

MOS SERIES: 0.1 GHz TO 20 GHz



FEATURES

- Full band 0.1 GHz to 20 GHz low phase noise options available in smaller output frequency bands
- Third-rack space wide band connector
- Multi-octave
- 1 kHz standard step size
- INTELSAT phase noise compliant
- Field tested reliability
- Low power dissipation
- MIL-STD-188-164A microphonic compliant
- ETSI 300019-1-4 shock and vibration compliant

OPTIONS

- Custom frequency bands
- Fixed LO frequencies
- Custom step sizes
- Custom packaging
- Low phase noise option
- Available in modular form

Narda-MITEQ's MOS Series of multi-octave wide bandwidth, low phase noise synthesizers offer an economical solution for lab environment, and communication test applications. In addition to the 1 kHz step size the MOS series synthesizers provide optional fast switching. Narda-MITEQ's field-tested design, and low power dissipation leads to lower MTBF and higher reliability.

ELECTRICAL SPECIFICATIONS

Output frequency range	Tunable 0.1 GHz to 20 GHz (custom band available)
Step size	1 kHz (Note 3, 4)
Output power	+13 dBm minimum
Output power variation	±2dB maximum
Input reference frequency	10 MHz (Note 5)
Input power level	0 ±3 dBm
Output spurious	
In-band	-65 dBc minimum
Out-of-band	-65 dBc minimum
Phase noise	See graph (Note 6)
Offset from carrier	At 2.93 GHz
10 Hz	-55 dBc
100 Hz	-65 dBc
1 kHz	-75 dBc
10 kHz	-85 dBc
100 kHz	-90 dBc
1 MHz	-100 dBc
10 MHz	-120 dBc
Output harmonic	-15 dBc typical
Output impedance	50 ohm nominal
Load VSWR	2.0:1 maximum, all phases
Noise and ripple	10 mV, peak-to-peak maximum
Frequency control	RS-485 (4 wire), RS-422, Ethernet Parallel

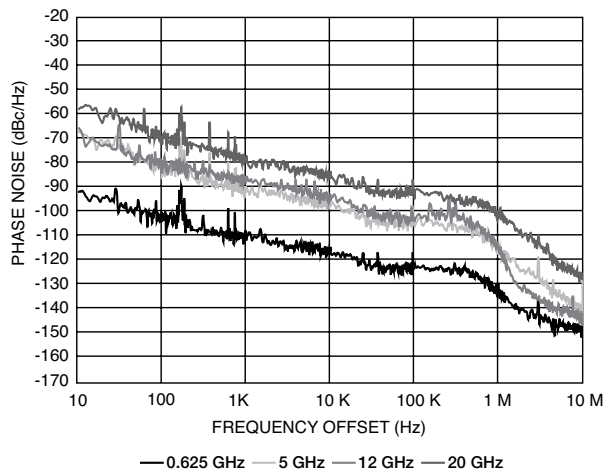
ELECTRICAL SPECIFICATIONS

	Tunable
Acquisition time (to phase lock)	300 ms typical, 750 ms maximum
Summary alarm	In lock TTL 1
VCO lock voltage	2 volts to 11 volts
AC power	+90 volts to +250 VAC, 12 W typical
Outline drawing	175415

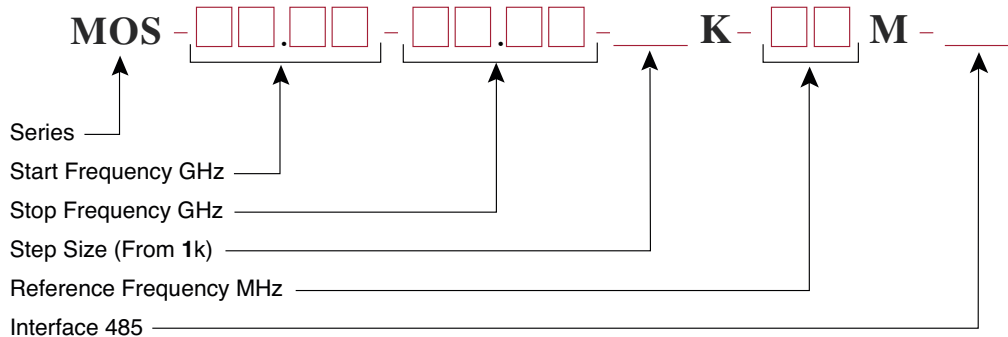
Notes:

