



PRODUCT SPECIFICATION SHEET



Customer			
Customer P/N	TBA		
Product Type	Voltage Controlled Temperature Compensated Crystal Oscillator		
Part Number	9T26000H28	Version	S1
Part Description	SMD VC-TCXO 2.0 x 1.6		
Nominal Frequency	26.000000MHz		

Prepared	Li Xiang
Reviewed	Jin Zhe
Approved	Xing Yue
Date	2022-6-13

Customer's Approval & Date :

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Moisture Sensitivity Level 1

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1. History of Specification Revision

Ver.	Contents	Date	Reviser	NOTE
S0	Initial release	2020-6-29	Han Shuang	
S1	Marking information update	2022-6-13	Li Xiang	

2. Electrical Specification

2.1 Operation conditions

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Nominal frequency	26.000000			MHz	
2	Supply voltage (V_{CC})	1.71	-	1.89	V	
3	Current consumption	-	-	2.0	mA	
4	Operating temperature range	-40	-	+85	°C	
5	Storage temperature range	-40	-	+90	°C	

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 K Ω //10 pF			-	
3	Output level	0.8	-	-	V_{pp}	
4	Duty cycle	40	50	60	%	
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 V_{pp}

2.3 Frequency characteristics

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#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Nominal frequency	26.000000			MHz	
2	Frequency tolerance after reflow	-2.0	-	+2.0	ppm	At $25\pm 2^\circ\text{C}$ after 2 times reflow, refer to nominal frequency
3	Frequency stability vs. temperature	-0.5	-	+0.5	ppm	Refer to frequency at 25°C within operating temperature range
4	Frequency stability vs. supply voltage	-0.1	-	+0.1	ppm	$\pm 5\%$ V_{CC} variation
5	Frequency stability vs. load variation	-0.1	-	+0.1	ppm	$\pm 5\%$ load variation
6	Slope of frequency drift over temperature	-0.2	-	+0.2	ppm/ $^\circ\text{C}$	
7	Aging over 1st year	-1.0	-	+1.0	ppm	

2.4 Auto frequency control (AFC) characteristics

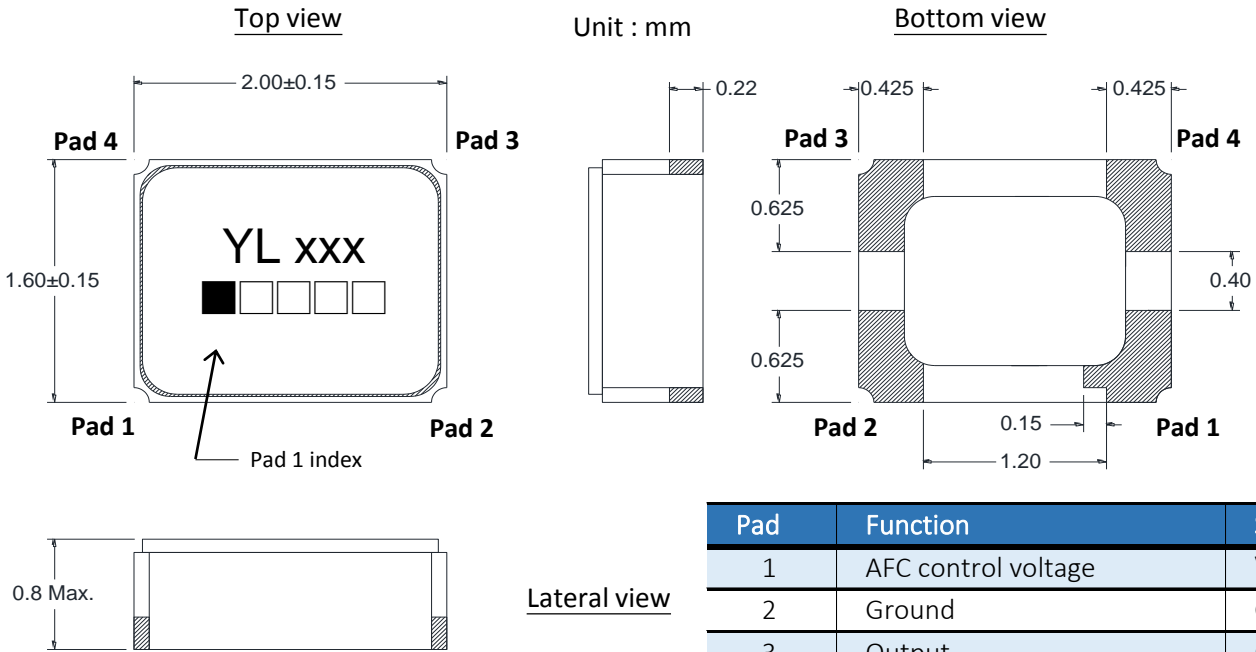
#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	AFC control voltage range (V_{AFC})	0.3	0.9	1.5	V	
2	AFC frequency tuning range at Min. V_{AFC}	-12.0	-	-8.0	ppm	Refer to $V_{AFC}=0.9\text{V}$
3	AFC frequency tuning range at Max. V_{AFC}	+8.0	-	+12.0	ppm	Refer to $V_{AFC}=0.9\text{V}$

2.5 Phase noise characteristics

#	Parameters	Min.	Typ.	Max.	Unit	Remark
1	Phase noise at 1kHz offset	-	-135	-	dBc/Hz	At $25\pm 2^\circ\text{C}$
2	Phase noise at 100kHz offset	-	-152	-	dBc/Hz	At $25\pm 2^\circ\text{C}$

