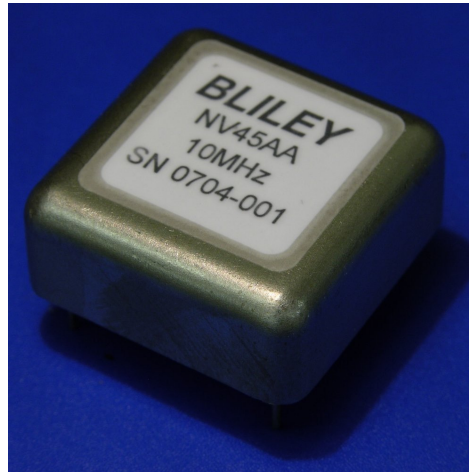


# Low Profile OCXO & OCVCXO

N45AA/AB Series  
NV45AA/AB Series

## Description:

The N45/NV45 AA/AB Ovenized Crystal Oscillator Series offers high stability performance in a low profile package (0.46 inches max.) for base station, test equipment, synthesizers, and digital switching applications.



## Features:

- Available in Frequencies from 5 MHz to 20 MHz
- HCMOS and Sine Wave Output
- 5V, 12V and 15V available
- Phase Noise Options
- RoHS-6/Leadfree Compliant
- Storage Temperature Range of -55°C to 125°C

### Voltage Control Range: N45 NV45\*

|   |      |                 |
|---|------|-----------------|
| Turning Range<br>(0V to 4V on Vcontrol) | None | +/- 0.5 ppm min |
|---|------|-----------------|

\*Consult Factory for Wider Frequency Pull Range

### Reference Voltage Output: AA AB\*

|      |      |       |
|------|------|-------|
| Vref | None | 4 Vdc |
|------|------|-------|

\*Consult Factory for Other Reference Voltages

| Phase Noise | Option A    | Option B <sup>1</sup> | Option C <sup>1</sup> |
|-------------|-------------|-----------------------|-----------------------|
| 1 Hz        | -80 dBc/Hz  | -90 dBc/Hz            | -95 dBc/Hz            |
| 10 Hz       | -115 dBc/Hz | -120 dBc/Hz           | -125 dBc/Hz           |
| 100 Hz      | -145 dBc/Hz | -148 dBc/Hz           | -152 dBc/Hz           |
| 1 KHz       | -150 dBc/Hz | -155 dBc/Hz           | -160 dBc/Hz           |
| 10KHz       | -155 dBc/Hz | -160 dBc/Hz           | -165 dBc/Hz           |
| 100KHz      | -155 dBc/Hz | -160 dBc/Hz           | -165 dBc/Hz           |

<sup>1</sup>Options B and C Not Available with HCMOS Output or +5VDC Supply Voltage

### Operating Temperature and Frequency Stability:

| Temperature Range Code | Operating Temperature | Stability Code +/- 5.0 ppb | Stability Code +/- 30.0 ppb | Stability Code +/- 50.0 ppb |
|------------------------|-----------------------|----------------------------|-----------------------------|-----------------------------|
| A                      | -20 to +70°C          | A                          | B                           | C                           |
| B                      | -40 to +85°C          | N/A                        | B                           | C                           |

### Supply Voltage & Power Consumption:

| Supply Voltage    | 5V +/-5%                                  | 12V +/-5%                                 | 15 V +/-5%                                |
|-------------------|---|---|---|
| Power Consumption | 4.8 W Startup Power<br>2.0 W Steady State | 4.8 W Startup Power<br>2.0 W Steady State | 4.8 W Startup Power<br>2.0 W Steady State |
| Product Code      | A   | B   | C   |

# Low Profile OCXO & OCVCXO

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**NV45AA/AB Series**

### Output Waveform:

| Sine Wave Type A             | HCMOS Type B                                   |
|------------------------------|--|
| 8 dBm typ.<br>Output Level   | Level "0": 0 to 0.4 V<br>Level "1": 4.5 to 5 V |
| -30 dBc<br>Harmonics         | < 10 nsec<br>Rise/Fall Time                    |
| -75 dBc<br>Spurious Response | 50 +/- 5%<br>Duty Cycle                        |

