



ZHEJIANG A-CRYSTAL

ELECTRONIC TECHNOLOGY CO., LTD.



Issue	February 13, 2025
Rev.	1.0
Page	6

CRYSTAL UNIT SPECIFICATIONS

客户批准 Customer Approval

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

Customer	
Customer P/N	
Product	SMD 2012 OCXO
Spec	POC2012/10.0M~100.000M
A-Crystal P/N	AG8 Series

Drawn	Checked	Approved
<i>Caoqiaobang</i>	<i>Fengying</i>	<i>Tanglong</i>



ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.



Review Record

Rev.	Rev. Date	Item	Content	Remark
1.0	2025-02-10		Initial released	

**ZHEJIANG A-CRYSTAL****ELECTRONIC TECHNOLOGY CO., LTD.**

1. ELECTRICAL SPECIFICATIONS

1.1 FEATURE

- ① Dimension 20.4 x 12.8 x 11mm, pypical
- ② Low Phase Noise & Low G-Sensitivity
- ③ Small Hermetically Sealed Package
- ④ Tight Frequency Stability
- ⑤ Low Power Consumption
- ⑥ Fast Warm-up Time
- ⑦ Electrical Frequency Tuning Input
- ⑧ RoHS-Compliant (lead-free)

1.2 TYPICAL APPLICATION

- ① Instrument Reference
- ② Microwave Communication
- ③ Clock Reference for Microwave Signal Source
- ④ Test & Measurement
- ⑤ Telecom Systems
- ⑥ Radar Systems

1.3 Hold Type: POC2012

No.	Item	Electrical Specification				Remark
		Min.	Type	Max.	Units	
OUTPUT (PIN = “R.F. OUTPUT”)						
1	Nominal Frequency	10.00		100.00	MHz	
2	Initial Accuracy	-0.2		+0.2	ppm	@ +25 ±1°C,after turn on power 60 minutes, Vco=+5V
3	Waveform	Sine wave				
4	Level	+8			dBm	
5	Load		50		Ω	
6	Harmonics			-30	dBc	
7	Spurious			-80	dBc	



ZHEJIANG A-CRYSTAL ELECTRONIC TECHNOLOGY CO., LTD.



No.	Item		Electrical Specification				Remark
			Min.	Type	Max.	Units	
FREQUENCY STABILITY							
8	Ambient		± 50		± 100	ppb	referenced to 25°C
9	Aging	Daily	-5		+5	ppb	After 30 days.
		yearly	-500		+500	ppb	
		10years	-1.7		+1.7	ppm	
10	Voltage		-20		+20	ppb	±5% change
11	Short term				0.05	ppb	root Allan variance for τ=1 sec
12	Load		-10		+10	ppb	±5% change
13	Warm-up		-50		+50	ppb	in 5 minutes @ +25 ±1°C, referenced to 1 hour
14	G-Sensitivity (each axis)				1	Ppb/g	
15	Phase Noise		Option A	Option B			Refer to Table 1 : Ordering Information
		@10Hz	-100	-103		dBc/Hz	
		@100Hz	-130	-135		dBc/Hz	
		@1KHz	-160	-162		dBc/Hz	
		@10KHz	-173	-173		dBc/Hz	
		@100KHz	-177	-176		dBc/Hz	
		@1MHz	-178	-178		dBc/Hz	
ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)							
16	Tuning Range		± 2			ppm	Referenced to frequency at nominal Center Voltage
17	Control Voltage		0		+4.5	V	
18	Slope			Positive			
19	Center Voltage			+2.25		V	
20	Linearity		-10		+10	%	
* Sufficient to adjust the oscillator to nominal frequency for 10 years. Some unit will have ±0.7ppm tuning range.							
INPUT POWER (PIN = “+VDC”)							
21	Voltage		+4.75	+5	+5.25	V	
22	Current	Steady State			1.2	w	@ +25°C, operating -20°C ~ +70°C
23		During Warm-Up			500	mA	@ +25°C, operating -20°C ~ +70°C



ZHEJIANG A-CRYSTAL ELECTRONIC TECHNOLOGY CO., LTD.

