High Freq. 20x13mm NV79 Ovenized Oscillator

Bliley Technologies Inc.
2545 W Grandview Blvd
Erie, Pa 16506
Factory +1-814-838-3571

Features:

- 50MHz to 120MHz Output Frequency's
- Standard Frequency of 100 MHz.
- Excellent Stability and Noise in a miniature size
- Options for Phase noise, Output type, and FVT
- Available in surface mount, through hole or gull wing package styles.
- RoHS-6/Leadfree Compliant
- Storage Temperature Range of -55°C to +85°C
- Manufactured in Erie, Pa. USA

Description:

The NV79A Series Ovenized Crystal Oscillator offers high stability Frequency vs. Temperature performance and SC Cut Crystal Phase Noise performance in a DIP configuration. It is ideally suited for base station, test equipment, synthesizers, and digital switching applications. It is available in three different package styles as well as custom frequencies between 50 to 120 Mhz. Standard frequency is 100 MHz.

Electrical Specifications

1. Output Characteristics

	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
1.1	Frequency Range	50		120	MHZ	
1.2	Initial Accuracy			±50	PPB	
1.3	Output Type					
	Sinusoidal					
	Output Level	3	5		dBm	
	Load Impedance ±5%	45	50	55	Ω	
	Harmonic Content		-25		dBc	
	Spurious Modulation			-60	dBc	
1.4	Acceleration Sensitivity*			1	PPB/g	@100MHz

*Please consult factory for acceleration sensitivity options regarding other frequencies.

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2. Frequency Stability

	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
2.1	Frequency vs. Temperature					Referenced to Frequency @+25°C
	0°C to +50°C		±70		PPB	See Table 2 For Ordering Options
	-20°C to +70°C		±100		PPB	See Table 2 For Ordering Options
	-40°C to +85°C		±150		PPB	See Table 2 For Ordering Options
2.2	Aging	Typical for 100MHz after 30 days of continuous operation				
	Per day after 30 days			±5	PPB	Typical at 100MHz after 30 days of continuous operation
	1st Year**			±300	PPB	
	10 Years**			±650	PPM	
2.5	Short Term		8		10e-11	τ = 1 Second
2.6	Warm-up		±50		PPB	Within 3 minutes
2.7	Static Phase Noise	See Table 2 for Ordering Options				
		Option A	Option B	Option C		Tested @ +25°C±1°C Static Environment
	ℒ(f)@10Hz	-94	-90	-85	dBc/Hz	
	ℒ(f)@100Hz	-124	-120	-115	dBc/Hz	
	ℒ(f)@1KHz	-148	-145	-140	dBc/Hz	
	ℒ(f)@10KHz	-158	-155	-150	dBc/Hz	
	ℒ(f)@100KHz	-160	-155	-150	dBc/Hz	

Values listed above are typical performance of a (100.000) MHz Fo

**Long term aging projection is calculated per MIL-PRF 55310 $f(t) = A(\ln(Bt+1))+Fo$

3. Input Characteristics

	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
3.1	Supply Voltage	4.75	5	5.25	Vdc	See Table 2 for Ordering Options
3.2	Power Dissipation					
	Warm-up			800	mA	@25°C ±1°C ambient

	Steady State			300	mA	@25°C ±1°C ambient

3. Input Characteristics (Continued)

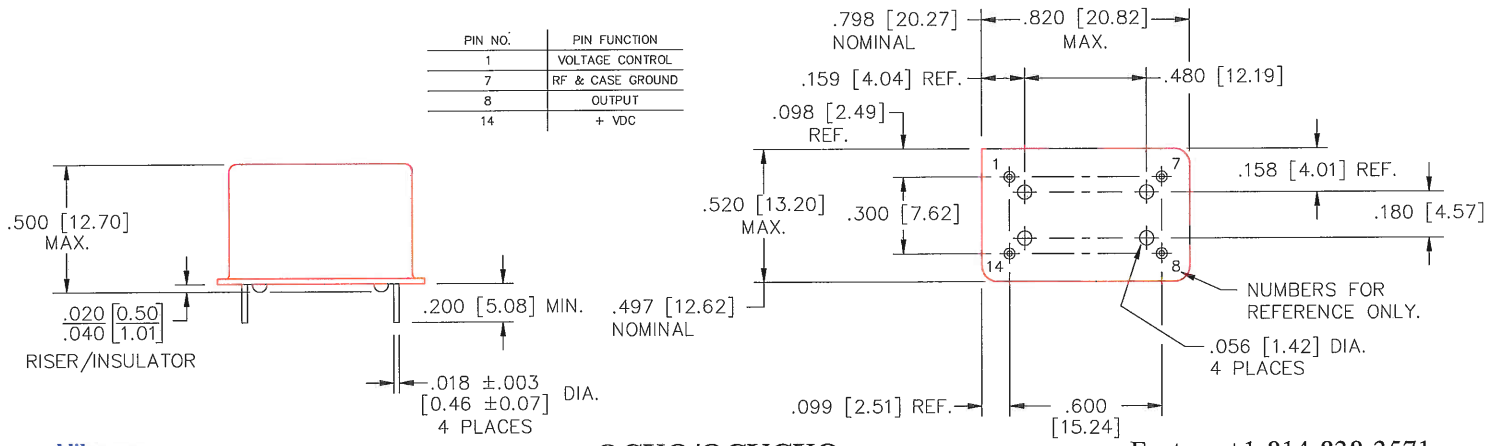
	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
3.3	Electronic Frequency Control					
	Voltage Range	0		5.0	Vdc	
	Center Voltage		2.5		Vdc	
	Frequency Range	±0.8			PPM	Consult Factory for Wide Pull Range
3.4	Slope		Positive			
3.5	Input Impedance	100K			Ω	
3.6	Linearity			10	%	

