



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 3627 OCXO
Spec	POC3627/5.0M~120.000M
A-Crystal P/N	AG6 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 Design for Application of Exceptional Frequency Stability and Timing
- ② Aging Performance
 - a. ± 0.05 ppb/day
 - b. ± 10 ppb/Year
 - c. ± 50 ppb/10 Years

1.2 TYPICAL APPLICATION

- ① Instrument Reference
- ② Data Communication
- ③ Test & Measurement
- ④ Telecom Systems
- ⑤ GPS

1.3 Hold Type: POC3627

No.	Item	Electrical Specification				Remark
		Min.	Type	Max.	Units	
OUTPUT (PIN = "R.F. OUTPUT")						
1	Nominal Frequency	5.00		120.00	MHz	
2	Initial Accuracy	-0.1		+0.1	ppm	@ +25 ±1°C, after turn on power 30 ±5 minutes ≤ 90 days following date code VCO input at Center Voltage ±0.001V
3	Waveform	Rectangular				
4	Level		CMOS			
5	"1" Level	+2.4			V	
6	"0" Level			+0.3	V	
7	Load		15		PF	
8	Duty Cycle	45	50	55	%	@+2.5V
9	Spurious			-60	dBc	



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No.	Item		Electrical Specification				Remark
			Min.	Type	Max.	Units	
FREQUENCY STABILITY							
10	Ambient		± 0.05		± 0.5	ppb	referenced to 25°C
11	Aging	Daily	± 0.05		± 0.2	ppb	After 30 days.
		yearly	± 10		± 40	ppb	
		10 years	± 50		± 200	ppb	
12	Voltage		-0.1		+0.1	ppb	±5% change
13	Short term				0.005	Ppb/s	root Allan variance
					0.01	Ppb/10s	
14	Warm-up		-20		+20	ppb	in 5 minutes @ +25 ±1°C, referenced to 1 hour
15	Retrace		-5		+5	ppb	After 60 minutes from on, following 24 hours, minimum on time, and 24 hours maximum off time. At constant temperature and voltage. Referenced to frequency at off time.
16	Phase Noise	@1Hz			-90	dBc/Hz	Refer to Table 1 : Ordering Information
		@10Hz			-120	dBc/Hz	
		@100Hz			-135	dBc/Hz	
		@1KHz			-145	dBc/Hz	
		@10KHz			-155	dBc/Hz	
		@100KHz			-160	dBc/Hz	
ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)							
17	Tuning Range		-0.25		-0.15	ppm	Referenced to frequency at nominal Center Voltage
			+0.15		+0.25	ppm	
18	Control Voltage		0		+2.8	V	
19	Slope			Positive			
20	Center Voltage			+1.4		V	
21	Linearity		-10		+10	%	
22	Input Impedance		50			K Ω	
INPUT POWER (PIN = “+VDC”)							
23	Voltage		+4.75	+5	+5.25	V	
24	Current	Steady State			2.5	W	@ +25°C
		During Warm-Up			1.75	A	@ trun on



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No.	Item	Electrical Specification				Remark
		Min.	Type	Max.	Units	
REFERENCE VOLTAGE (PIN="REFERENCE VOLTAGE")						
25	Voltage	+2.716	+2.8	+2.884	V	Over Operating temperature range
26	Load	9			K Ω	
27	Temperature Stability	-0.5		+0.5	mV	
ENVIRONMENTAL						
28	Operable Temperature	-10		+70	°C	
29	Storage Temperature	-40		+85	°C	
30	Vibration (non-operating)	MIL-STD-202, Method 201				0.06" Total p-p, 10 to 55 Hz
31	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J				30g, 11ms, half-sine
32	Package type	36.3*27.4*18.8				

Note : not all combination of options are available. Other specifications may be available upon request.

