



# ULTRA LOW NOISE SYNTHESIZER MODULES

## SNP 520 SERIES, 6 TO 24 GHz

### FEATURES

Ultra Low Phase Noise  
 Operating Bands to 4 GHz (Wider Optional)  
 Internal Reference (Ext. Optional)  
 Compact Size  
 Single Supply Voltage

### APPLICATIONS

Ideal for ATE  
 Frequency Converters  
 SatCom  
 Telecom

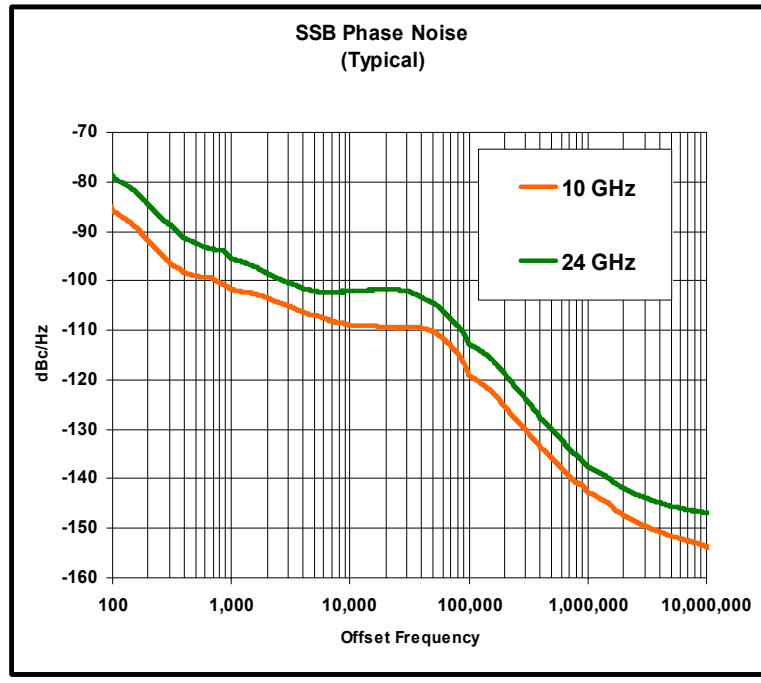
### DESCRIPTION

The SNP 520 Series are ultra low phase noise synthesizer modules having tuning ranges to 4 GHz in compact chassis. The phase noise performance achieved by this series equals that found in high-end T&M rack mounted synthesizers. An additional feature of this synthesizer series is that they require only a single +15 VDC Power supply.

Parameters	Model # SNP -	0608-520-01	0810-520-01	1012-520-01	1216-520-01	1620-520-01	2024-520-01
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Nominal Frequency Range	GHz	6.0 - 8.0	8.0 - 10.0	10.0 -12.0	12.0 -16.0	16.0 -20.0	20.0-24.0
SSB Phase Noise	100 Hz	dBc/Hz, typ. -89	-87	-85	-83	-81	-79
	1 kHz	dBc/Hz, typ. -104	-102	-100	-98	-96	-95
	10 kHz	dBc/Hz, typ. -110	-108	-106	-104	-103	-101
	100 kHz	dBc/Hz, typ. -123	-120	-119	-117	-115	-113
	1 MHz	dBc/Hz, typ. -145	-143	-141	-140	-139	-138
Sub-harmonic Level (0.5 & 1.5 Fo)	dBc, max	N/A	N/A	N/A	-30	-30	-30

Common, all models		
<b>Output Characteristics</b>		
Tuning Step Size (Resolution)	Hz	1
Power Level	dBm, min.	17
Power Variation (Freq & Temp)	dB, max	+/- 2.0
Harmonic Level	dBc, max.	-25
Spurious Level (>100kHz from Carrier)	dBc, max	-70
Switching Speed	mSec, nom	25
Output Impedance	Ohms	50
<b>Internal Frequency Reference</b>		
Temperature Stability	+/- PPM	0.5
Aging	PPM/year	1
<b>Digital Interface</b>		
Tuning Format		Serial TTL/CMOS
Serial Bits		ASCII, 3 Wire
Phase Lock Indicator	TTL	High=Lock
<b>DC Power</b>		
Volts = +15.00	Amps, typ	1.5
Warm-Up Surge Current	Amps, max	0.35
<b>Packaging &amp; Environmental</b>		
Operational Case Temperature	Degrees C	0 TO +60
Humidity	% RH, max	95
Altitude	Feet ASL	10,000
Weight	Oz., typ	35
Dimensions	Inches	5.00 x 5.50 x 1.60



