ZHEJIANG A-CRYSTAL

ELECTRONIC TECHNOLOGY CO., LTD.

Issue	December 21, 2024
Rev.	1.0
Page	8

CRYSTAL UNIT SPECIFICATIONS

客户批准 Customer Approval

（请批准后回签一份 Please Return A Copy With Appoval）

Customer	
Customer P/N	
Product	SMD 3225 XO
Spec	POSC3225J/25.0M~320.000M
A-Crystal P/N	AOA Series

Drawn	Checked	Approved
Caogaobang	Fengying	Tanglong

ZHEJIANG A-CRYSTAL ELECTRONIC TECHNOLOGY CO., LTD.

1. ELECTRICAL SPECIFICATIONS

1.1 Hold Type: POSC3225J

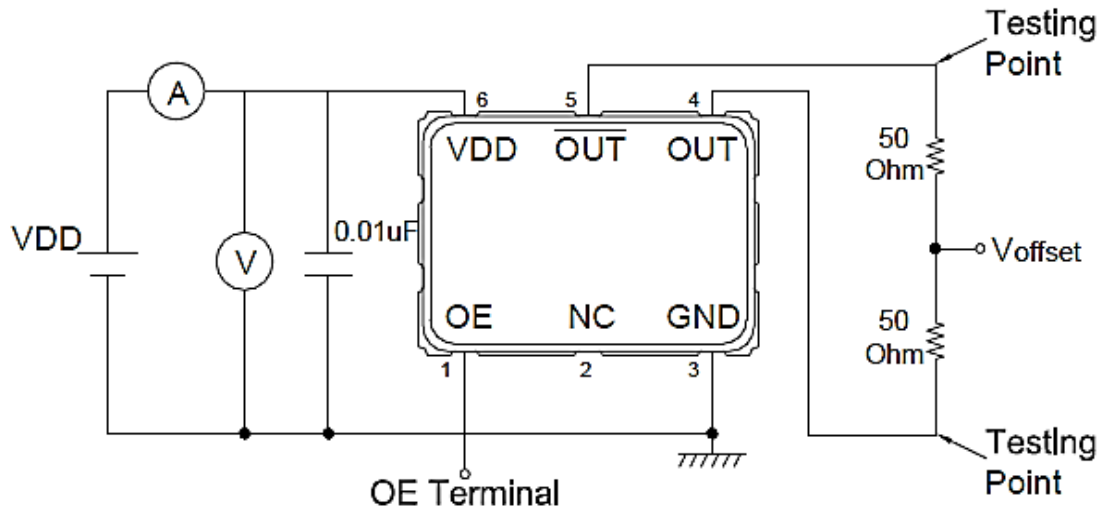
No.	Item	Symb	Electrical Specification				Remark
			Min.	Type	Max.	Units	
1	Nominal Frequency	F_0	25.00		320.00	MHz	
2	Frequency Stability	ST	±25		±100	ppm	
3	Operating Temperature Range	TOPR	-20		+125	℃	
4	Storage Temperature Range	TSTG	-55		+125	℃	
5	Power supply Voltage	V_{DD}	2.5		3.3	V	±5%
6	Start UP Time	T_{OSC}			10	ms	To 90% of Final Amplitude
7	Output waveform		LVDS Electrical Characteristics				
8	Current Consumption	I_{CC}			60	mA	RL=50Ω to VDD -2V
9	Standby current	I_{CC}			30	uA	OE=LOW
10	Output Voltage High	V_{OH}		1.43	1.6	V	
11	Output Voltage Low	V_{OL}	0.9	1.1		V	
12	Rise Time	Tr	0.5		1.0	ns	20% ~ 80% Output Swing
13	Time Fall	Tf	0.5		1.0	ns	80% ~ 20% Output Swing
14	Symmetry	TH/T	45	50	55	%	
15	Enable Voltage High		0.7VDD			v	Note 2, (Logic 1)
16	Enable Voltage Low				0.3VDD	v	Note 2, (Logic 0)
17	Output Enable Delay Time				2	ms	
18	Output Disable Delay Time				200	ns	
19	Output waveform		LVPECL Electrical Characteristics				
20	Current Consumption	I_{CC}			80	mA	RL=50Ω to VDD -2V
21	Standby current	I_{CC}			10	uA	OE=LOW
22	Output Voltage High	V_{OH}	VDD-1.025		VDD-0.88	V	
23	Output Voltage Low	V_{OL}	VDD-1.81		VDD-1.62	V	

ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.

