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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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10MHz Low Noise OCXO

NJ-10M-6800 series

NJ-10M-6800 Series in 25.4x22mm SMD package

NJ-10M-6800 series is a 10.000 MHz high performance (VC)OCXO with low phase noise(LPN). It has excellent temperature versus frequency stability with many available options. The part comes in a small SMD package which makes it suitable for reflow soldering during pick and place assembly



RoHS Compliant Standard

FEATURES

- **Low Phase Noise**
- Small SMD Package
- Tight Frequency Stability
- Low Power Consumption
- Fast Warm-up Time
- Electrical Frequency Tuning Input
- Reference Voltage Output
- RoHS-Compliant (lead-free)

APPLICATIONS

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

ELECTRICAL SPECIFICATIONS

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

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

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
1.1.	Frequency (Fo)	10.000000			MHz	
1.2.	Initial Accuracy	-0.1		+0.1	ppm	@ +25 ±1°C after turn on power 60 minutes Vco=+5V
1.3.	Waveform	Sine wave				
1.4.	Level	+8	+10	+12	dBm	
1.5.	Load	50			Ω	
1.6.	Harmonics				-30	dBc
1.7.	Spurious				-80	dBc 10Hz to 1MHz from carrier

2. FREQUENCY STABILITY

	Parameter	Min.	Typ.	Max.	Unit	Test Condition	
2.1.	Ambient	±20, ±30, ±50, ±100, ±200			ppb	referenced to 25°C	Refer to Table 1 : Ordering Information
		-20°C ~ +70°C -40°C ~ +85°C			°C		
2.2.	Aging					after 30 days of continuous operation.	
	Daily	-0.5		+0.5	ppb		
	Yearly	-50		+50	ppb		
	10 Years	-0.3		+0.3	ppm		
2.3.	Voltage	-1		+1	ppb	±5% change	
2.4.	Short term		0.002		ppb	root Allan variance for $\tau=1$ sec	
2.5.	Load	-1		+1	ppb	±5% change	
2.6.	Warm-up	-50		+50	ppb	in 5 minutes @ +25 ±1°C referenced to 1 hour	
2.7.	Phase Noise (Max.)	Option A	Option B	Option C		Refer to Table 1 : Ordering Information	
		-105	-110	-115	dBc/Hz	@ 1Hz	
		-135	-140	-142	dBc/Hz	@ 10Hz	
		-155	-155	-155	dBc/Hz	@ 100Hz	
		-165	-165	-165	dBc/Hz	@ 1KHz	
		-170	-170	-170	dBc/Hz	@ 10KHz	
		-170	-170	-170	dBc/Hz	@ 100KHz	
		-170	-170	-170	dBc/Hz	@ 1MHz	

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

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
3.1.	Tuning Range	±0.4*			ppm	Referenced to frequency at nominal Center Voltage
3.2.	Control Voltage	0.5		+9.5	V	
3.3.	Slope	Positive				
3.4.	Center Voltage		+5.0		V	
3.5.	Linearity	-10		+10	%	

* Sufficient to adjust the oscillator to nominal frequency for 10 years. Some unit will have ±0.7ppm tuning range.

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

	Parameter	Min.	Typ.	Max.	Unit	Test Condition
4.1.	Voltage	+11.4	+12	+12.6	V	
4.2.	Current					Refer to Table 1 : Ordering Information
	Steady State			2.0	W	
				2.3		
	During Warm-Up			400	mA	
			500			

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

	Parameter	Min.	Typ.	Max.	Units	Test Condition
5.1.	Voltage	+9.25	+9.5	+9.75	V	
5.2.	Source Resistance			100	Ohm	
5.3.	Load Impedance	10			Kohm	

