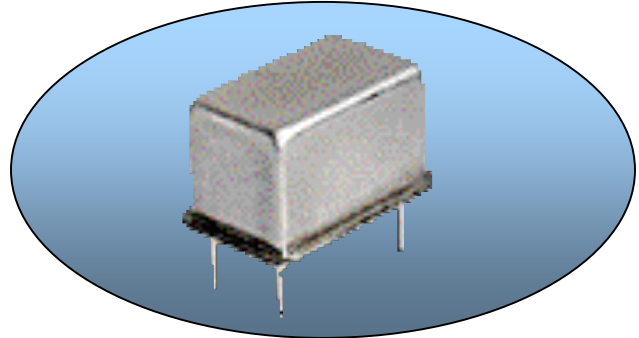


N79A, N79B & NV79A – Single DIP OCXO

Series Features

Freq Range: 10 MHz to 140 MHz
Outputs: HCMOS
Supply: +3.3 Vdc or +5 Vdc
Package: 20.8 x 13.2 x 12.7 mm
0.82" x 0.52" x 0.50"



Standard Frequencies: 10, 12.8, 19.44, 20, 20.48, 77.76 & 133 MHz
Available at any frequency between 10 MHz and 140 MHz

Output: HCMOS
Output Levels: "0" < 0.1(Vs)
(30 pF load) "1" > 0.9(Vs)
Rise / Fall Time: <6 ns (10% to 90%)
Duty Cycle: 50% ±5% @ 50% level

Power Supply (Vs):	+3.3 Vdc ±5%	+5 Vdc ±5%
At warm up	2.0 Watts	2.0 Watts
Steady State @ +25°C	0.75 Watts	0.75 Watts

Freq vs Temperature:	10 MHz to 40 MHz		
0 to +50°C	±3 x 10 ⁻⁸	±1 x 10 ⁻⁷	±3 x 10 ⁻⁷
0 to +70°C	±8 x 10 ⁻⁸	±2 x 10 ⁻⁷	±5 x 10 ⁻⁷
-20 to +70°C	±1 x 10 ⁻⁷	±3 x 10 ⁻⁷	±5 x 10 ⁻⁷
-40 to +85°C	±3 x 10 ⁻⁷	±5 x 10 ⁻⁷	±1 x 10 ⁻⁶
	41 MHz to 80 MHz		
0 to +50°C	±1.5 x 10 ⁻⁷	±3 x 10 ⁻⁷	±5 x 10 ⁻⁷
0 to +70°C	±2 x 10 ⁻⁷	±3 x 10 ⁻⁷	±5 x 10 ⁻⁷
-20 to +70°C	±3 x 10 ⁻⁷	±5 x 10 ⁻⁷	±1 x 10 ⁻⁶
-40 to +85°C	±5 x 10 ⁻⁷	±7.5 x 10 ⁻⁷	±1 x 10 ⁻⁶
	81 MHz to 140 MHz		
0 to +50°C	±5 x 10 ⁻⁷	±7.5 x 10 ⁻⁷	±1 x 10 ⁻⁶
0 to +70°C	±6 x 10 ⁻⁷	±8 x 10 ⁻⁷	±1 x 10 ⁻⁶
-20 to +70°C	±8 x 10 ⁻⁷	±1 x 10 ⁻⁶	±1.5 x 10 ⁻⁶
-40 to +85°C	±1 x 10 ⁻⁶	±1.5 x 10 ⁻⁶	±2 x 10 ⁻⁶

(Note: The above temperature ranges are standard. The stabilities listed for each show Best to Good to Easy. Custom Temperature ranges and stabilities are welcomed – please let us know your exact requirements if not listed above.)

Aging (After 3 Days):	10 MHz	77.76 MHz	140 MHz	Per Day First Year For 10 Years
	3×10^{-9}	4×10^{-9}	5×10^{-9}	
	5×10^{-7}	5×10^{-7}	7×10^{-7}	
	3×10^{-6}	3×10^{-6}	3×10^{-6}	

Frequency vs Supply: $<2 \times 10^{-8}$ per Percent change

Frequency vs Load: $<5 \times 10^{-10}$ per Percent change

Short Term Stability: $<1 \times 10^{-10}$ for tau = 1 second

Warm up: $<\pm 1 \times 10^{-7}$ in 3 minutes @ +25°C
(referenced to frequency @ 2 hours)

Total Stability Option: $<\pm 4.6 \times 10^{-6}$ over any temperature range at any frequency, including all causes for 10 years.
Please specify when ordering.