1. Custom frequency bands available, please contact Narda-MITEQ.
2. Fixed LO frequencies available from 780 MHz to 1700 MHz in 10 MHz integers.
3. Frequency accuracy $\pm 2.95 \times 10^{-9}$.
4. Other reference frequency options available, please contact Narda-MITEQ.
5. Close in phase noise dependent on reference.
6. High performance phase noise available as option.

TYPICAL PHASE NOISE



ORDERING INFORMATION



EXAMPLE: MOS-0.1-20.0-1k-10M-485 part number for frequency synthesizer covering 0.1 GHz to 20 GHz with a step size of 1 KHz and a reference frequency of 10 MHz and a RS-485 interface.

MECHANICAL SPECIFICATIONS

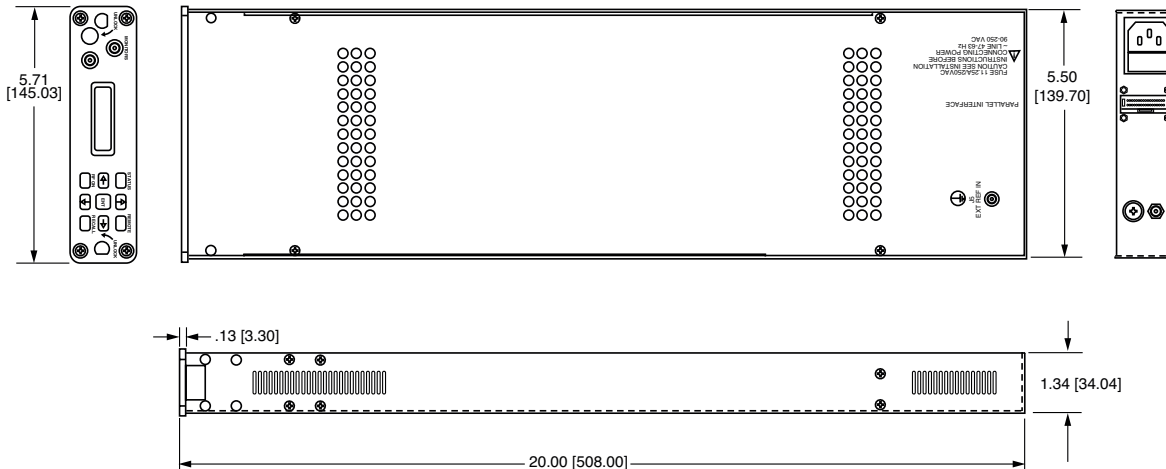
Outline drawing 175415
 Weight 1.5 pounds typical
 RF connectors SMA female
 Control connector..... 34-pin header for parallel operation.
 Ethernet, through RJ45,
 9-pin D for RJ402.

ENVIRONMENTAL SPECIFICATIONS

Temperature
 Operating -10 °C to +70 °C (Note 7)
 Storage -55 °C to +95 °C
 Humidity Up to 95% at 40 °C noncondensing
 Shock (nonoperating) 30 g's, 10 ms pulse
 Vibration (survival) 20 Hz to 2000 Hz random to .04 G²/Hz
 Altitude Up to 13,500 feet
 100% testing..... Frequency range
 Output power
 Discrete power
 Spectral purity
 Phase bursts
 Alarm and monitors
 100% screening Temperature cycle/monitor

OUTLINE DRAWINGS

175415



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 4. Other reference frequency options available, please contact Narda-MITEQ.
 5. Close in phase noise dependent on reference.
 6. High performance phase noise available as option.
 7. Wider operating temperature ranges are available, please contact Narda-MITEQ 8.
- Dimensions shown are in inches and those shown in brackets [] are in millimeters.

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