



ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.



Issue	February 13, 2025
Rev.	1.0
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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 2522 OCXO
Spec	POC2522/10.0M~100.000M
A-Crystal P/N	AG3 Series

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



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Review Record

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



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1. ELECTRICAL SPECIFICATIONS

1.1 FEATURE

- ① Dimension 25.4 x 22.1 x 13.2mm, pypical
- ② Low Phase Noise
- ③ Small SMD Package
- ④ Tight Frequency Stability
- ⑤ Low Power Consumption
- ⑥ Fast Warm-up Time
- ⑦ Electrical Frequency Tuning Input
- ⑧ Reference Voltage Output
- ⑨ 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: POC2522

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	-0.1		+0.1	ppm	@ +25 ±1°C,after turn on power 60 minutes, Vco=+5V
3	Waveform	Sine wave				
4	Level	+8	+10	+12	dBm	
5	Load		50		Ω	
6	Harmonics			-30	dBc	
7	Spurious			-100	dBc	



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No.	Item		Electrical Specification				Remark
			Min.	Type	Max.	Units	
FREQUENCY STABILITY							
8	Ambient		±5		±100	ppb	referenced to 25°C
9	Aging	Daily	-0.5		+0.5	ppb	after 30 days of continuous operation.
		yearly	-50		+50	ppb	
		10years	-0.3		+0.3	ppm	
10	Voltage		-0.1		+0.1	ppb	±5% change
11	Short term			0.002		ppb	root Allan variance for τ=1 sec
12	Load		-1		+1	ppb	±5% change
13	Warm-up		-50		+50	ppb	in 5 minutes @ +25 ±1°C, referenced to 1 hour
14	Phase Noise		Option A	Option B	Option C		Refer to Table 1 : Ordering Information
		@1Hz	-105	-110	-115	dBc/Hz	
		@10Hz	-135	-140	-142	dBc/Hz	
		@100Hz	-155	-155	-155	dBc/Hz	
		@1KHz	-165	-165	-165	dBc/Hz	
		@10KHz	-170	-170	-170	dBc/Hz	
		@100KHz	-170	-170	-170	dBc/Hz	
		@1MHz	-170	-170	-170	dBc/Hz	
ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)							
15	Tuning Range		±0.4			ppm	Referenced to frequency at nominal Center Voltage
16	Control Voltage		0.5		+9.5	V	
17	Slope			Positive			
18	Center Voltage			+5.0		V	
19	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”)							
20	Voltage		+11.4	+12	+12.6	V	
21	Current	Steady State			2.0	W	@ +25°C, operating -20°C ~ +70°C
					2.3		@ +25°C, operating -40°C ~ +85°C
22		During Warm-Up			400	mA	@ +25°C, operating -20°C ~ +70°C
					500		@ +25°C, operating -40°C ~ +85°C



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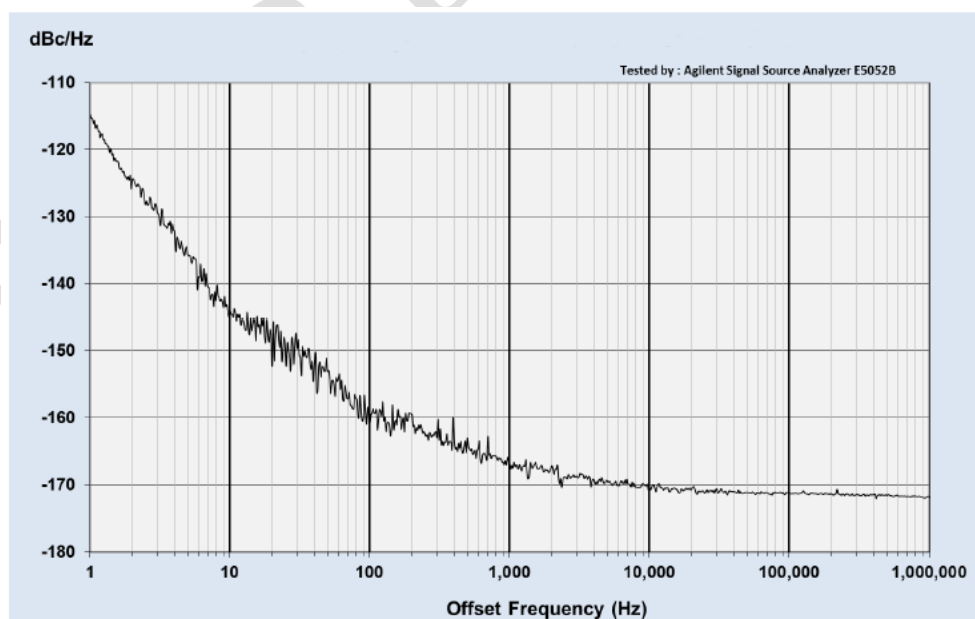