4. Environmental, Reliability and Mechanical Specifications

	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
4.1	Operational Temperature	-40		+85	°C	See Table 2 For Ordering Options
4.2	Storage Temperature	-55		+85	°C	
4.3	Shock Mil-Std 202G	Survive				1000 Single, 100 Repeated
4.4	Sinusoidal Vibration Mil-Std 202G	Survive				50G's rms 10 to 2000Hz

Mechanical Dimensions, and Pin Functions

Standard Package Style (79A):



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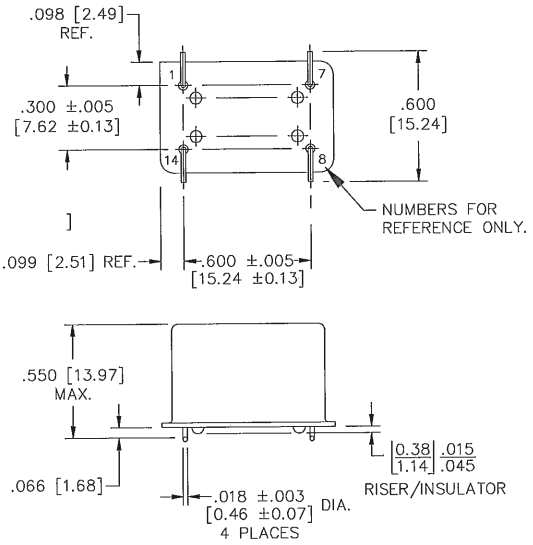
SMD Package styles:

Package type (79F Gull wing)



Package type (79G SMT)

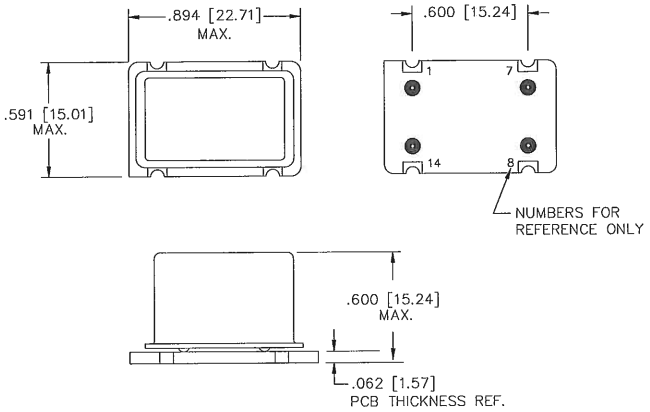


Table 1 Package Type, and Unit Style Selection

Series and Type	Description
N79A	Standard pin out package type OCXO with no EFC
NG79A	Standard pin out package type OCXO with no EFC, and RoHS Compliant
NV79A	Standard pin out package type OCXO with EFC
NVG79A	Standard pin out package type OCXO with EFC, and RoHS Compliant
N79F	Pin out package with gull-wing style lead formed OCXO with no EFC
NG79F	Pin out package with gull-wing style lead formed OCXO with no EFC, and RoHS Compliant
NV79F	Pin out package with gull-wing style lead formed OCXO with EFC
NVG79F	Pin out package with gull-wing style lead formed OCXO with EFC, and RoHS Compliant
N79G	Adapted SMD package type OCXO with no EFC
NG79G	Adapted SMD package type OCXO with no EFC, and RoHS Compliant
NV79G	Adapted SMD package type OCXO with EFC

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NVG79G	Adapted SMD package type OCXO with EFC, and RoHS Compliant

Table 2. Ordering Information

See Table 1	Phase Noise (dBc/Hz) (10MHz Phase Noise Performance)				Temp Range	Stability	Supply	Output	Frequency
	Options	A	B	C	A (0°C to +50°C)	A ±70 PPB	5Vdc	A Sine-Wave	50M to 120M
	1Hz	-94	-90	-85					
	10Hz	-124	-120	-115	B (-20°C to +70°C)	B ±100 PPB		B CMOS	
	100Hz	-148	-145	-140					
	1KHz	-158	-155	-150	C (-40°C to +85°C)	C ±150 PPB			
	10KHz	-158	-155	-150					

The number generated here is for quote purposes only. The lettered options and their meaning can change with future releases of this sheet. This is release 1.0 of this sheet.