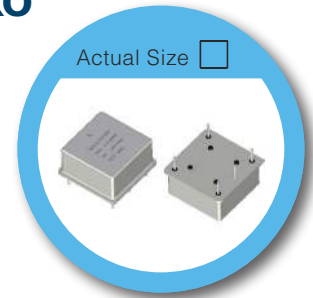


100MHz Low Noise/Low G-Sensitivity OCXO

NA-100M-6800 series

FEATURE

- Low Phase Noise & Low G-Sensitivity
- Small Hermetically Sealed Package
- Tight Frequency Stability
- Low Power Consumption
- Fast Warm-up Time
- Electrical Frequency Tuning Input
- Reference Voltage Output
- RoHS-Compliant (lead-free)

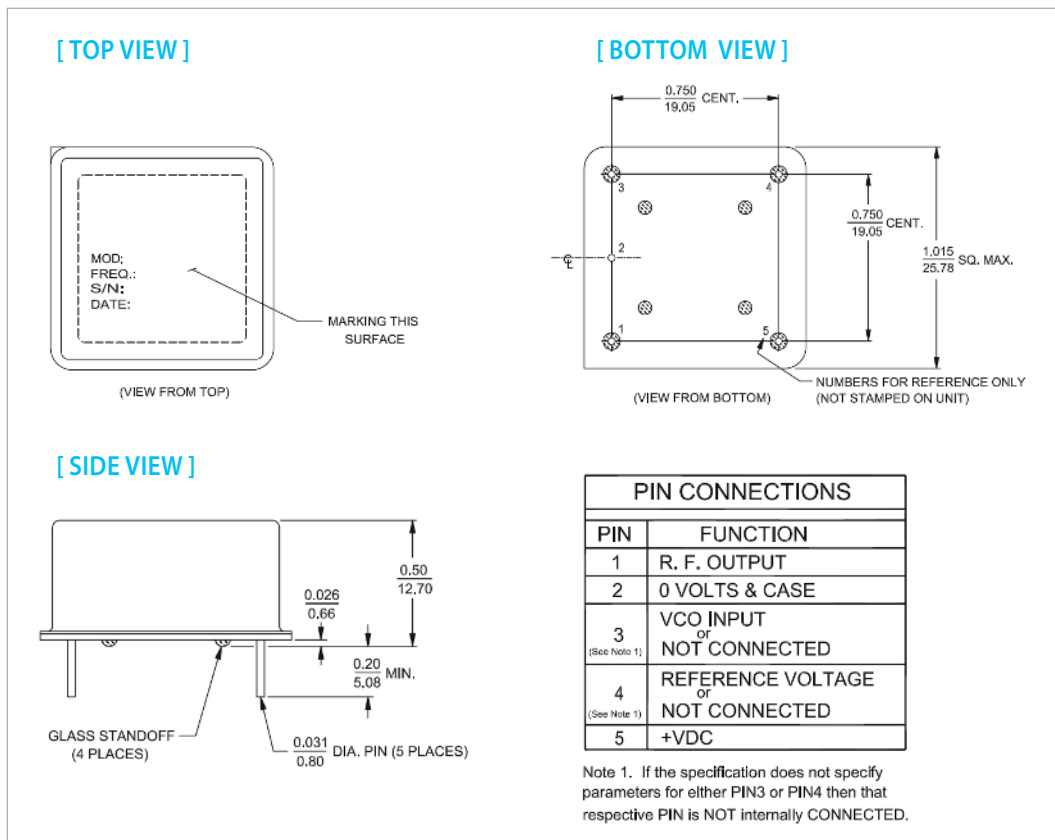


RoHS Compliant

TYPICAL APPLICATION

- Instrument Reference
- Microwave Communication
- Clock Reference for Microwave Signal Source
- Test & Measurement
- Telecom Systems
- Radar Systems

DIMENSION (mm)



ELECTRICAL SPECIFICATION

Test conditions: VDC = +12 V; VCO = +5 V; at +25 ± 3°C unless otherwise identified