### Output Frequency:

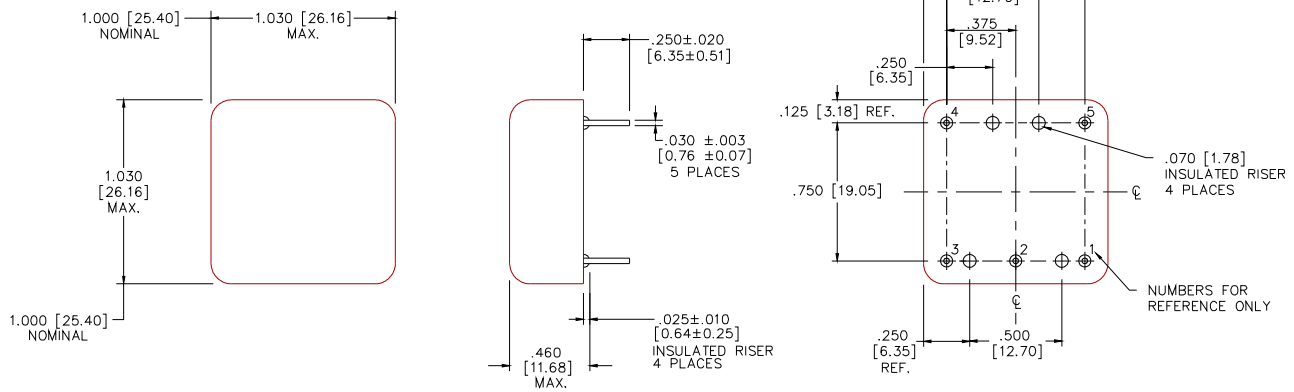
| Frequency Range       |
|-----------------------|
| 5 MHz<br>To<br>20 MHz |

### Aging: (typical at 10 MHz after 30 days continuous operation)

| Frequency | Timeframe | Aging                 |
|-----------|-----------|-----------------------|
| Any       | 1 Year    | Less than +/- 100 ppb |
| Any       | 15 Years  | Less than +/- 500 ppb |

#### PIN CONNECTIONS

1. OUTPUT
2. RF & CASE GROUND
3. VOLTAGE CONTROL OR N/C
4. V. REF. OR N/C
5. +VDC



### Ordering Options:

| Model         | Reference Voltage | Phase Noise | Temp. Range | Frequency Stability | Supply Voltage | Output Waveform | Operating Frequency* |
|---------------|-------------------|-------------|-------------|---------------------|----------------|-----------------|----------------------|
| <b>OCXO</b>   |                   |             |             |                     |                |                 |                      |
| For Led Part  | <b>N45</b>        | <b>AA</b>   | <b>A</b>    | <b>A</b>            | <b>A</b>       | <b>A</b>        | <b>5M00</b>          |
|               | <b>NG45</b>       | <b>AB</b>   | <b>B</b>    | <b>B</b>            | <b>B</b>       | <b>B</b>        | <b>To</b>            |
| For ROHS Part |                   | <b>C</b>    |             | <b>C</b>            | <b>C</b>       |                 | <b>20M0</b>          |
|               |                   |             |             |                     |                |                 |                      |

| Model         | Reference Voltage | Phase Noise | Temp. Range | Frequency Stability | Supply Voltage | Output Waveform | Operating Frequency* |
|---------------|-------------------|-------------|-------------|---------------------|----------------|-----------------|----------------------|
| <b>OCVCXO</b> |                   |             |             |                     |                |                 |                      |
| For Led Part  | <b>NV45</b>       | <b>AA</b>   | <b>A</b>    | <b>A</b>            | <b>A</b>       | <b>A</b>        | <b>5M00</b>          |
|               | <b>NVG45</b>      | <b>AB</b>   | <b>B</b>    | <b>B</b>            | <b>B</b>       | <b>B</b>        | <b>To</b>            |
| For ROHS Part |                   | <b>C</b>    |             | <b>C</b>            | <b>C</b>       |                 | <b>20M0</b>          |
|               |                   |             |             |                     |                |                 |                      |

\*Trailing Zeros Will Be Omitted In Final Part Number