

Oven Controlled Crystal Oscillators (OCXO's)

OC-290



Description:

Small SMD OCXO with tight stability.
AT and SC-cut versions available.

Features

- 5 MHz, 10 MHz, 13 MHz standard.
Other frequencies available from 2 to 80 MHz
- Stability as low as $\pm 5 \times 10^{-8}$ over 0°C to 50°C
- Aging: 1×10^{-9} per day
- Package: 25.4 x 22 x 10.5 mm
- Supply voltage: +3.3 or +5.0 V

Performance Characteristics

| Parameter | Characteristic |
|------------------------------|--|
| Frequency: | 10, 12.8, 16.384, 19.44, 20, 24.576, 20.48, 32.768, 38.88, 40 and 77.76 MHz Available from 2 MHz to 80 MHz |
| Package Size: | 25.4 x 22.0 x 10.5 mm (1.0" x 0.9" x 0.42") |
| Supply Voltage (Vdd): | C = 5 Vdc $\pm 5\%$ D = 3.3 Vdc $\pm 5\%$ (Other supply voltages are available upon request) |
| Supply Current: | <5W peak at turn-on, <1.25W stabilized @ 25°C (Temp Range B & D) <5W peak at turn-on, <1.5W stabilized @ 25°C (Temp Range F) |
| Output Type: | HCMOS, LVHCMOS Sinewave +0 dBm / 50 ohm 10 TTL |
| Standard Stability Options: | <p>B - 508 = $\pm 5 \times 10^{-8}$ over 0°C to +50°C B - 758 = $\pm 7.5 \times 10^{-8}$ over 0°C to +50°C *B - ST3 = Stratum 3 over 0°C to +50°C D - 758 = $\pm 7.5 \times 10^{-8}$ over -20°C to +70°C D - 107 = $\pm 1.0 \times 10^{-7}$ over -20°C to +70°C *D - ST3 = Stratum 3 over -20°C to +70°C F - 107 = $\pm 1.0 \times 10^{-7}$ over -40°C to +85°C *F - ST3 = Stratum 3 over -40°C to +85°C F - 507 = $\pm 5.0 \times 10^{-7}$ over -40°C to +85°C</p> <p>*STRATUM 3 per GR-1244-CORE Table 3-1 Total Stability: <math>4.6 \times 10^{-6}</math> for all causes and 10 years vs. Holdover: <math>3.2 \times 10^{-7}</math> for all causes and 24 hours vs. Temperature: <math>2.8 \times 10^{-7}</math> peak to peak</p> |
| Note: | Not all stabilities are available with all frequency/output combinations. Please consult factory. |
| Stability vs. Supply: | <5 pb for a 1% change in Supply Voltage |
| Aging: | A: 1×10^{-8} /day, 2×10^{-6} /year C: 1×10^{-9} /day, 3×10^{-7} /year B: 3×10^{-9} /day, 1×10^{-6} /year N: PTR Stratum 3 |
| Electrical Frequency Adjust: | 10×10^{-6} typical range (with Aging A or B) 2×10^{-6} typical range (with Aging C) (with F ; no frequency adjustment) |
| Initial Accuracy @ +25°C: | ± 1.5 ppm max after reflow |

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Outline Drawing



Pad Layout



Pin Out Information

| | |
|---|-------------------------------|
| 1 | Control voltage VC |
| 2 | Reference voltage output VREF |
| 3 | Supply voltage VB |
| 4 | RF-output |
| 5 | Ground, case |

Recommended Soldering Profile



Ordering Information

OC - 290 - C A C - 508 C A - 10.0 MHz

Product Family
OC = OCXO

Package
290 = 25.4X22 mm SMD package

Input
C = 5.0V ±5%
D = 3.3V ±5%

Output
A = HCMOS, LVHCMOS
B = 10 TTL
G = Sinewave

Temperature Range
B - 508 = $\pm 5 \times 10^{-8}$ over 0°C to +50°C
B - 758 = $\pm 7.5 \times 10^{-8}$ over 0°C to +50°C
*B - ST3 = Stratum 3 over 0°C to +50°C
D - 758 = $\pm 7.5 \times 10^{-8}$ over -20°C to +70°C
D - 107 = $\pm 1.0 \times 10^{-7}$ over -20°C to +70°C
*D - ST3 = Stratum 3 over -20°C to +70°C
F - 107 = $\pm 1.0 \times 10^{-7}$ over -40°C to +85°C
*F - ST3 = Stratum 3 over -40°C to +85°C
F - 507 = $\pm 5.0 \times 10^{-7}$ over -40°C to +85°C

Frequency
2 MHz to 80 MHz

Electrical Frequency Adjust
A: 10×10^{-6} typical range (with Aging A or B) or 2×10^{-6} typical range (with Aging C)
F: Fixed frequency. See initial accuracy.

Aging
A = 1×10^{-8} /day, 2×10^{-6} /year
B = 3×10^{-9} /day, 1×10^{-6} /year
C = 1×10^{-9} /day, 3×10^{-7} /year
N = PTR Stratum 3