

4 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -90 dBc/Hz and SMA

FMXC7003 is a 4,000 MHz Phase-Locked Oscillator with an external 10 MHz Reference Oscillator. This design features exceptional phase noise performance of -90 dBc/Hz @ 10 kHz offset. Supply Voltage is +12V DC @ 150 mA typ. The PCB solder assembly is RoHS compliant and available in a compact coaxial package that's Nickel plated and supports SMA connectors with DC bias pins and a TTL Lock Detect pin available to signal an out-of-lock condition. The reference oscillator has an output power level of +7 dBm +/-2 dB and 2nd harmonic output of -35 dBc typical. The reference oscillator operates over a temperature range of -30°C to +70°C and is designed to meet a variety of MIL-STD-202 test conditions including Humidity, Shock, and Vibration.

Electrical Specifications

| Description | Min | Typ | Max | Units |
|---------------------------------|----------------------|------|------|--------|
| Output Frequency | | 4 | | GHz |
| Output Impedance | | 50 | | Ohms |
| Output Power | +5 | +7 | +9 | dBm |
| Phase Noise @ 1kHz Offset | | -80 | -75 | dBc/Hz |
| Phase Noise @ 10kHz Offset | | -90 | -85 | dBc/Hz |
| Phase Noise @ 100kHz Offset | | -115 | -110 | dBc/Hz |
| Phase Noise @ 1MHz Offset | | -135 | -130 | dBc/Hz |
| Reference Frequency | | 10 | | MHz |
| Reference Impedance | | 50 | | Ohms |
| Ref. Input Power | +4 | +7 | +10 | dBm |
| Ref. Phase Noise @ 10Hz Offset | | -110 | | dBc/Hz |
| Ref. Phase Noise @ 100Hz Offset | | -130 | | dBc/Hz |
| Ref. Phase Noise @ 1kHz Offset | | -145 | | dBc/Hz |
| 2nd Harmonics | | -35 | -30 | dBc |
| Spurious | | -70 | -65 | dBc |
| Lock Detect | 5 VDC TTL, High=Lock | | | |
| Supply Voltage (DC) 1 | | 12 | | Vdc |
| Supply Current (DC) 1 | | 150 | 200 | mA |

Mechanical Specifications

| | |
|---------------------------|----------------------|
| Size | |
| Length | 2 in [50.8 mm] |
| Width | 1.5 in [38.1 mm] |
| Height | 0.6 in [15.24 mm] |
| Weight | 0.0995 lbs [45.13 g] |
| Body Material and Plating | Aluminum |

Configuration

| | |
|------------------|---------------|
| Design | Commercial |
| Reference Type | External |
| Package Style | Connectorized |
| Input Connector | SMA Female |
| Output Connector | SMA Female |



Features:

- 4,000 MHz Phase-Locked Oscillator
- External 10 MHz Reference Oscillator
- -90 dBc/Hz @ 10kHz offset
- Pout +7 dBm
- Harmonics -35 dBc
- Designed to meet MIL-STD-202 Environmental Conditions

Applications:

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems

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Environmental Specifications

Temperature

Operating Range

-30 to +70 deg C

Shock

IAW MIL-STD-202, Method 213, Condition A

Vibration

IAW MIL-STD-202, Method 204, Condition A

ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

4 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -90 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [4 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -90 dBc/Hz and SMA FMXC7003](#)

URL: <https://www.fairviewmicrowave.com/4-ghz-phase-locked-oscillator-external-fmxc7003-p.aspx>

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