No.	Item	Electrical Specification				Remark
		Min.	Type	Max.	Units	
REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE")						
23	Voltage	+9.25	+9.5	+9.75	V	
24	Source Resistance			100	Ω	
25	Load Impedance	10			K Ω	
ENVIRONMENTAL						
26	Operable Temperature	-45		+90	°C	
27	Storage Temperature	-50		+95	°C	
28	Humidity	MIL-STD-202, Method 103 Test Condition A				95% RH @ +40°C,non-condensing,240 hours
29	Vibration (non-operating)	MIL-STD-202, Method 201				0.06" Total p-p, 10 to 55 Hz
30	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J				30g, 11ms, half-sine
31	Package type	25.4*22.1*13.2				

Note 1: Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range in -40~85 $^{\circ}\text{C}$.

Note 2: Test conditions: VDC = +12 V; VCO = +5 V; at +25 $\pm$ 3 $^{\circ}\text{C}$ unless otherwise identified.

1.4 Phase Noise Test Data



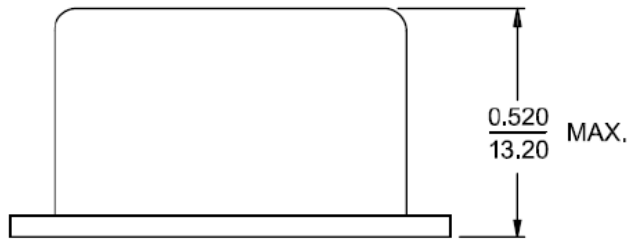


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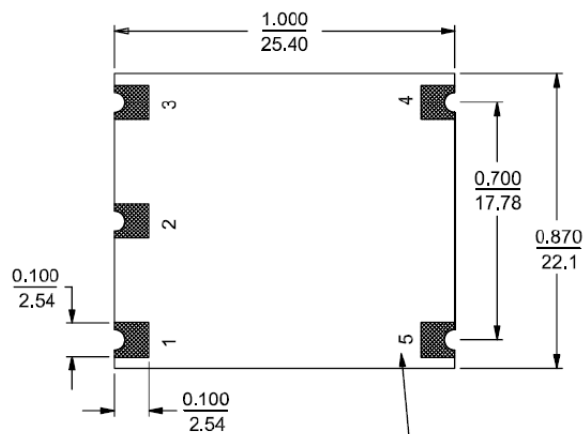


2. PRODUCT SIZE

2.1 Dimension (Unit: mm)



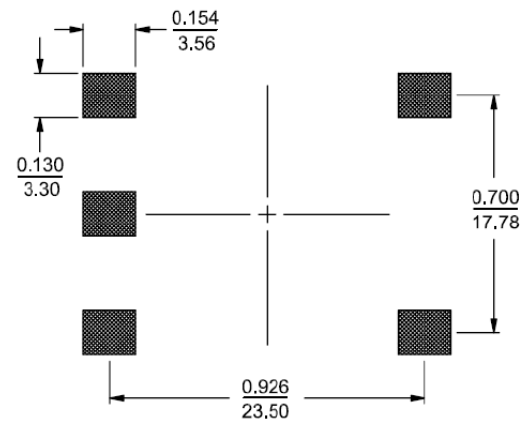
Note 1.f the specification does not specify parameters for either PIN1 or PIN2 then that respective PIN is NOT internally CONNECTED.



Numbers for reference only. (Not stamped on unit)

(VIEW FROM BOTTOM)

RECOMMENDED SOLDER PAD LAYOUT



Pin No.	Function
1	VCO INPUT or NOT CONNECTED
2	REFERENCE VOLTAGE or NOT CONNECTED
3	0+VDC
4	R.F.OUTPUT
5	0 VOLTS & CASE