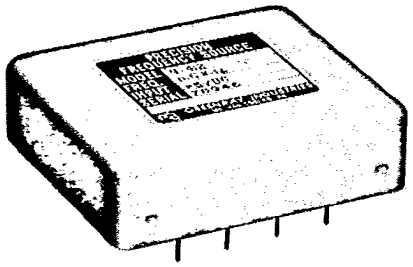
GREENRAY INDUSTRIES, INC.

VOLTAGE CONTROLLED OSCILLATORS

1 KHz to 25 MHz SQUARE WAVE V.C.X.O.



MODEL N-412

SPECIFICATIONS:

Center Frequency Range:
1 kHz to 25 MHz

Frequency Swing Ranges:
±.01%, ±.03%, ±.05%, ±.10%
(other ranges available on request)

Frequency Stability Over Temperature Range: ±.002% with ±.01% swing
±.003% with ±.03% swing
±.004% with ±.05% swing
±.005% with ±.10% swing

Temperature Range: 0°C to +50°C

Output Voltage: 0 ±.4V to +2.4V min.

Output: Square wave, 50/50 ±10% to drive ≤10 TTL loads

Input Voltage: +5V DC ±5%

Input Current: 200 ma. maximum

Control Voltage: 0 to ±3V (DC coupled with a max. modulation rate of 15 kHz)

Modulation Input Impedance: 1000 ohms

Size: 2.56 × 2.94 × .88" (L-W-H)
65.02 × 74.68 × 22.35 mm

Linearity: ±5% or better

Negative Slope

Center Frequency Adjustment to Compensate for Aging

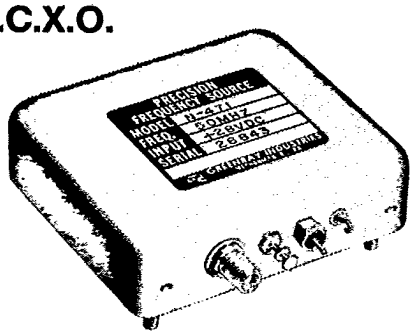
PC Board Mounting

Solder Sealed

ORDERING INFORMATION:

1. Specify Model N-412A for ±.01% swing.
2. Specify Model N-412B for ±.03% swing.
3. Specify Model N-412C for ±.05% swing.
4. Specify Model N-412D for ±.10% swing.
5. Specify exact center freq. desired.

4 MHz to 75 MHz SINE WAVE V.C.X.O.



MODEL N-471

SPECIFICATIONS:

Frequency Range: 4 MHz to 75 MHz

Frequency Swing Ranges:
±.01%, ±.03%, ±.05%, ±.1%
(other ranges available on request)

Frequency Stability Over Temperature Range: ±.002% with ±.01% swing
±.003% with ±.03% swing
±.004% with ±.05% swing
±.005% with ±.10% swing

Temperature Range: 0°C to +50°C

Output Power: 1 milliwatt minimum into a 50 ohm load

Output: Sine wave, Harmonics and Sub-Harmonics −20 dB minimum; Spurious −60 dB minimum

Input Voltage: +28V DC ±1%

Input Current: 50 ma. maximum

Control Voltage: 0 to ±3V (DC coupled with a max. modulation rate of 15 kHz)

Modulation Input Impedance: 1000 ohms

Size: 2.56 × 2.94 × .88" (W-L-H)
65.02 × 74.67 × 22.35 mm

Connector: SMA; Filtercons for +28V DC

Linearity: ±5% or better

Negative Slope

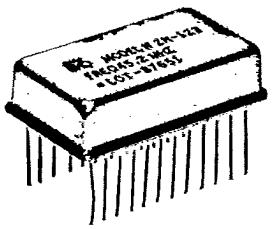
Center Frequency Adjustment to Compensate for Aging

ORDERING INFORMATION:

1. Specify Model N-471A for ±.01% swing.
2. Specify Model N-471B for ±.03% swing.
3. Specify Model N-471C for ±.05% swing.
4. Specify Model N-471D for ±.10% swing.
5. Specify exact center freq. desired.

Higher Frequencies Available Upon Request.

4.0 MHz to 90.0 MHz ECL SQUARE WAVE



MODEL ZN-121, ZN-122, ZN-123, & ZN-223

SPECIFICATIONS:

Center Frequency Range:
Model: ZN-121, 4.0 to 14.99 MHz
ZN-122, 15.0 to 30.0 MHz
ZN-123, 30.001 to 60.0 MHz
ZN-223, 60.01 to 90.0 MHz

Frequency control range: ±0.02% (minimum)

Frequency stability over temperature range: ±0.005%

Temperature range: −30° to +70°C

Output voltage: ECL Compatible

Output: To drive a 50 Ohm resistor to −2.0 v.d.c.

Input voltage: −5.2 vdc

Input current: 100 ma. (maximum)

Control voltage: 0 ±4 vdc
(DC coupled with a maximum rate of 15 kHz). See note 1.

Modulation input load: 1000 ± 200 Ohms

Linearity: ±10% or better

Positive slope

Size: 1.4 × .8 × .35" (L-W-H)
35.6 × 20.3 × 8.9mm
24 pin DIP mounting

Sealed metal case

Option "Z": This VCXO can be supplied with an external freq. adjust capability. Frequency adj. is accomplished with an external 50K Ohm potentiometer. Set center freq. with A.F.C. voltage equal to zero VDC input. Specify option "Z" after the model number.

NOTE 1: Center freq. will occur at zero volts ±1 volt control voltage.