TAITIEN
Our Performance Your Reputation

Oven Controlled Crystal Oscillator
NI-100 MHz-2900 series

2900 Series in 36.3x27.2mm DIP package

Features:

NI-100MHz-2900 series OCXOs offer superior performance achieving low phase noise at -155dBc/Hz @1k Hz offset, excellent long-term aging and +/-50ppb frequency stability from -30 to 70C. It is ideal for applications such as satellite communication, radar systems and test instrumentation.

RoHS Compliant Standard

ELECTRICAL SPECIFICATIONS

1. OUTPUT (PIN = "R.F. OUTPUT")

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
1.1.	Frequency		100.000		MHz	
1.2.	Initial Accuracy	-0.2		+0.2	ppm	@ +25 ±1°C
						after turn on power 30 ±5 minutes
						≤ 90 days following date code
						VCO Input at +4 ±0.001V
1.3.	Waveform		Sine wave			
1.4.	Level	+7	+9	+11	dBm	
1.5.	Load		50		Ω	
1.6.	Harmonics			-30	dBc	10% to 90%
1.7.	Spurious			-70	dBc	

2. FREQUENCY STABILITY

	Parameter	Min.	Typ.	Max.	Unit	Test Condition	
2.1.	Ambient	-50		+50	ppb	-30°C ~ +70°C	referenced to 25°C
2.2.	Aging	-3		+3	ppb	per day, at time of shipment	
	Daily	-3		+3	ppb	after 30 days	
	Yearly	-0.3		+0.3	ppm		
	10 Years	-1.2		+1.2	ppm		
2.3.	Voltage	-20		+20	ppb	±5% change	
2.4.	Load	-50		+50	ppb	±5% change	
2.5.	Warm-up	-0.1		+0.1	ppb	in 10 minutes @ +25 ±1°C	referenced to 1 hour
2.6.	Phase Noise			-90	dBc/Hz	@ 10Hz	
				-120	dBc/Hz	@ 100Hz	
			-150	-145	dBc/Hz	@ 1KHz	Refer to Table 1 : Ordering Information
				-155	dBc/Hz	@ 10KHz	
				-160	dBc/Hz	@ 100KHz	

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3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")

	Parameter	Min.	Typ.	Max.	Unit	Test Condition	
3.1.	Tuning Range			-1.5	ppm	VCO @ 0V	Referenced to frequency at nominal Center Voltage
		+1.5			ppm	VCO @ 8V	
3.2.	Control Voltage	0		+8	V		
3.3.	Slope	Positive					
3.4.	Center Voltage		+4		V	Note 1	
3.5.	Linearity	-10		+10	%		
3.6.	Input Impedance	25			kΩ		

4. INPUT POWER (PIN = "+VDC")

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
4.1.	Voltage	+11.4	+12	+12.6	V	
4.2.	Current			300	mA	@ turn on
4.3.	Steady State		1	1.5	W	@ +25°C

5. REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE")

	Parameter	Min.	Typ.	Max.	Units	Test Condition
5.1.	Voltage	+7.6	+8.0	+8.4	V	Over temperature range in 2.1.
5.2.	Load	9			kΩ	
5.3.	Temperature stability	-0.02		+0.02	V	

6. ENVIRONMENTAL

	Parameter	Reference Std.	Test Condition
6.1.	Operating Temperature	-40°C to +85°C	Note 2
6.2.	Storage Temperature	-55°C to +105°C	
6.3.	Humidity	MIL-STD-202, Method 103 Test Condition A	95% RH @ +40°C,non-condensing,240 hours
6.4.	Vibration (non-operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
6.5.	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine

Note 1. When not connected, VCO INPUT is internally held at this voltage.
Note 2. Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range in 2.1.