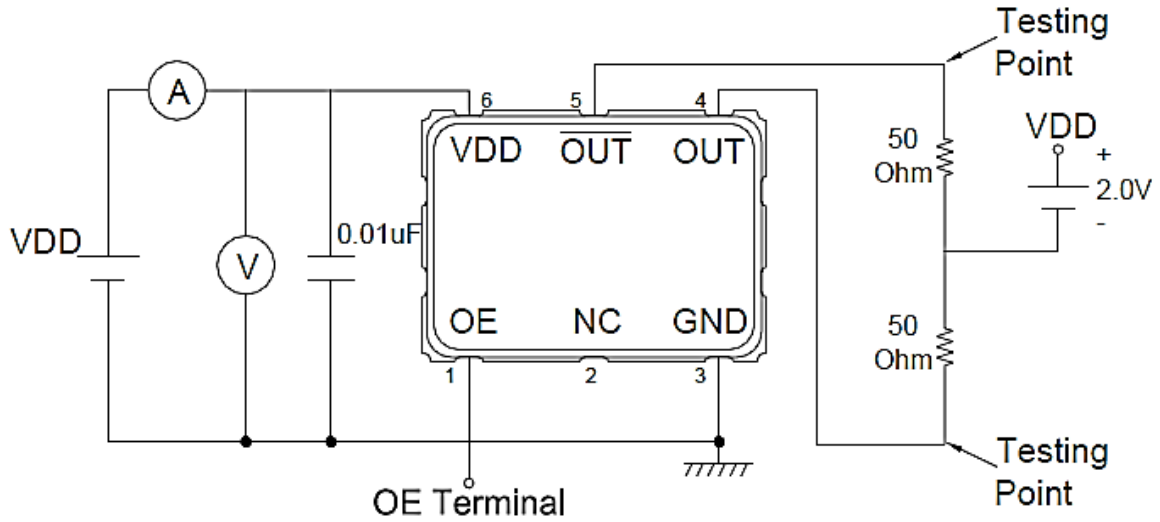
24	Rise Time	Tr	0.5		1.0	ns	20% ~ 80% Output Swing
25	Time Fall	Tf	0.5		1.0	ns	80% ~ 20% Output Swing
26	Symmetry	TH/T	45	50	55	%	
27	Enable Voltage High		0.7VDD			v	Note 2, (Logic 1)
28	Enable Voltage Low				0.3VDD	v	Note 2, (Logic 0)
29	Output Enable Delay Time				2	ms	
30	Output Disable Delay Time				200	ns	
31	Output waveform		HCSL Electrical Characteristics				
32	Current Consumption	I_{CC}			40	mA	RL=50Ω to VDD -2V
33	Standby current	I_{CC}			10	uA	OE=LOW
34	Output Voltage High	V_{OH}	660	740	850	mV	
35	Output Voltage Low	V_{OL}	-150	0	150	mV	
36	Rise Time	Tr	0.5		1.0	ns	20% ~ 80% Output Swing
37	Time Fall	Tf	0.5		1.0	ns	80% ~ 20% Output Swing
38	Symmetry	TH/T	45	50	55	%	
39	Enable Voltage High		0.7VDD			v	Note 2, (Logic 1)
40	Enable Voltage Low				0.3VDD	v	Note 2, (Logic 0)
41	Output Enable Delay Time				2	ms	
42	Output Disable Delay Time				200	ns	
43	Package type	3.2*2.5*0.95					

Note 1 : Inclusive of frequency tolerance at 25℃, variation over temperature , supply voltage variation , 10 years aging and vibration.
Note 2 : Output will be enable if OE is Logic 1 or open ; Output will be disable if OE is Logic 0.
Note 3 : Phase Jitter will be slightly different according to output frequency and supply voltage.