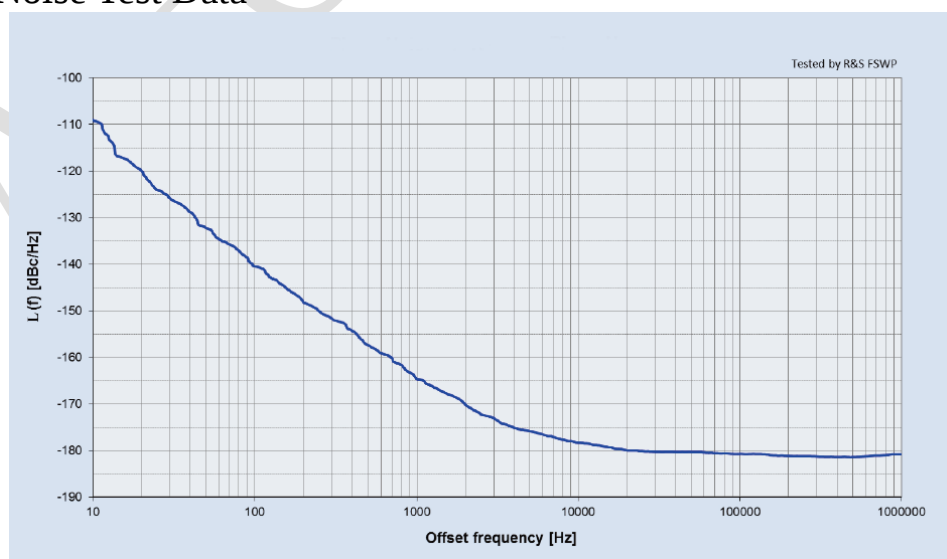


No.	Item	Electrical Specification				Remark
		Min.	Type	Max.	Units	
24	Waveform	HCMOS				
25	Level High	3.8			V	
26	Level Low			0.4	V	
27	Load	1K Ω //10PF				
28	Duty Cycle	40		60	%	
29	Rise/Fall time			3	ns	20% to 80%
ENVIRONMENTAL						
30	Operable Temperature	-20		+70	°C	
31	Storage Temperature	-45		+90	°C	
32	Humidity	MIL-STD-202, Method 103 Test Condition A				95% RH @ +40°C, non-condensing, 240 hours
33	Vibration (non-operating)	MIL-STD-202, Method 201				0.06" Total p-p, 10 to 55 Hz
34	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J				30g, 11ms, half-sine
35	Package type	20.4*12.8*11				

Note 1: Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range in -20~70°C.

Note 2: Test conditions: VDC = +5 V; VCO = +2.25 V; at +25 $\pm$ 3°C unless otherwise identified.

1.4 Phase Noise Test Data



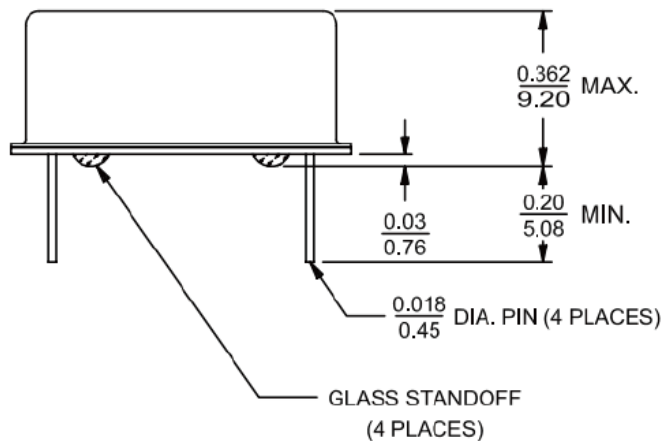


ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.



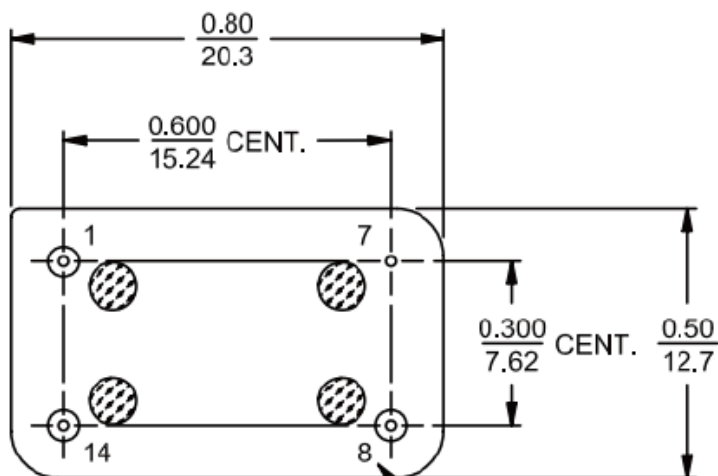
2. PRODUCT SIZE

2.1 Dimension (Unit: mm)



Note

- 1.If the specification does not specify parameters for PIN1 then PIN1 is NOT internally CONNECTED.
- 2.If the specification does not specify parameters for "MECHANICAL FREQUENCY ADJUSTMENT" then there is no Trim Access.



Number for reference only. (Not stamped on unit)

Pin No.	Function
1	VCO INPUT or NOT CONNECTED
7	0 VOLTS & CASE
8	R.F.OUTPUT
14	+VDC