Electronic Frequency Control (EFC) – NV79A Only

Tuning Range: $\pm 5 \times 10^{-6}$ min, $\pm 8 \times 10^{-6}$ max

Linearity: $<\pm 10\%$

Tuning Slope: Positive

Range: Vs = +3.3 0.5 to +2.5 Vdc

Vs = +5.0 0 to +5.0 Vdc

Calibrated Accuracy: Vs = +3.3 $<\pm 0.5 \times 10^{-7}$ @ +1.25 Vdc
(@ +25°C at time of shipment) Vs = +5.0 $<\pm 0.5 \times 10^{-7}$ @ +2.50 Vdc

Initial Accuracy – N79A & N79B Only

Accuracy: $<\pm 1 \times 10^{-6}$ at +25°C at time of shipment

Enable / Disable – N79B Only – Pin 1

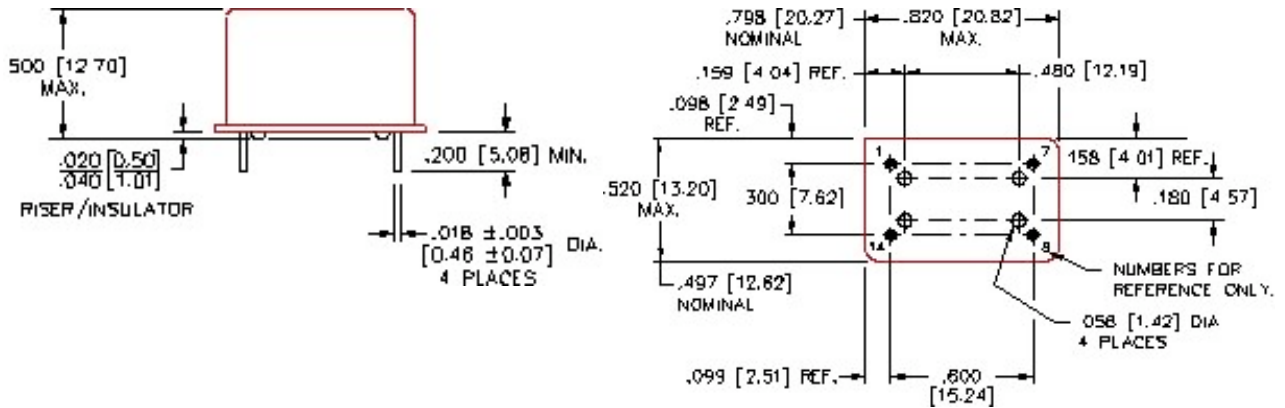
Oscillator Enabled: Floating or '> +2.5V'

Disabled (Tri-State): Ground or '<0.5V'

Phase Noise (Typical): Contact Factory for Improved phase noise	Offset	10 MHz	40 MHz	77.76 MHz
	10 Hz	-90	-80	-75
	100 Hz	-125	-115	-110
	1k Hz	-145	-140	-135
	10k Hz	-150	-148	-145
	100k Hz	-150	-150	-150
	(dBc/Hz)	(dBc/Hz)	(dBc/Hz)	

Outline Drawing and Pin Out

PIN NO.	N79A	N79B	NV79A
1	No Connect	Enable/Disable	EFC
7	Gnd	Gnd	Gnd
8	Output	Output	Output
14	+ Vs	+ Vs	+ Vs



Environmental

- Storage temperature:** - 65 to + 125 °C
- Mechanical shock:** 500 G's, half-sine pulse @ 0.1 mSec, 3 axis
- Vibration:** 20 G's swept sine, 10 to 500 Hz

How to Order:

1. Specify Pin 1 Option – **N79A, N79B or NV79A**
2. Specify Supply voltage - **+3.3 or +5.0 Vdc**
3. Specify Temperature Range and Stability over Temperature
(see page 1 for standard offerings)

Note: Stability vs Temperature is the biggest cost driver – do not over specify – units will be 100% tested over temperature.

4. Specify any additional requirements – phase noise, Aging,