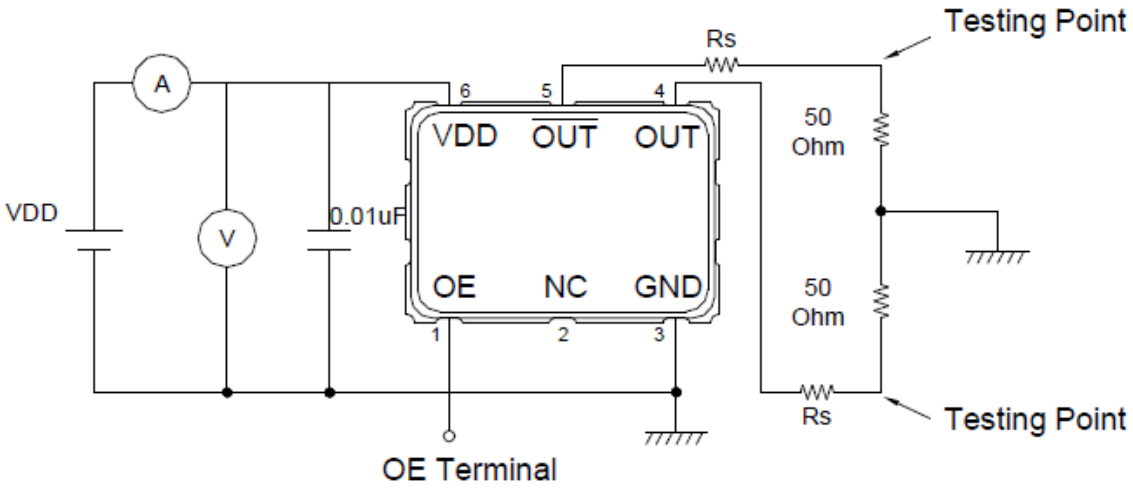
1.2 TEST CIRCUIT(LVDS LOAD)



1.3 TEST CIRCUIT(LCPECL LOAD)



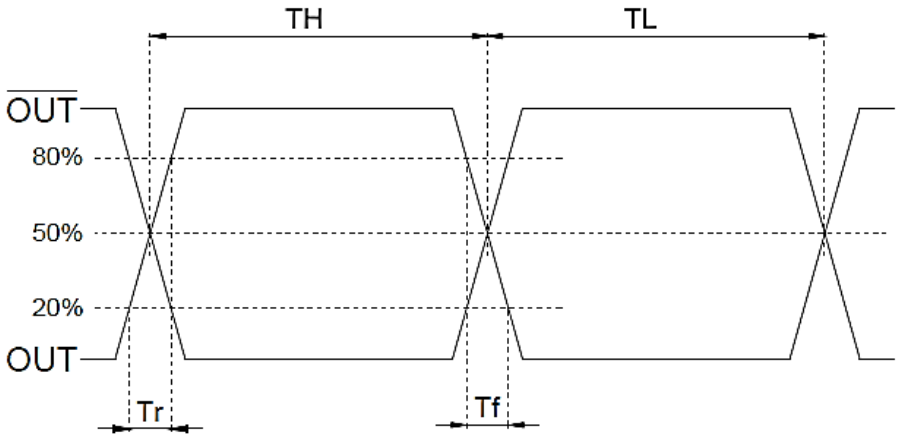
1.3 TEST CIRCUIT(HCSL LOAD)



Testing Circuit Note:

1. Above testing circuits cover all the specifications except temperature test & Jitter measurement.
2. All the testing equipment are 50 Ohm terminal.
3. OE terminal is open connection except OE function test.