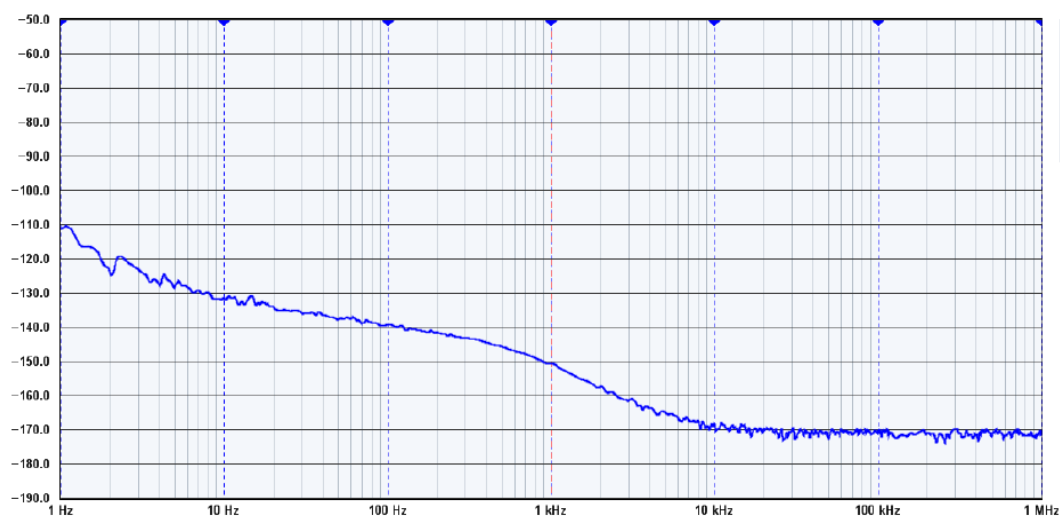


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1.4 Phase Noise Test Data

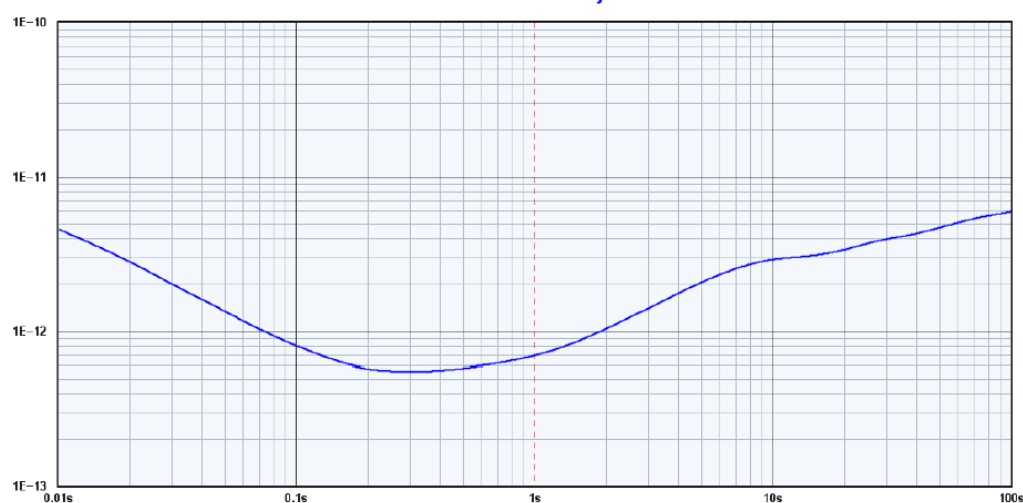
Phase Noise $\mathcal{L}(f)$ in dBc/Hz



Noise Marker (Hz)	dBc/Hz
1 Hz	-111.3
10 Hz	-131.6
100 Hz	-139.2
1 kHz	-150.5
10 kHz	-168.6
100 kHz	-170.5
1 MHz	-171.6

Notes	Input Freq	Input Amplitude	dBc/Hz at 1 kHz	Duration	Elapsed	Instrument
NI-10M-3500	10.0 MHz	10 dBm	-150.5	5m 0s	5m 0s	Microchip 53100A

Allan Deviation $\sigma_y(\tau)$



Tau	Sigma(Tau)
1s	7.09E-13
2s	1.06E-12
4s	1.79E-12
8s	2.75E-12
10s	2.95E-12
20s	3.44E-12
40s	4.37E-12
80s	5.67E-12
100s	6.07E-12

Notes	Input Freq	Input Amplitude	ADEV at 1s	Instrument
NI-10M-3500	10.0 MHz	10 dBm	7.09E-13	Microchip 53100A

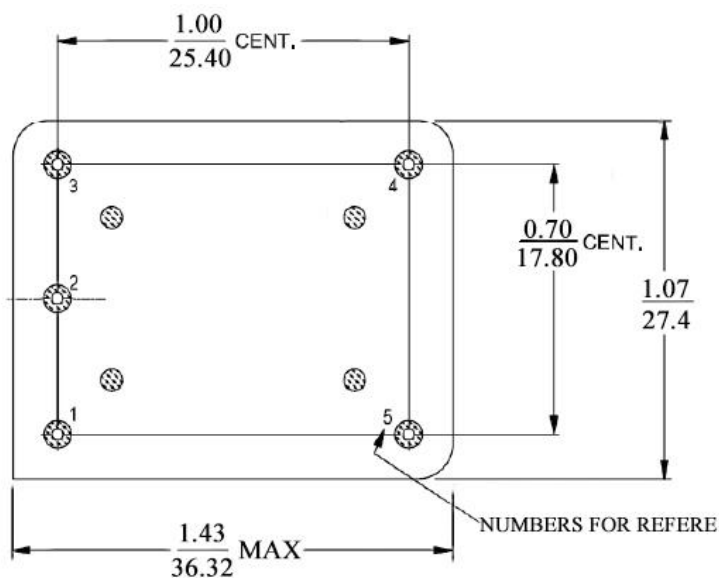
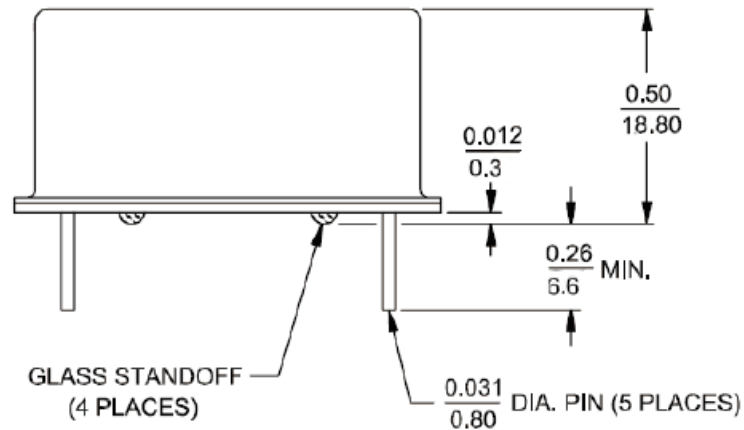


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2. PRODUCT SIZE

2.1 Dimension (Unit: mm)



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

Note

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