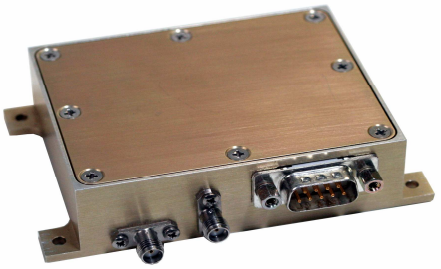
MICROSOURCE, INC.
Excellence by Design
A Giga-tronics Company

WIDEBAND LOW NOISE SYNTHESIZERS
2.1 TO 5.0 GHZ SERIES

FEATURES
Wide Frequency Coverage
Compact Size
Low Phase Noise & Spurious
Designed for Military Environments

APPLICATIONS
Ideal for ATE
Frequency Converters
SatCom
Telecom



DESCRIPTION
The SNY-0205-510-01 is a low noise, wide tuning range synthesizer in a compact size suitable for VXI or PXI applications. Extremely cost effective for the frequency coverage, this unit provides phase noise and spurious response that is unmatched in wide-band VCO based synthesizers. An optional feature is for the last frequency set prior to power turn-off being the start-up frequency at power turn-on.

Parameters		Model # / Units	SYN-0204-510-01 Specification Limit		SNY-0205-510-01 Specification Limit	
General						
Nominal Frequency Range		GHz	2.1.0 to 4.0		2.1 to 5.0	
Tuning Step Size		kHz	125		125	
Power Level		dBm, min.	17		17	
Power Variation (Freq & Temp.)		dB, max	+/- 1.5		± 2	
Harmonic Level		dBc, typ	-12		-12	
Spurious Level (< 100 kHz from Carrier)		dBc, max	-70		-70	
Switching Speed		mSec, typ.	100		100	
Output Impedance		Ohms	50		50	
Phase Noise	**Offset Freq.**		Typical	Maximum	Typical	Maximum
SSB Phase Noise	100 Hz*	dBc/Hz	-77	-70	-77	-70
	1 kHz*	dBc/Hz	-87	-81	-85	-80
	10 kHz	dBc/Hz	-97	-91	-95	-90
	100 kHz	dBc/Hz	-131	-120	-129	-120
	1 MHz	dBc/Hz	-146	-140	-146	-140
Frequency Reference						
External		MHz	10		10	
PowerLevel		dBm	0 ± 3		0 ± 3	
Input Impedance		Ohms	50		50	
Digital Interface						
Tuning Format		Serial	Serial TTL/CMOS		Serial TTL/CMOS	
Serial Bits			16 bit Binary Channel, 3 wire (Preceeded by ASCII "C")		16 bit Binary Channel, 3 wire (Preceeded by ASCII "C")	
Phase Lock Indicator		TTL	High=Lock		High=Lock	
DC Power						
Volts = +15.00		Amps, typ.	0.5		0.53	
Volts = +5.00		Amps, typ.	0.15		0.20	
Packaging & Environmental						
Operational CaseTemperature		Degrees C	0 TO +60		0 TO +60	
Humidity		% RH, max	95		95	
Altitude		Feet ASL	10,000		10,000	
Weight		Oz., typ	12		12	
Size (See attached figure)		Inches	3.81 x 2.56 x 0.94		3.81 x 2.56 x 0.94	

* Phase Noise at 100 Hz and 1 kHz is dependent on the performance of the 10 MHz reference signal.

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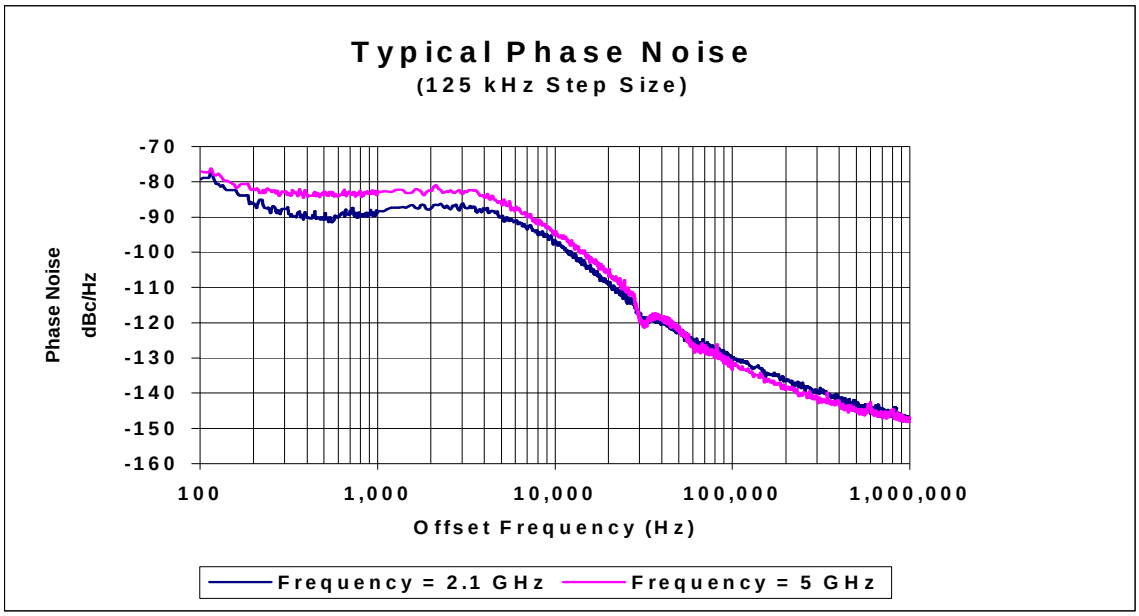
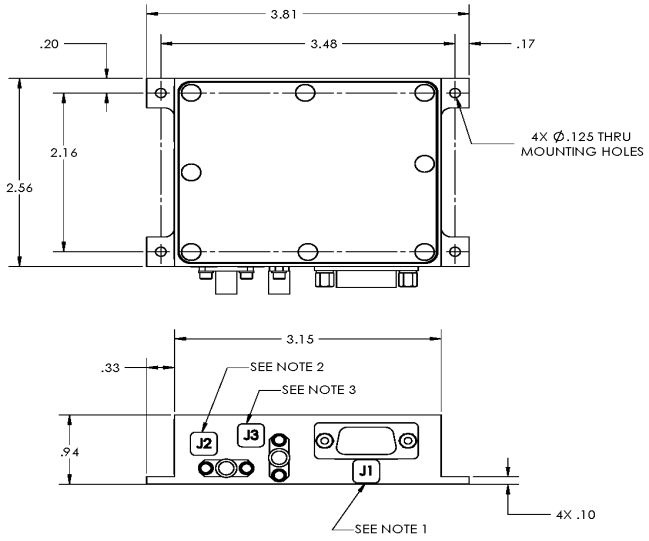
SSB Phase Noise Performance



Envelope Drawing



NOTES:

1. J1 - SEE CONNECTION TABLE:
   9-PIN D-SUBMINIATURE CONNECTOR - MALE PINS
2. J2 - RF OUT:
   SMA CONNECTOR - FEMALE RECEPTACLE
3. J3 - 10 MHz REF. INPUT:
   SMA CONNECTOR - FEMALE RECEPTACLE

PIN	FUNCTION (J1)
1	CLOCK
2	DATA
3	ENABLE
4	LOCK DET OUT
5	N/C
6	+15 VDC
7	+5 VDC
8	COMMON
9	LOGIC COMMON

Customer Specific Applications

If you don't see what you need, contact us. MicroSource takes pride in being a world class, fast turn design center for microwave YIG based component, subsystems and synthesizers.

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