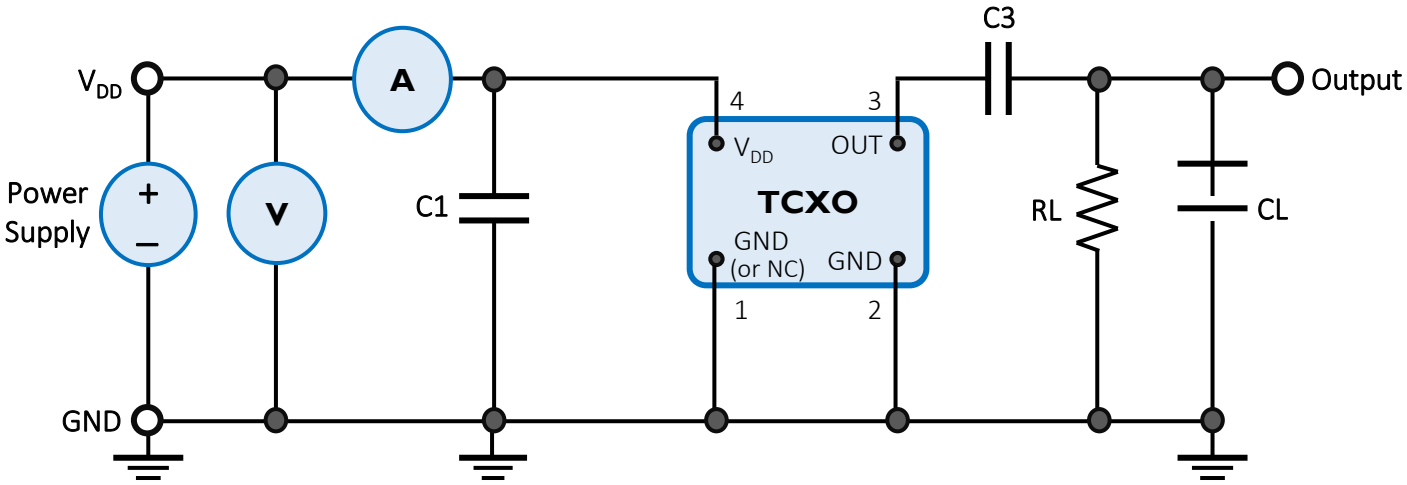
Unit : mm

3.3 Recommended reflow profile



(1) Total time : 360 sec. Max.
(2) Solder melting point : 225℃

4. Testing Circuit



External Components:

Parts	Function	Recommended
C1	AC noise bypass for V_{DD}	10nF
C3	DC block for output	10nF
RL	Load resistance	10KΩ
CL	Load capacitance	10pF

5. Marking and Packing

5.1 Marking definition

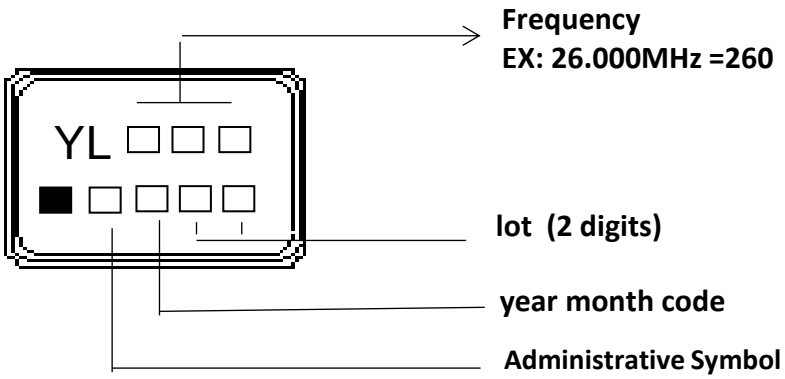
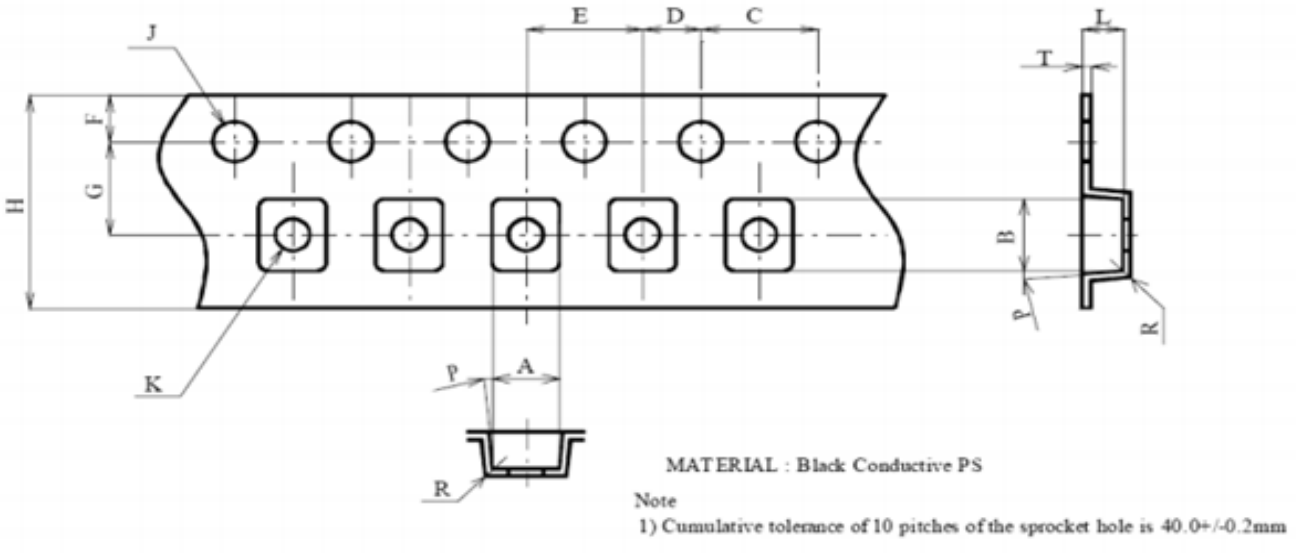