6. ENVIRONMENTAL

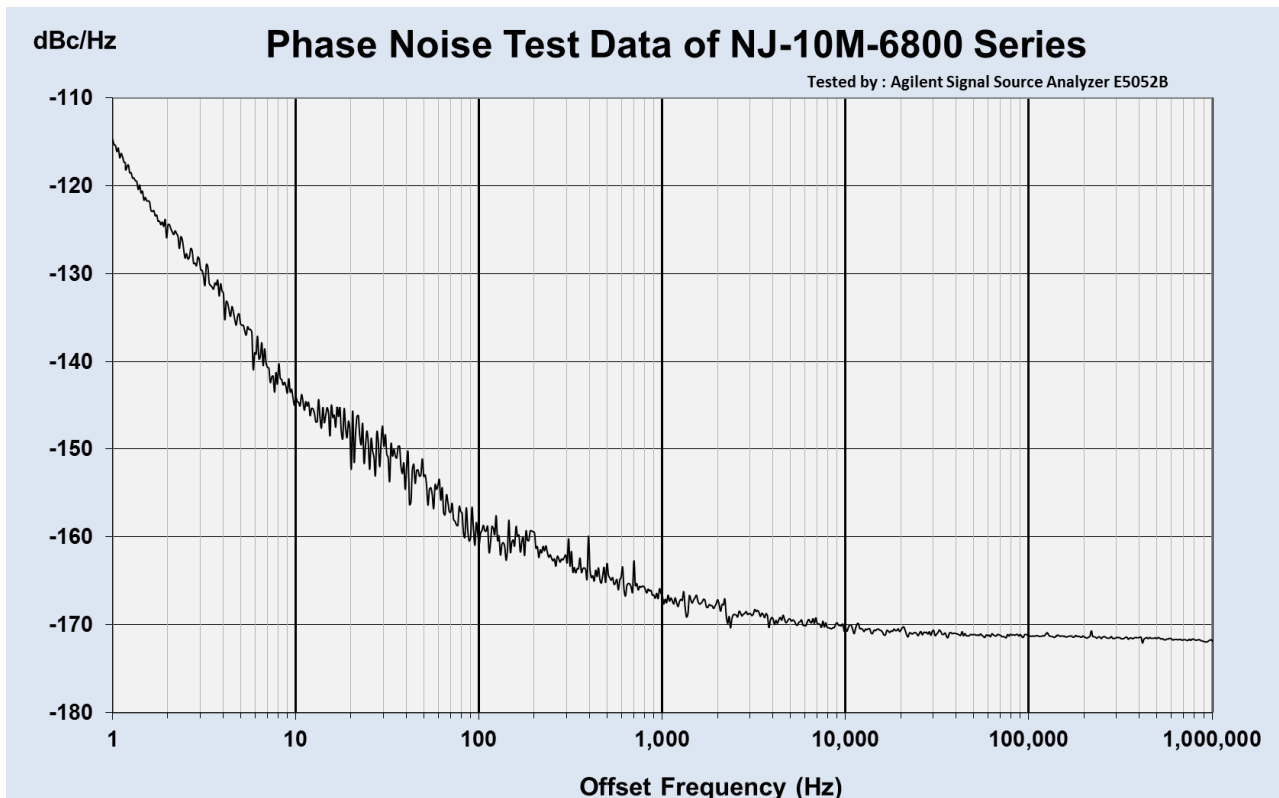
	Parameter	Reference Std.	Test Condition
6.1.	Operable Temperature	-45°C to +90°C	Note 1
6.2.	Storage Temperature	-50°C to +95°C	
6.3.	Humidity	MIL-STD-202, Method 103 Test Condition A	95% RH @ +40°C, non-condensing, 240 hours
6.4.	Vibration (non-operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
6.5.	Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine

Note 1 : 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

Ambient Temp. (°C)	Option	Phase Noise Option		
		A	B	C
-20°C ~ +70°C	±50 ppb	NJ-10M-6800	NJ-10M-6801	NJ-10M-6802
	±30 ppb	NJ-10M-6810	NJ-10M-6811	NJ-10M-6812
	±20 ppb	NJ-10M-6820	NJ-10M-6821	NJ-10M-6822
-40°C ~ +85°C	±200 ppb	NJ-10M-6850	NJ-10M-6851	NJ-10M-6852
	±100 ppb	NJ-10M-6860	NJ-10M-6861	NJ-10M-6862
	±50 ppb	NJ-10M-6870	NJ-10M-6871	NJ-10M-6872

Phase Noise Test Data



OUTLINE DRAWING