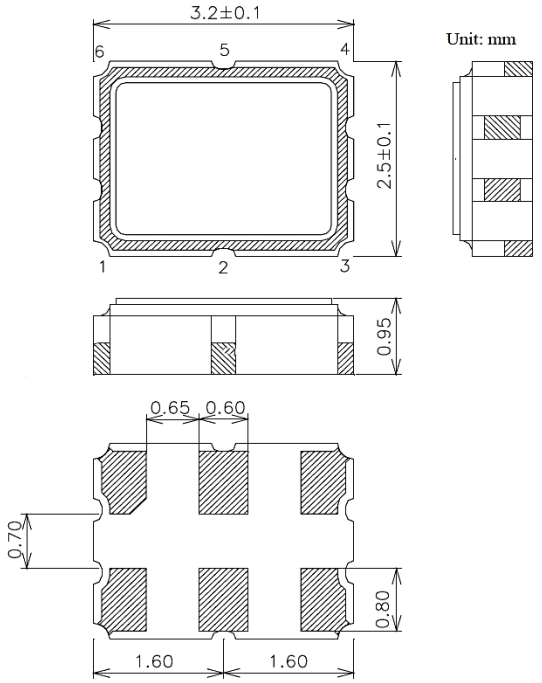
1.4 OUTPUT WAVFORM



ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.

2. PRODUCT SIZE

2.1 Dimension (Unit: mm)

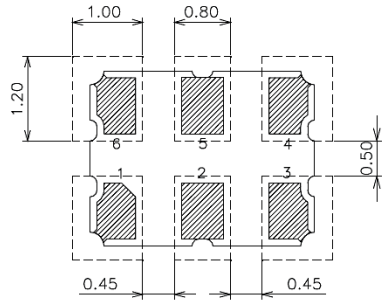


※ Pad dimension tolerance ±0.2 mm

Pin Function:

1. OE
2. NC
3. GND
4. OUT
5. $\overline{\text{OUT}}$
6. VDD

Land Pattern:



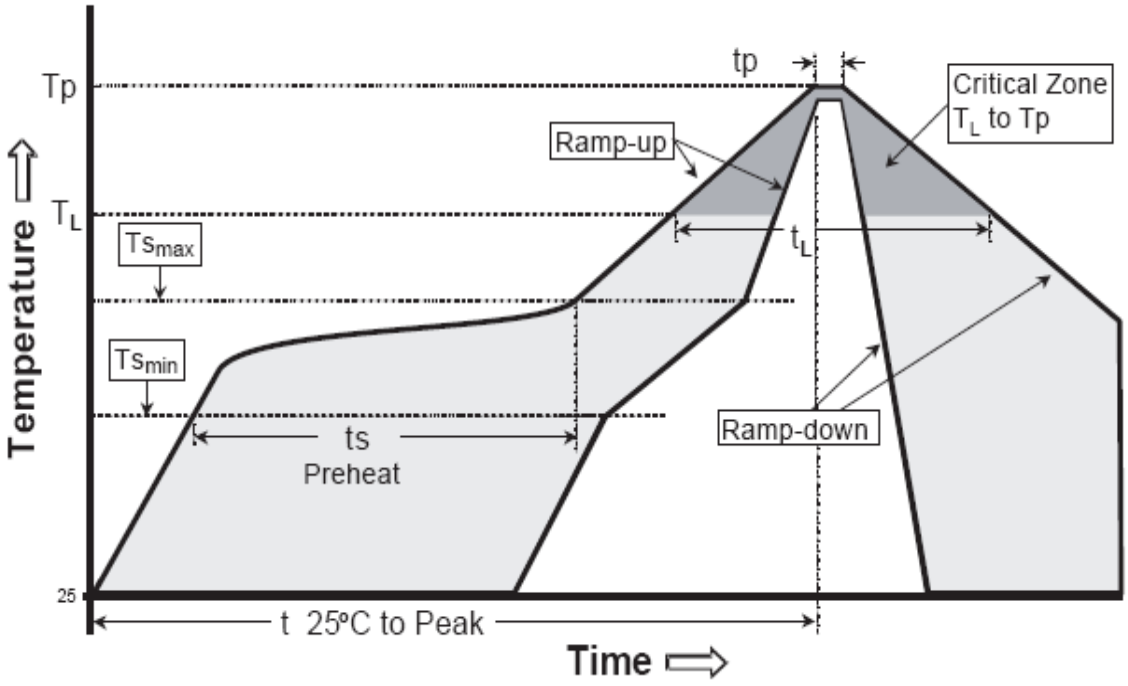
※ Power Supply Decoupling Capacitor is Required.