Table of Year and Month code

Year \ Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2021	2025	A	B	C	D	E	F	G	H	J	K	L	M
2022	2026	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	2027	a	b	c	d	e	f	g	h	j	k	l	m
2024	2028	n	p	q	r	s	t	u	v	w	x	y	z

5.2 Packing (EIA-481-2)



PKG Type	Dimension (Unit : mm)						
2520 (8mm)	A	B	C	D	E	F	G
	2.3±0.1	2.7±0.1	4.0±0.1	2.0±0.05	4.0±0.1	1.75±0.1	3.5±0.05
	H	J	K	L	P	T	R
	8.0±0.2	Φ1.5±0.1/-0	Φ1.2±0.1	1.4±0.1	5°max.	0.3±0.05	R0.3 max.

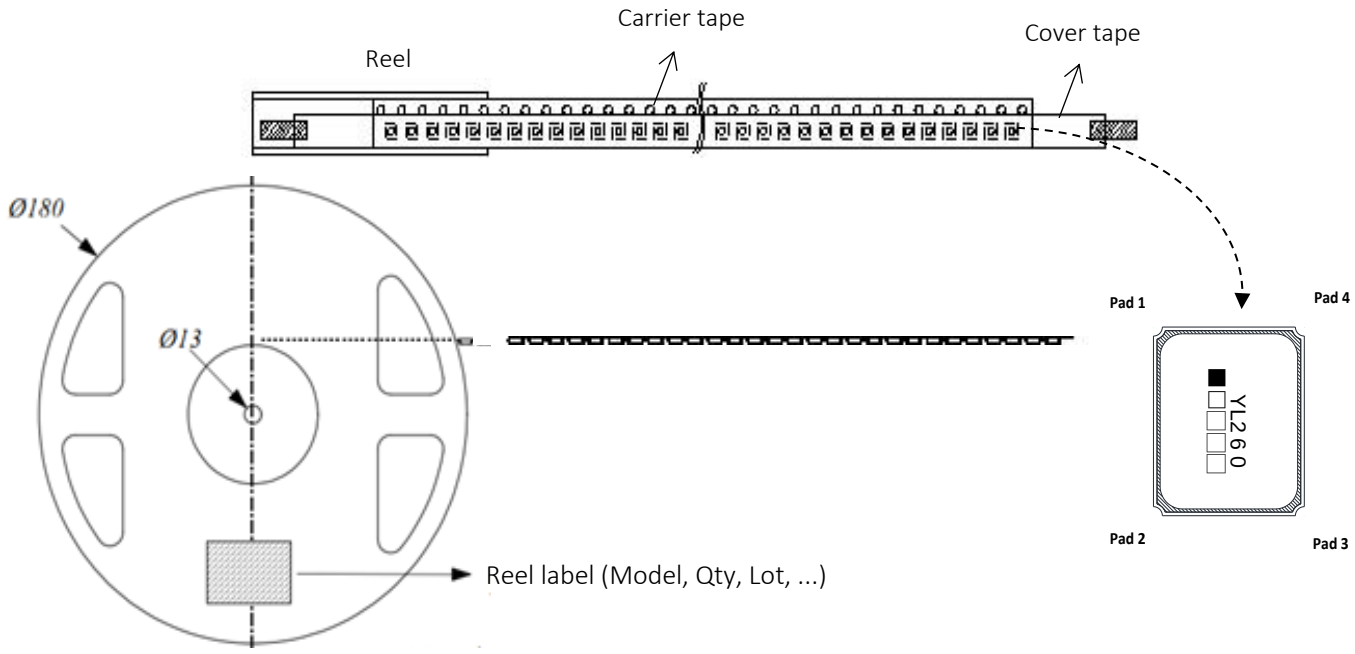
Standard Reel Quantity is 3000 pcs per reel.

5. Marking and Packing (Cont.)

5.2 Packing (EIA-481-2) (Cont.)

The inspection standard of tape tension

Item		Defect	Method
Appearance	All	1. The tape is not coincidence 2. The bubble	Visual inspection
Tape tension	8045, 7050 6035-12mm 5032-12mm 3225-12mm	Overstep 61±5g (55 to 67g)	Pull test
	3225-8mm	Overstep 40±5g (35 to 45g)	
	2520-8mm	Overstep 55±6g (49 to 61g)	
	2016-8mm	Overstep 34±6g (28 to 40g)	
	1612-8mm	Overstep 34±6g (28 to 40g)	
	6035-16mm 5032-16mm	Overstep 60±6g (54 to 66g)	



5. Marking and Packing (Cont.)

5.3 SMD product packing standard

Out-going packing instruction

Reel packing	Inner packing	Carton
		
		

pocketful	Outer Box
45Kpcs	180Kpcs

Remark:

Specifications on the label is for the use of templates with different product specifications may vary.

If customer specified requirements for labels packaging. please provide the operation procedure.