



OSCILLATORS

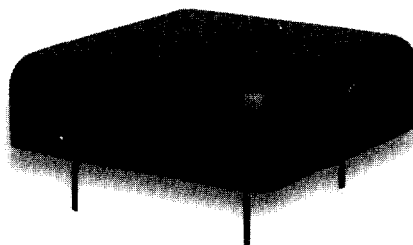
TCXO -- Models XO3050 to XO3059

Features:

- All output types
- Tight stabilities
- Wide frequency range
- Standard 1.5" x 1.5" x 0.5" hermetic package
- VCXO version available

Applications:

Commercial/industrial applications for avionics, instrumentation and communications.



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2525 Shader Road, P.O. Box 547859, Orlando, FL 32854-7859 Ph: (407) 298-2000 / Fax: (407) 293-2979

Specifications

| | Performance Parameters | | | |
|--------------------------------------|--|--|--|--|
| Output Type | SINE | HCMOS | TTL | ECL |
| Frequency Range | 3.2 to 160 MHz | 12.5 kHz to 50 MHz | 12.5 kHz to 70 MHz | 10 to 160 MHz |
| Aging | Dependent on frequency, as low as ± 0.5 ppm/year | | | |
| SSB Phase Noise | Noise floor as low as -150 dBc/Hz at >10 kHz offset Close in noise as low as -100 dBc/Hz at >10 Hz offset | | | |
| Power Supply | 3.3 to 15 V | | 5 to 15 V | ± 5.2 V |
| Frequency Adjust | Mechanical or electrical to compensate for >10 years of aging | | | |
| Output Signal Characteristics | 0 dBm (50 Ω) Opt: 10 dBm (50 Ω) Loads up to 1 k Ω | Duty cycle 45 to 55% Standard logic levels into standard loads | | |
| Environmental | Vibration: 10 g pk 10-500 Hz Shock: 50 g 11 msec 1/2 sine | | | |
| Pin Assignments | 1. RF output 2. Supply (+) 3. Case 4. Freq. adj. or case 5. Case | 1. RF output 2. Supply (+) 3. Case 4. Freq. adj. or case 5. +5 V or case | 1. RF output 2. Supply (+) 3. Case 4. Freq. adj. or case 5. +5 V or case | 1. RF output 2. Supply (+)* 3. Supply (-)* 4. Freq. adj. or case 5. Case |
| | *For negative ground, connect pin 3 to case; for positive ground, connect pin 2 to case. | | | |

Optional Temperature Ranges and Frequency Stabilities

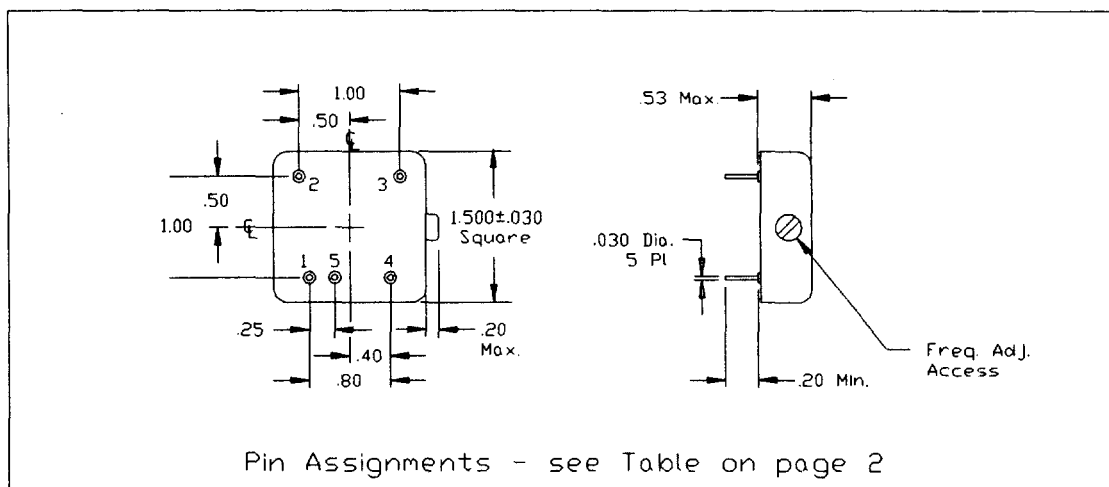
| Temperature Range ($^{\circ}$ C) | Frequency/Temperature Stability (ppm) | | | | | | |
|-----------------------------------|---------------------------------------|---------|---------|---------|------------|------------|------------|
| | ± 5 | ± 3 | ± 2 | ± 1 | ± 0.75 | ± 0.50 | ± 0.25 |
| +15 to +30 | X | X | X | X | X | X | X |
| 0 to +50 | X | X | X | X | X | X | X |
| 0 to +70 | X | X | X | X | X | X | |
| -20 to +70 | X | X | X | X | X | | |
| -40 to +75 | X | X | X | X | | | |
| -55 to +85 | X | X | X | X | | | |