OUTPUT (PIN = “R.F. OUTPUT”)

Parameter	Min.	Typ.	Max.	Unit	Test Condition
Frequency (Fo)	100.000000			MHz	
Initial Accuracy	-0.3		+0.3	ppm	@ +25 ±1°C after turn on power 60 minutes Vco=+5V
Waveform	Sine wave				
Level	+10			dBm	
Load		50		Ω	
Harmonics			-30	dBc	
Spurious			-80	dBc	10Hz ~ 1KHz from carrier
			-100	dBc	1KHz ~ 1MHz from carrier

FREQUENCY STABILITY

Parameter	Min.	Typ.	Max.	Unit	Test Condition		
Ambient	±20, ±50, ±100, ±200			ppb	referred to 25°C	Refer to Table 1 : Ordering Information	
	-20°C ~ +70°C -40°C ~ +85°C			°C			
Aging							
Daily	-5		+5	ppb	after 30 days		
Yearly	-500		+500	ppb			
10 Years	-2		+2	ppm			
Voltage	-5		+5	ppb	±5% change		
Short term			0.05	ppb	root Allan variance for τ=1 sec		
Load	-5		+5	ppb	±5% change		
Warm-up	-50		+50	ppb	in 5 minutes @ +25 ±1°C	referred to 1 hour	
G-Sensitivity (each axis)			1	ppb/g			
Phase Noise (Max.)	Option A	Option B	Option C	Option D		Refer to Table 1 : Ordering Information	
	-93	-97	-100	-105	dBc/Hz	@ 10Hz	
	-125	-130	-135	-138	dBc/Hz	@ 100Hz	
	-157	-160	-162	-163	dBc/Hz	@ 1KHz	
	-173	-173	-173	-172	dBc/Hz	@ 10KHz	
	-177	-177	-176	-173	dBc/Hz	@ 100KHz	
	-178	-178	-176	-174	dBc/Hz	@ 1MHz	

ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)

Parameter	Min.	Typ.	Max.	Unit	Test Condition
Tuning Range	±3			ppm	Referenced to frequency at nominal Center Voltage
Control Voltage	0		+10.0	V	
Slope	Positive				
Center Voltage		+5		V	
Linearity	-10		+10	%	

INPUT POWER (PIN = "+VDC")

Parameter	Min.	Typ.	Max.	Unit	Test Condition
Voltage	+11.4	+12	+12.6	V	
Current					
Steady State			2.0	W	
During Warm-Up			350	mA	

REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE")

Parameter	Min.	Typ.	Max.	Units	Test Condition
Voltage	+9.5	+10	+10.5	V	

ENVIRONMENTAL

Parameter	Reference Std.	Test Condition
Operable Temperature	-40°C to +85°C	Note 1
Storage Temperature	-45°C to +90°C	
Humidity	MIL-STD-202, Method 103 Test Condition A	95% RH @ +40°C, non-condensing, 240 hours
Vibration (non-operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine

Note 1 : Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range in 2.1.

Table 1 : ORDERING INFORMATION

Temp. (°C)	Ambient Option	Phase Noise Option			
		A	B	C	D
-20°C ~ +70°C	±100 ppb	NA-100M-6800	NA-100M-6801	NA-100M-6802	NA-100M-6803
	±50 ppb	NA-100M-6810	NA-100M-6811	NA-100M-6812	NA-100M-6813
	±20 ppb	NA-100M-6830	NA-100M-6831	NA-100M-6832	NA-100M-6833
-40°C ~ +85°C	±200 ppb	NA-100M-6860	NA-100M-6861	NA-100M-6862	NA-100M-6863
	±100 ppb	NA-100M-6820	NA-100M-6821	NA-100M-6822	NA-100M-6823
	±50 ppb	NA-100M-6870	NA-100M-6871	NA-100M-6872	NA-100M-6873

Other specifications may be available upon request.

Phase Noise Test Data