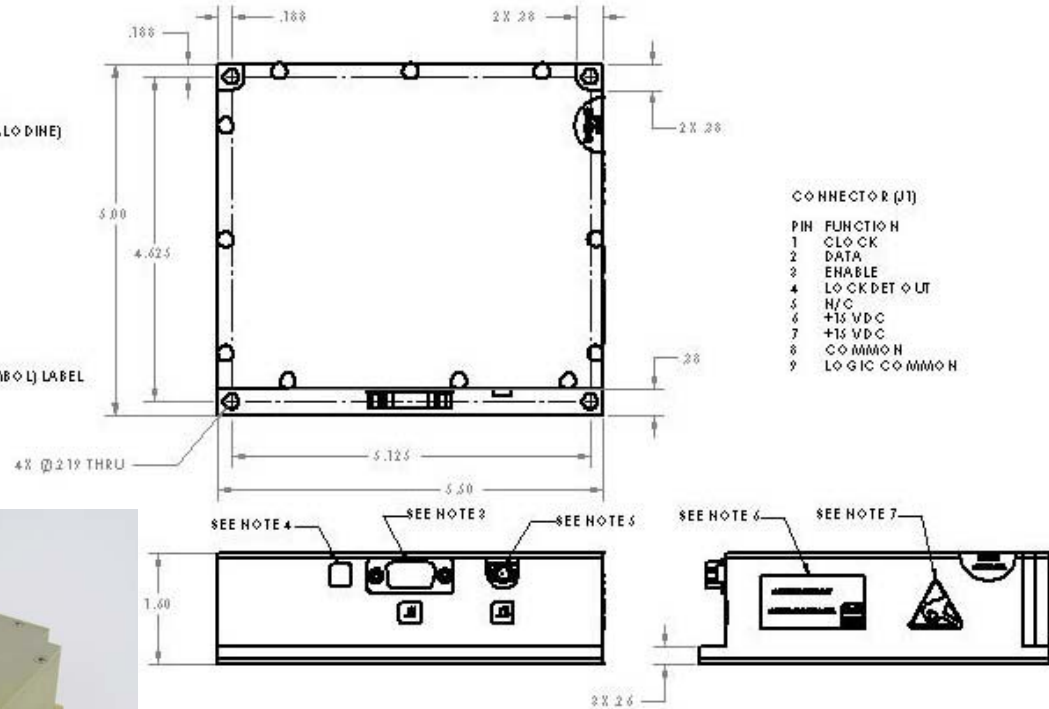
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## Envelope Drawing

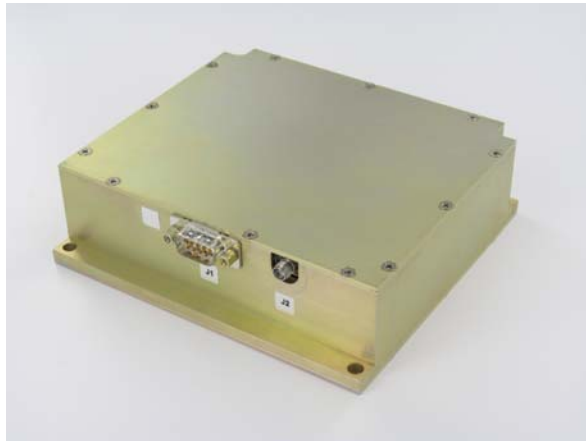
**NOTES:**

1. CHASSIS AND COVER PLATES:  
 MATERIAL: 6061-T6 ALUMINUM ALLOY  
 CORROSION PROTECTION:  
 CHEMICAL CONVERSION COATING (ALODINE)  
 COLOR: GOLD
2. WEIGHT: 35 OZ.
3. CONNECTOR (J1):  
 9-PIN D-SUBMINIATURE - MALE PINS
4. CONNECTOR (J2) REMOVED:  
 INTERNAL REFERENCE ONLY
5. CONNECTOR (J3):  
 SUPER SMA - JACK, RF OUT
6. IDENTIFICATION LABEL
7. ESDS (ELECTROSTATIC DISCHARGE SYMBOL) LABEL



**CONNECTOR (J1)**

PIN	FUNCTION
1	CLOCK
2	DATA
3	ENABLE
4	LOCK DET OUT
5	N/C
6	+5 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.