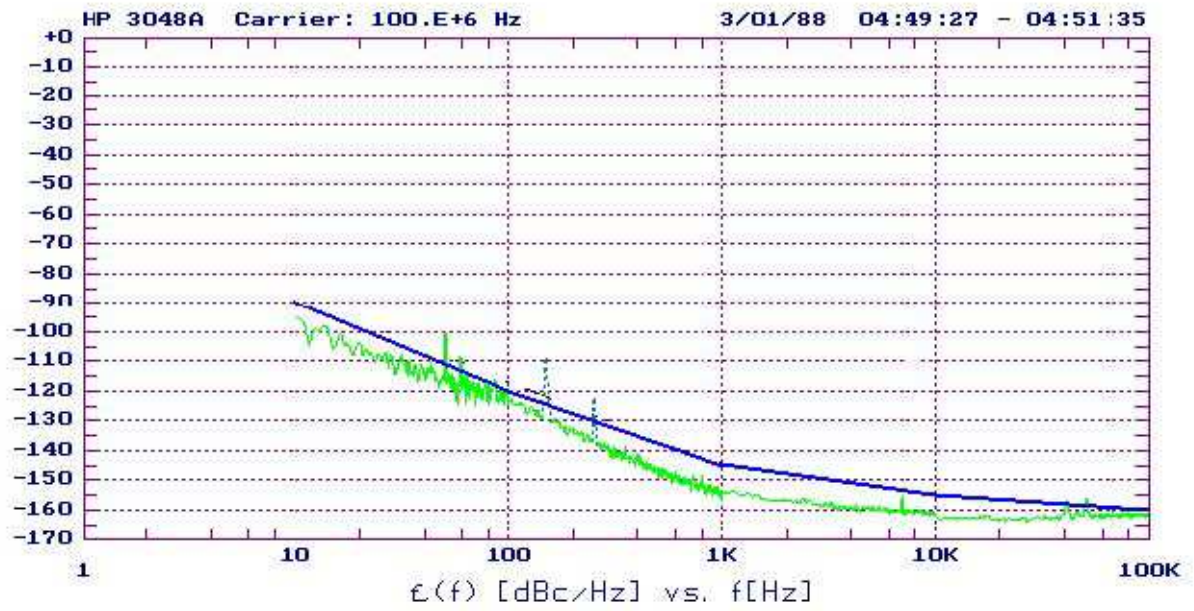
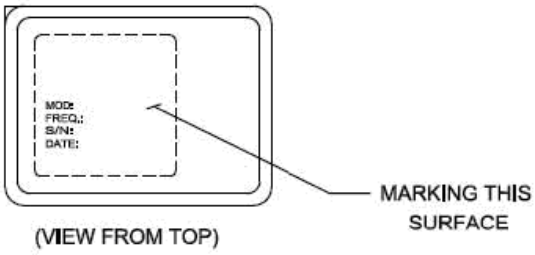


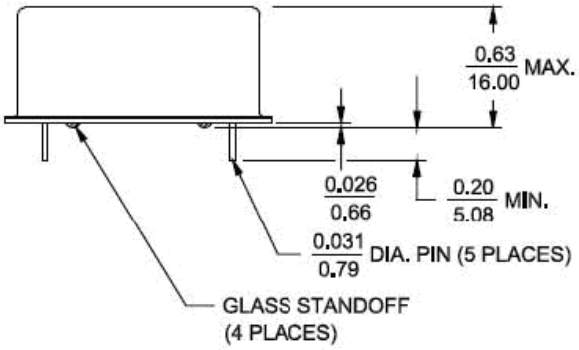
Table 1 : ORDERING INFORMATION

Phase Noise	-145dBc@1KHz	-150dBc@1KHz	-155dBc@1KHz	Control Voltage	Reference Voltage
TAITIEN P/N	NI-100M-2900	NI-100M-2901		+4.0V	+8.0V

OUTLINE DRAWING



PIN CONNECTIONS	
PIN	FUNCTION
1 (See Note 1)	VCO INPUT or NOT CONNECTED
2 (See Note 1)	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.

MARKING