2.2 Marking

ZHEJIANG A-CRYSTAL ELECTRONIC TECHNOLOGY CO., LTD.

3. REFLOW PROFILES

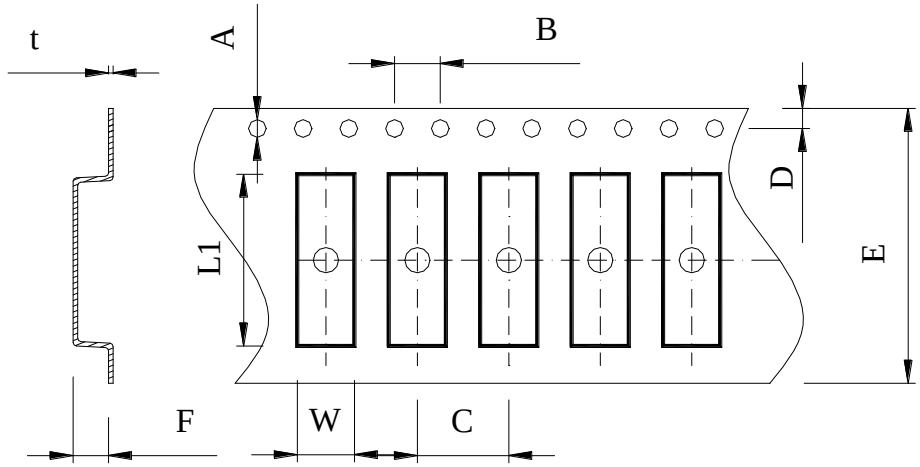
Profiles Feature	Pb-Free Assembly
Average Ramp-up Rate (Ts max to Tp)	3℃/second max.
Preheat ■ Temperature Min (Ts min) ■ Temperature Max (Ts max) ■ Time (ts min to ts max)	 125℃ 200℃ 60~180 seconds
Time maintained above ■ Temperature (T_L) ■ Time (t_L)	 217℃ 60~150 seconds
Peak/Classification Temperature (Tp)	260℃
Time within 5℃ of actual Peak Temperature (t_p)	10 seconds Max
Ramp-down rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.
Suggest reflow times	**3 Times max**



Remark：To reference JEDEC J-STD-020C

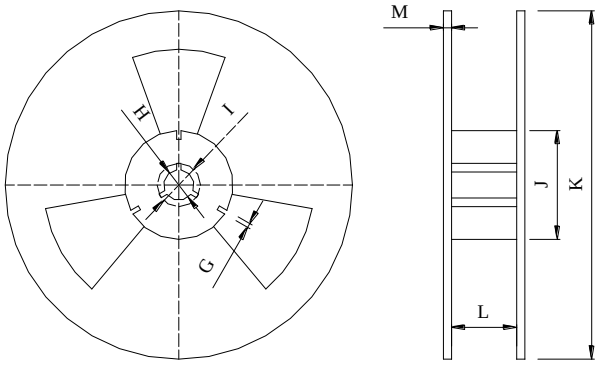
4.PACKING

4.1 Packing Method Sketch Map (Unit: mm)



A	B	C	D	E	F	L1	W	t
1.50±0.1	4.0±0.1	4.0±0.1	1.75±0.1	16.0±0.2	1.2±0.1	3.4±0.1	2.8±0.1	0.3±0.05

4.2 Reel Dimensions (Unit: mm)



G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	180	16.5	1.6

*1000pcs/Reel