This TCXO can be produced to these specifications, with extended temperature range and tighter stability being cost drivers.

XO3050-006 & XO3051-006 -- Standard Versions in Stock

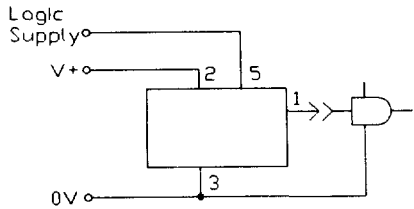
| | XO3050-006 | XO3051-006 |
|--|----------------------------------|---------------|
| Frequency | 10 MHz | |
| Temperature Range | -30 to +70°C | |
| Temperature Stability | ± 0.75 ppm | |
| Aging Per Year Aging Per 10 Years | ± 1.0 ppm max. ± 3.0 ppm max. | |
| SSB Phase Noise (dBc) at: | | |
| 10 Hz | -90 | |
| 100 Hz | -125 | |
| 1000 Hz | -140 | |
| 10000 Hz | -150 | |
| Power Supply: | | |
| Oscillator voltage | 5 V ± 0.25 V | 9.5 to 16.5 V |
| Oscillator current | 8 mA | 8 mA @ 10 V |
| Frequency Adjustment: | Internal | |
| Method | 10 yrs | |
| Output Signal: | | |
| Type | Squarewave | Sinewave |
| Level | HCMOS | +7 dBm ± 2 dB |
| Load | 2 gates | 50 ohms |
| Environmental: | | |
| Vibration | 10 g pk 10-500 Hz | |
| Shock | 50 g 11 mS ½ sine | |

Outline Drawing -- Series XO3050

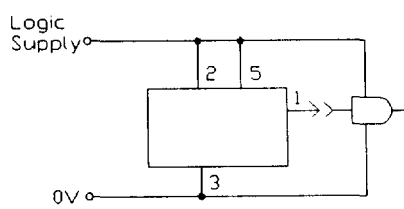


Typical Connections for Internal Aging Adjustment

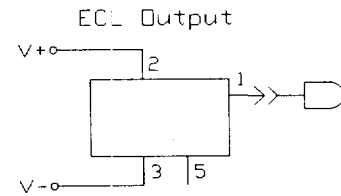
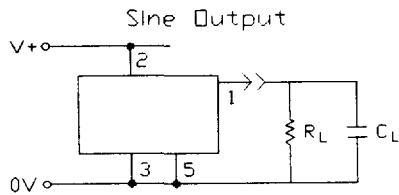
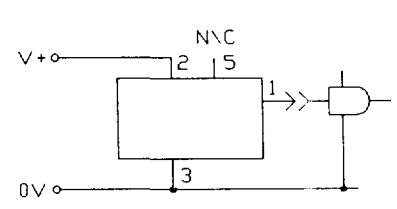
TTL/HCMOS Output
Separate Supplies



TTL/HCMOS Output
Common Supply



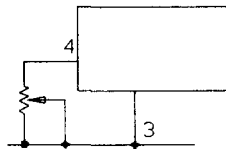
TTL/HCMOS
No Logic Supply Required



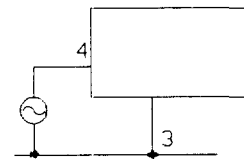
For neg. ground connect 3 to 5
For pos. ground connect 2 to 5

Optional External Aging Adjustment or VCXO Connections for All Output Types

External Potentiometer



VCXO



Specifications subject to change without notice.