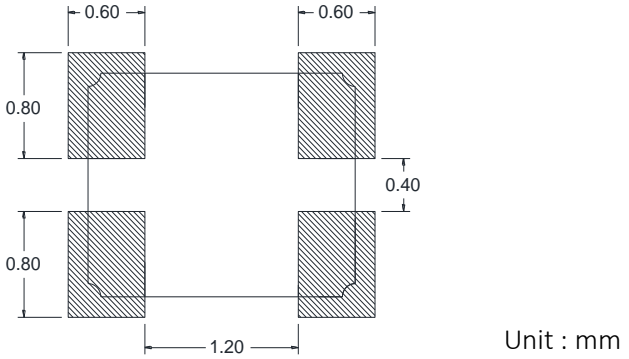
3. Product Design

3.1 Package dimensions and pad functions

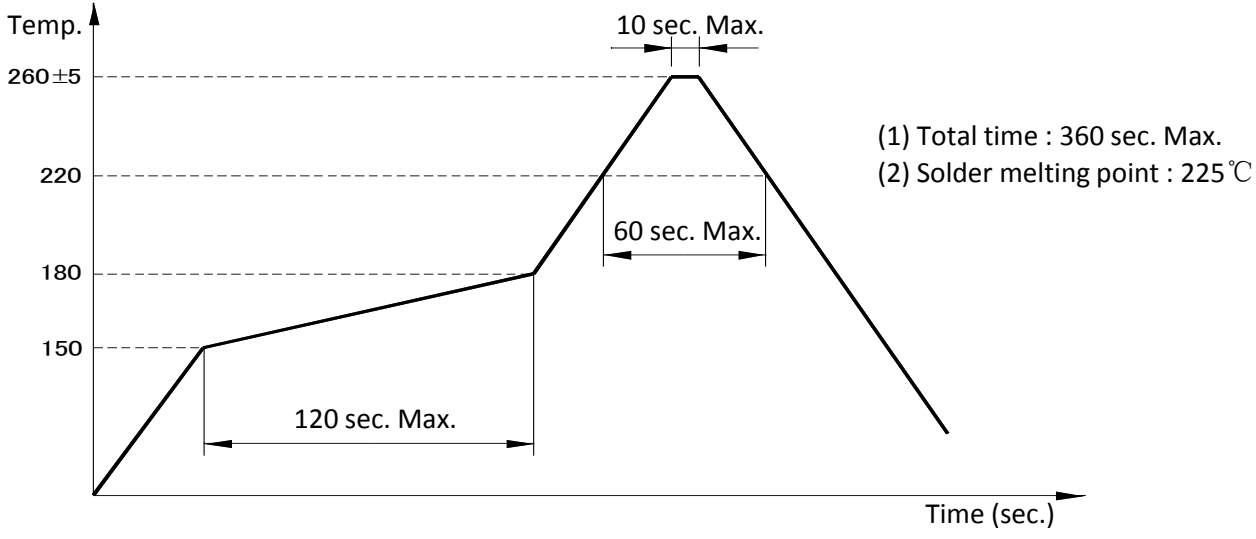


Pad	Function	Symbol
1	AFC control voltage	V _{AFC}
2	Ground	GND
3	Output	OUT
4	Supply voltage	V _{DD}

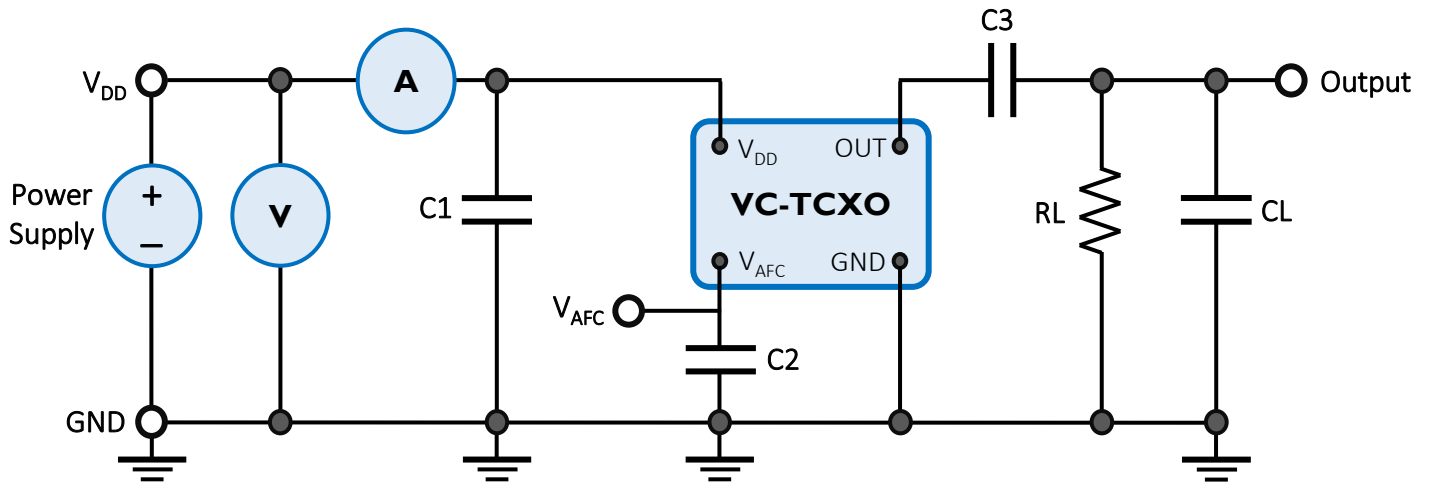
3.2 Recommended land pattern



3.3 Recommended reflow profile



4. Testing Circuit



External Components:

Parts	Function	Recommended
C1	AC noise bypass for V_{DD}	10nF
C2	AC noise bypass for V_{AFC}	1nF
C3	DC block for output	10nF
RL	Load resistance	10K Ω
CL	Load capacitance	10pF