PRODUCT SPECIFICATION SHEET



Customer	-		
Customer P/N	-		
Product Type	LVDS Crystal Oscillator		
Part Number	3DA0000003	**Version**	S1
Part Description	SMD LVDS CXO 3.2 x 2.5		
Nominal Frequency	100.000000MHz		

Prepared	Li Xiang
Reviewed	Gary Xu
Approved	Xing Yue
Date	2023/10/9

Customer's Approval & Date：

广东惠伦晶体科技股份有限公司
中国广东省东莞市黄江镇东环路鸡啼岗段68号
68 Donghuan Road, Jitigang Village, Huangjiang, Dongguan, Guangdong Province, P. R. China
WEB : http://www.dgylec.com/
TEL : +86 (0) 769 - 38879888
FAX : +86 (0) 769 - 38879889
EMAIL : yl@dgylec.com

RoHS COMPLIANT

Pb Lead-Free

Moisture Sensitivity Level 1

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1. History of Specification Revision

Ver.	Contents	Date	Reviser	Remark
S0	Initial released	2023/10/9	Li Xiang	

2. Electrical Specifications

2.1 Operation conditions

#	Parameter	Min.	Typ.	Max.	Unit	Remark
1	Nominal frequency		100.000000		MHz	
2	Supply voltage (V_{DD})		3.3		V	
3	Output enable (OE) function		YES		-	
4	Current consumption	-	-	30	mA	
5	Operating temperature range	-40	-	+85	°C	
6	Storage temperature range	-55	-	+125	°C	

2.2 Output characteristics

#	Parameter	Min.	Typ.	Max.	Unit	Remark
1	Output type		LVDS		-	
2	Standard output load		100		Ω	
3	Output voltage high	-	1.4	1.6	V	
4	Output voltage low	0.9	1.1	-	V	
5	Output swing voltage	250	350	450	mV	
6	Duty cycle	45	50	55	%	
7	Start-up time	-	-	10	ms	

2.3 Output enable / disable function

#	Parameter	Min.	Typ.	Max.	Unit	Remark
1	Enable voltage high (Logic 1)	$0.7\times V_{DD}$	-	-	V	Note 1
2	Enable voltage low (Logic 0)	-	-	$0.3\times V_{DD}$	V	Note 1

Note 1： Output will be enable if OE is Logic 1 or open, output will be disable if OE is Logic 0.

2.4 Frequency stability and jitter characteristics

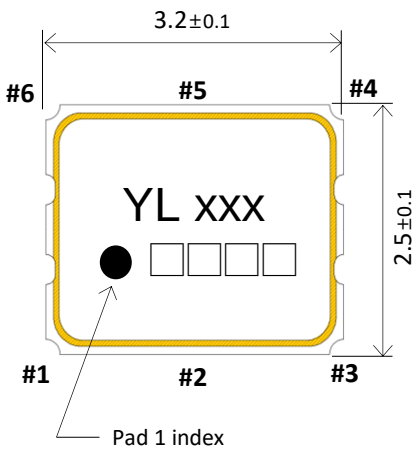
#	Parameter	Min.	Typ.	Max.	Unit	Remark
1	Overall frequency stability	-50	-	+50	ppm	Note 2
2	RMS phase jitter	-	-	2.0	ps	From 12k to 5MHz

Note 2： Inclusive of initial frequency tolerance at 25°C, variations over operating temperature, power supply voltage and load.

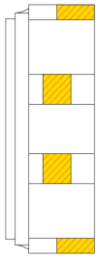
3. Product Design

3.1 Package dimensions and pad functions

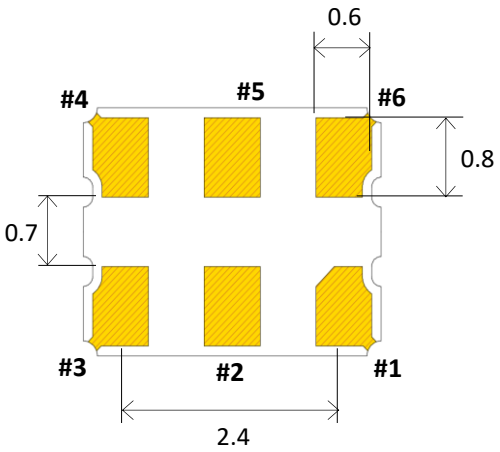
Top view



Unit : mm



Bottom view

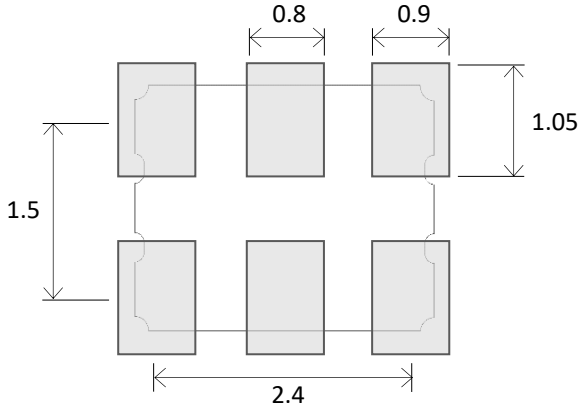




Lateral view

Pad	Function	Symbol
#1	Output enable	OE
#2	Not connected	NC
#3	Ground	GND
#4	Output	OUT
#5	Complementary output	OUTN
#6	Supply voltage	V_{DD}

