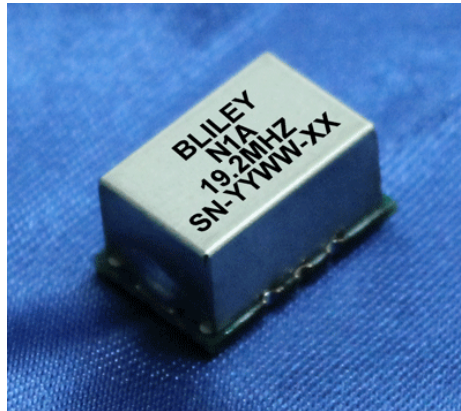


# Miniature OCXO & OCVCXO

N1A Series

## Description:

The N1A Series Ovenized Crystal Oscillator Series offers an extremely small footprint with excellent Frequency vs. Temperature stability performance. This series is ideally suited for base station, test equipment, synthesizers, and digital switching applications.



## Features:

- Available in Frequencies from 12.8 MHz to 40 MHz
- LVCMOS Output
- 3.3V Supply voltage.
- 9mm x 14mm x 7.7mm package
- Standard Frequencies of 12.8MHz, 19.2MHz, 20.38MHz, and 38.88MHz
- Other frequencies available on request
- Storage Temperature Range of -55°C to 105°C

## Voltage Control:

Characteristic	Min	Nom	Max
EFC Voltage (VDC)	0	1.65	3.3
Pull Range (ppm)	1.5		4.0
EFC Slope	Positive		
EFC Impedance (Ohms)		100K	
EFC Bandwidth (Hz)		10K	

## Operating Temperature Range and Frequency Stability:

Temperature Range Code	Operating Temperature	Freq vs. Temp Stability Code +/- 30 ppb	Freq vs. Supply $\pm 5\%$ Change (ppb)	Freq vs. Load $\pm 10\%$ Change (ppb)
5	-40 to +85°C	A	$\pm 10$ max	$\pm 10$

## Supply Voltage, Current Consumption and Warm-up:

Supply Voltage	3.3V +/-5%
Current Consumption	800mA @ Startup 300mA Steady State
Warm-up Time	1 min Max

## Aging: (after 30 days continuous operation)

Frequency	Timeframe	Min	Typical	Max
12.8MHz to 40MHz	30 Days		$\pm 2$ ppb	
	1 Year		$\pm 300$ ppb	
	10 Years		$\pm 2.5$ ppm	

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### Output Waveform:

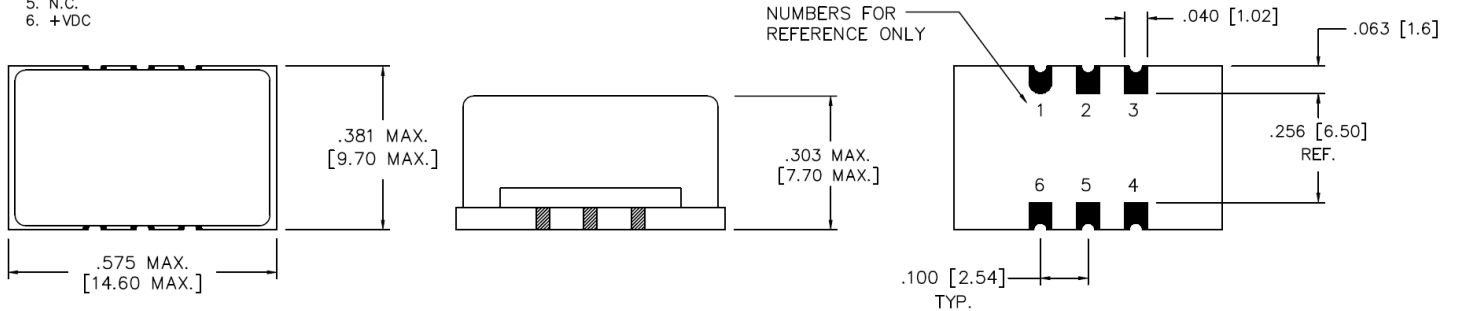
LVC MOS	Min	Typical	Max
Logic "0" (VDC)			0.4
Logic "1" (VDC)	2.4		
Rise/Fall Time; 10% to 90% level (nSec)		5	
Duty Cycle @ 50% level (%)	45		55
Output Load (pF)	14.25	15	15.75

### Phase Noise Performance (Typical at 19.2MHz):

Freq offset from Carrier (Hz)	Min	Typical	Max
1Hz (dBc/Hz)		-65	
10Hz (dBc/Hz)		-95	
100Hz (dBc/Hz)		-125	
1KHz (dBc/Hz)		-145	
10KHz (dBc/Hz)		-150	

#### PIN CONNECTIONS

1. VOLTAGE CONTROL (EFC)
2. N.C. / R.F. ENABLE
3. GROUND & CASE
4. OUTPUT
5. N.C.
6. +VDC



### Ordering Options:

	Temp. Range	Frequency Stability	Operating Frequency (MHz)
N1A	<b>5</b>	<b>A</b>	<b>XXMXXX</b>

\*Trailing Zeros Will Be Omitted In Final Part Number