

Rev. A

**OE-X8GXXXXX Series
HF/UHF OCXO Low Power**

Description: The OE-X8GXXXXX Series of Oven Controlled Crystal Oscillators (OCXO) provides High and Ultra High Frequency with SC-cut stability performance, extremely low phase noise and power consumption, with variety of different output types in a standard 1.4x1” package – “Europack”.

Features

- Very Low Power Consumption
- Very Low Phase Noise
- Excellent SC-cut Frequency Stability
- Ultra High Frequency – up to 1 GHz
- CMOS, Sine-Wave outputs available
- Stratum3E available



Creating a Part Number



CRYSTAL OSCILLATORS

Data Sheet 0635D

OE-X8GXXXXX Series HF/UHF OCXO Low Power

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Specifications

| Parameter | Symb | Condition | Min | Typ | Max | Unit | Note |
|-----------|------|-----------|-----|-----|-----|------|------|
|-----------|------|-----------|-----|-----|-----|------|------|

Absolute Maximum Ratings

| | | | | | | | |
|--------------------------|-----------------|--|------|--|-----|----|--|
| Input Break Down Voltage | V _{cc} | | -0.5 | | 5.5 | V | |
| Storage temp. | T _s | | -40 | | 85 | °C | |
| Contr. Voltage | V _c | | -1 | | 9 | V | |

Electrical

| | | | | | | | |
|----------------------|-----------------|--|--------------------|--------------------------------------|---|---------------------------------|--------------------------------------|
| Frequency Range | F | CMOS Sine-wave | 30 30 | | 200 1,000 | MHz | |
| Input Voltage | V _{cc} | | 3.135 4.75 | 3.30 5.0 | 3.465 5.25 | V | 3 5 |
| Input Current | I _{cc} | | | | 90 160 | mA | @ 100 MHz, 3.3V @ 622 MHz, 3.3V |
| Frequency Stability | ΔF/F | vs. Temperature vs. V _{cc} aging | | ±50 ±2 ±0.1 ±0.5 | | ppb ppb/V ppm/year ppm | See chart First Year 15 years |
| Calibration | ΔF/F | As shipped, 25°C | | ±0.1 | | ppm | |
| Load | | CMOS Sine | | | 15pF/10KOhm Internally AC-coupled 50 Ohm | | |
| Duty cycle | | @50% | 45 | 50 | 55 | % | CMOS |
| Rise/Fall time | Tr/Tf | 20 to 80 % | | 3 | | ns | CMOS |
| Logic "1" level | V _{oh} | CMOS | 0.9V _{cc} | | | V | |
| Logic "0" level | V _{ol} | CMOS | | | 0.1V _{cc} | V | |
| Output power | P | Sinewave Into 50 Ohm | 0 4 | 3 7 | | dBm | 3.3V 5.0V |
| Start up time | T _s | | | 2 | 10 | ms | |
| Phase jitter | | 1σ | | 0.4 0.2 | 1 0.4 | ps | 100 Hz to 20 MHz 12 KHz to 20 MHz |
| Subharmonics | | Sine CMOS, Sine | | -45 | -40 none | dBc | F>250MHz F< 250 MHz |
| Spurious | | | | | -60 | dBc | |
| Harmonics | | Sine-wave | | -30 | -25 | dBc | |
| SSB Phase Noise | | @10 Hz @100 Hz @1 KHz @10 KHz @100 KHz | | -100 -125 -140 -160 -165 | | dBc/Hz | @100 MHz |
| SSB Phase Noise | | @10 Hz @100 Hz @1 KHz @10 KHz @100 KHz | | -80 -100 -120 -145 -150 | | dBc/Hz | @622 MHz; Sine |
| Input Impedance | | | | > 10KOhm | | | |
| Control voltage | V _c | | 0 | | 3.3 | V | |
| Modulation bandwidth | MB | | 100 Hz | | | | Contact Factory for wider MB |
| Deviation | | V _c =0V to 3.3V,25°C | ±0.5 | ±1.0 | | ppm | |



**FREQUENCY
CONTROLS, INC.**

357 Beloit Street, P.O. Box 457, Burlington, WI 53105-0457 U.S.A. Phone 262/763-3591 FAX 262/763-2881

Email: nelsales@nelfc.com www.nelfc.com

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Environmental and Mechanical

| | |
|------------------------------|---|
| Operating temp. range | 0°C to 70°C , -40°C to 85°C, see chart, page 1 |
| Mechanical Shock | Per MIL-STD-202, Method 213, Cond. E |
| Thermal Shock | Per MIL-STD-883, Method 1011, Cond. A |
| Vibration | Per MIL-STD-883, Method 2007, Cond. A |
| Soldering Conditions | 260°C for 10 s leads only |
| Hermetic Seal | Leak rate less than 5×10^{-8} atm.cc/s of helium |

Electrical Connections

| | |
|----------------|---|
| Pin Out | Pin #1- Voltage Control ; Pin #2 – Vref ; Pin #3 – Vcc; Pin#4 – Output, CMOS or Sine; Pin#5 - GND |
|----------------|---|

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