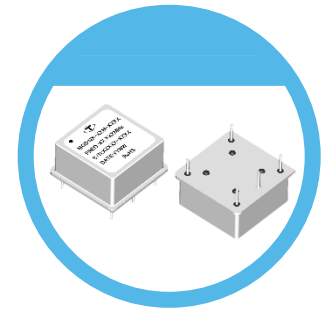


NA-100M-6700 Series

100MHz Ultra Low G-Sensitivity Oven Controlled Crystal Oscillator

FEATURES

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

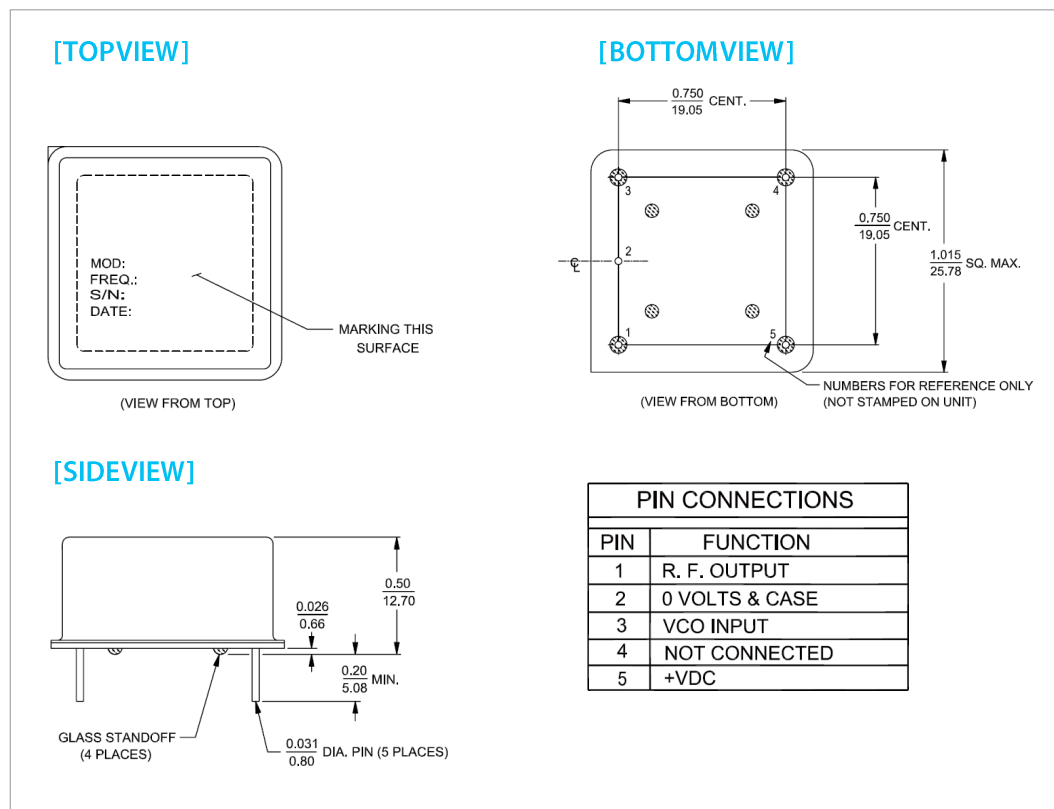


RoHS Compliant

TYPICAL APPLICATION

- Instrument Reference
- Microwave Communication
- Clock Reference for Microwave Signal Source
- Test & Measurement
- Telecom Systems
- Radar Systems
- Medical (MRT)

DIMENSION (mm)



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

Specifications subject to change without notice.

www.taitien.com
sales@taitien.com.tw

XO-0207
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ELECTRICAL SPECIFICATION

Test conditions: VDC=+12V; VCO=+5V; 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	-0.2		+0.2	ppm	after turn on power 30 minutes Within 90 days following date code
Waveform	Sine wave				
Level	+7			dBm	
Load		50		Ω	±10%
Harmonics			-30	dBc	
Spurious			-100	dBc	100Hz to 5MHz from carrier

FREQUENCY STABILITY

Parameter	Min.	Typ.	Max.	Unit	Test Condition
Ambient	±100			ppb	referenced to 25°C Refer to Table 1 : Ordering Information
	-40°C ~ +85°C			°C	
Aging	Daily	-5	+5	ppb	after 30 days of continuous operation
	Yearly	-300	+300	ppb	
	10 Years	-1.5	+1.5	ppm	
Voltage	-10		+10	ppb	±5% change
Load	-5		+5	ppb	±10% change
Short term			0.1	ppb	root Allan variance for $\tau = 1$ sec
Warm-up	-100		+100	ppb	in 5 minutes referenced to 1 hour
Phase Noise			-100	dBc/Hz	@ 10Hz
			-130	dBc/Hz	@ 100Hz
			-160	dBc/Hz	@ 1KHz
			-171	dBc/Hz	@ 10KHz
			-172	dBc/Hz	@ 100KHz
Phase Jitter(RMS)			0.05	pSec	@ 1MHz
					12KHz ~ 20MHz
G-Sensitivity (each axis)	Option A	Option B	Option C	Option D	Refer to Table 1 : Ordering Information
	0.5	0.2	0.1	0.05	

ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)

Parameter	Min.	Typ.	Max.	Unit	Test Condition
Tuning Range	±2.0			ppm	Referenced to frequency at nominal Center Voltage
Control Voltage	0		+10.0	V	
Slope	Positive				
Center Voltage		+5		V	
Linearity	-10		+10	%	
Modulation Bandwidth	1			KHz	3dB cut off frequency

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

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INPUT POWER (PIN = "+VDC")

Parameter		Min.	Typ.	Max.	Unit	Test Condition
Voltage		+11.4	+12	+12.6	V	
Current	Steady State			2.1	W	@ +25°C
	During Warm-Up			400	mA	

REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE")

Parameter	Min.	Typ.	Max.	Unit	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	-55°C to +105°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

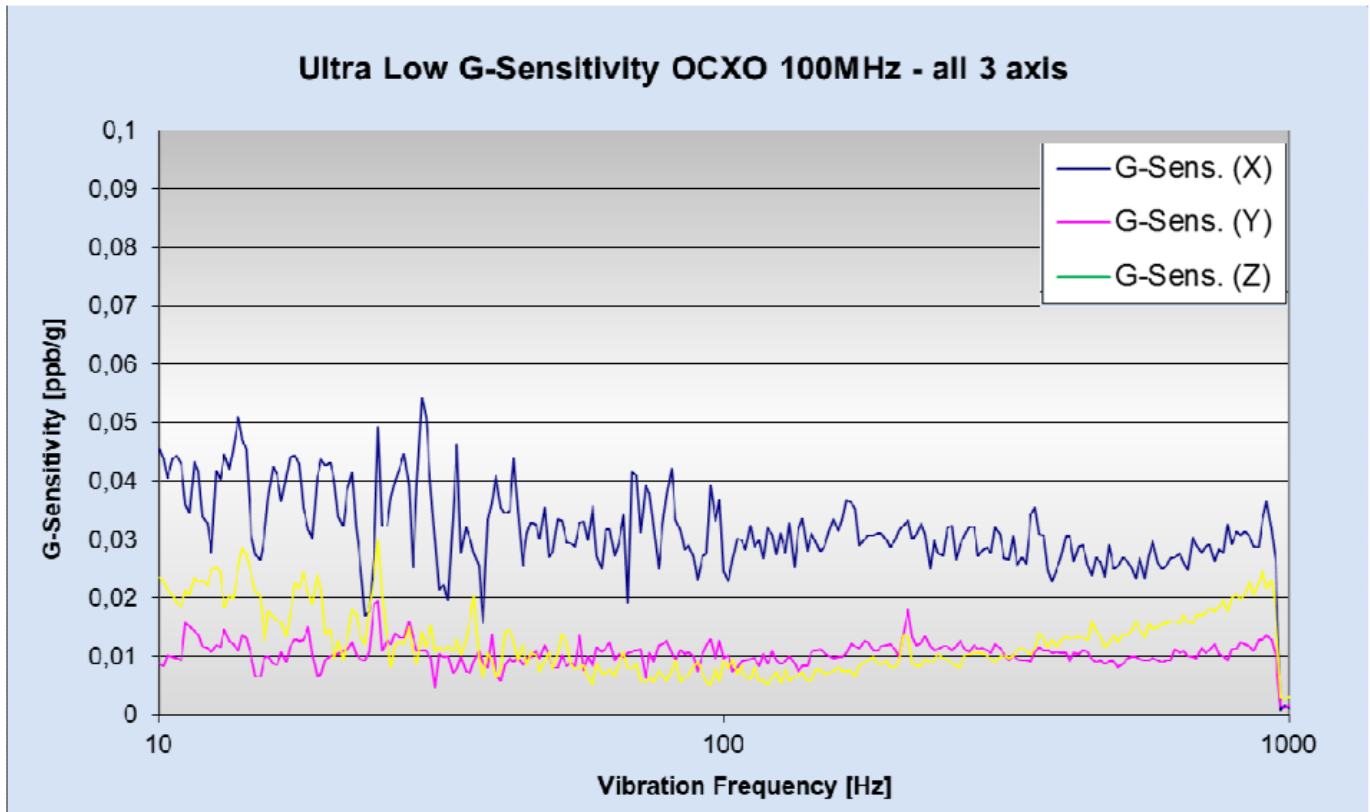
Note 1 : Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the operating temperature range.

Table 1 : ORDERING INFORMATION

Ambient Temp. (°C)		Option	G-Sensitivity Option			
			A	B	C	D
-40°C~+85°C		± 100 ppb	NA-100M-6700	NA-100M-6701	NA-100M-6702	NA-100M-6703

Other specifications may be available upon request.

G-Sensitivity Test Data



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

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