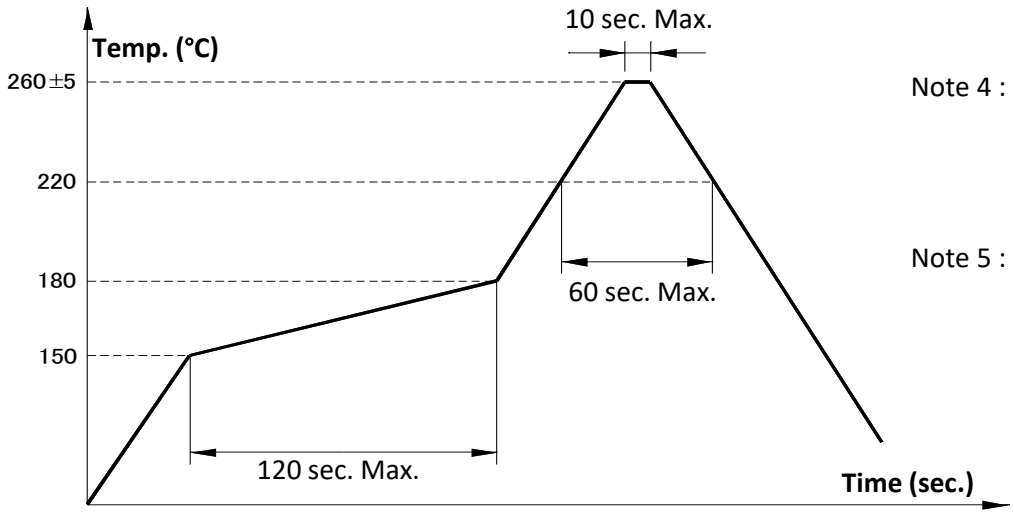
3.2 Recommended land pattern



Unit : mm

Note 3 : Power supply decoupling capacitor is required.

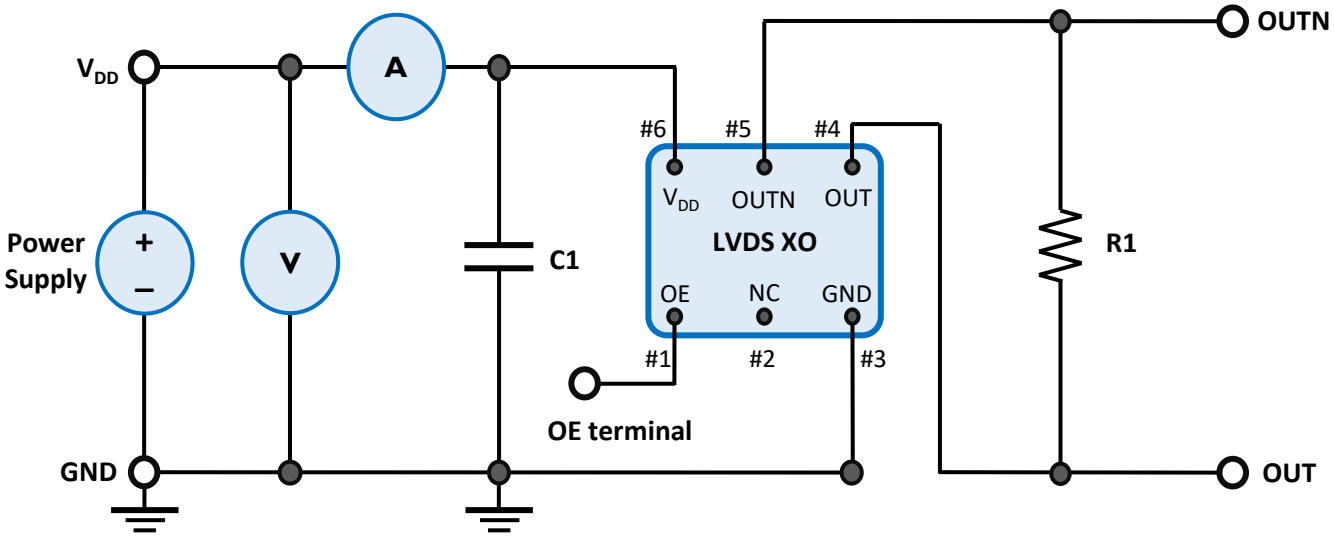
3.3 Recommended reflow profile



Note 4 : Period while temperature exceeding the solder melting point 220°C should be less than 200 seconds.

Note 5 : Period while temperature staying at the top melting point 260°C should be less than 30 seconds.

4. Testing Circuit



External Components:

Parts	Function	Recommended
C1	AC noise bypass for V_{DD}	10nF
R1	Load resistance	100Ω

Note 6 : Above testing circuit covers all the specifications except temperature test & Jitter measurement.

Note 7 : All the testing equipment are 50Ω terminated.

Note 8 : OE terminal is open connection except OE function test.

5. Waveform Conditions

