CNS7109

Coaxial Amplified Noise Source

available from stock

5 MHz to 500 MHz

Description

The CNS7109 noise module is designed for a wide range of applications. It features high noise output amplitude for uses ranging from encryption to jamming. All biasing and amplification circuitry is built-in making it easy to design into your system. It features a built-in voltage regulator for highly stable output even if your DC supply lines are not.

Applications

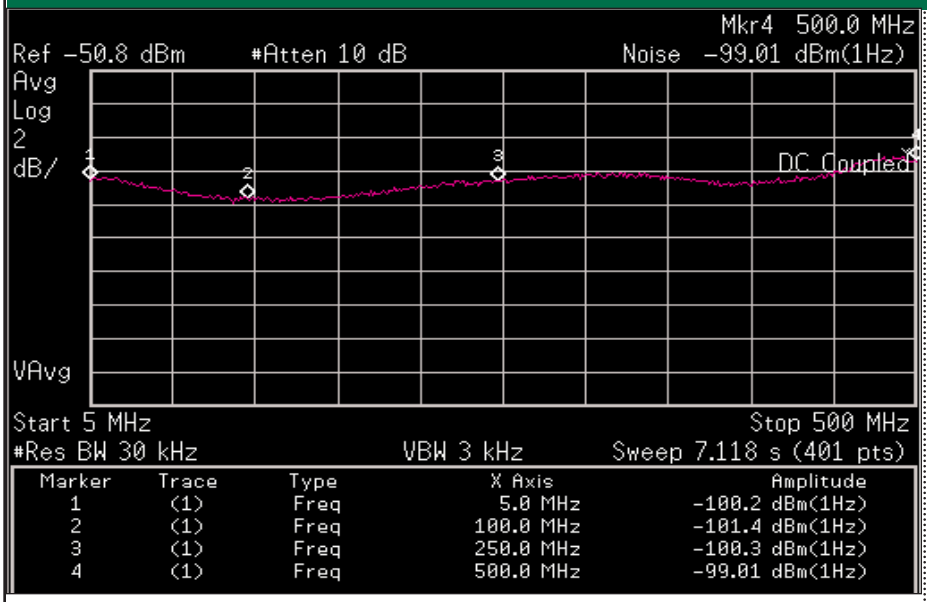
Common Noise Applications

1. *Built-in IF Testing:*
Highly stable flat over frequency noise sources serve to provide built-in test for an IF subsystem. By injecting a stable signal reference through the IF chain, one can calibrate the gain/loss and frequency response. In addition, the noise source can be used to set up Eb/No for built-in stimulated BER testing of digital demodulation.

1. Barrage Jamming:
The noise source is fed into the tuning port of a VCO via a bias tee and a positive DC voltage. The random nature of noise makes the output of the VCO to hop around in a given frequency band randomly making an ideal jamming signal. Further circuitry can be used between the noise source and tuning port to shape the noise probability density function (PDF) for the desired jamming effect.

2. Random Number Generation for Encryption:
Noise sources being truly random (not pseudorandom) give the ultimate in secure communication because of their ability to generate a truly random number pattern. This can be used to seed an encryption key for authentication. The noise signal can be fed directly into an A/D converter for sampling or a simpler techniques might use a comparator. Further shaping of the noise is often employed whether either analog if in front of the A/D converter or afterwards using DSP.

CNS7109 Typical Data



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.0 MHz	-100.2 dBm(1Hz)
2	(1)	Freq	100.0 MHz	-101.4 dBm(1Hz)
3	(1)	Freq	250.0 MHz	-100.3 dBm(1Hz)
4	(1)	Freq	500.0 MHz	-99.01 dBm(1Hz)

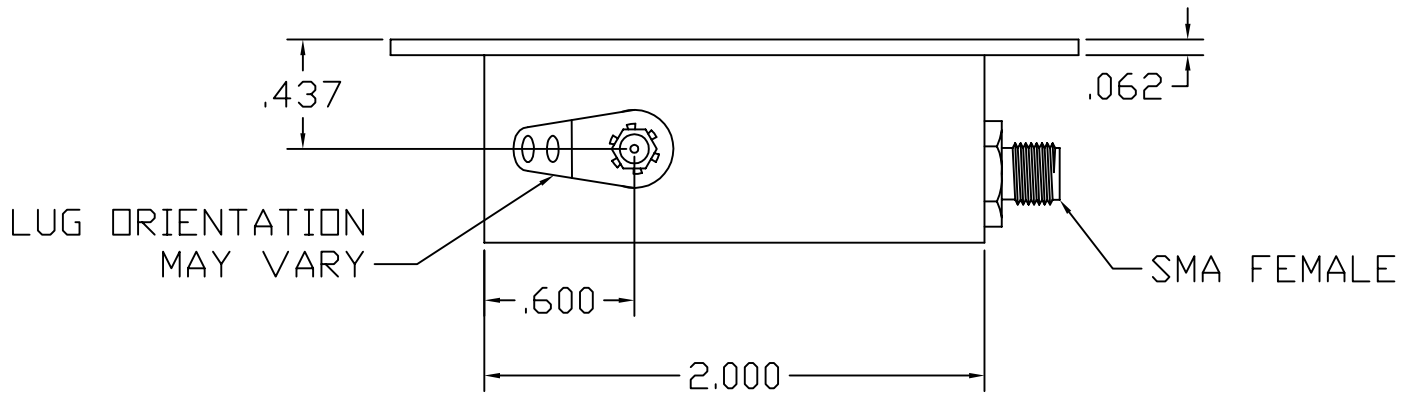
Specifications

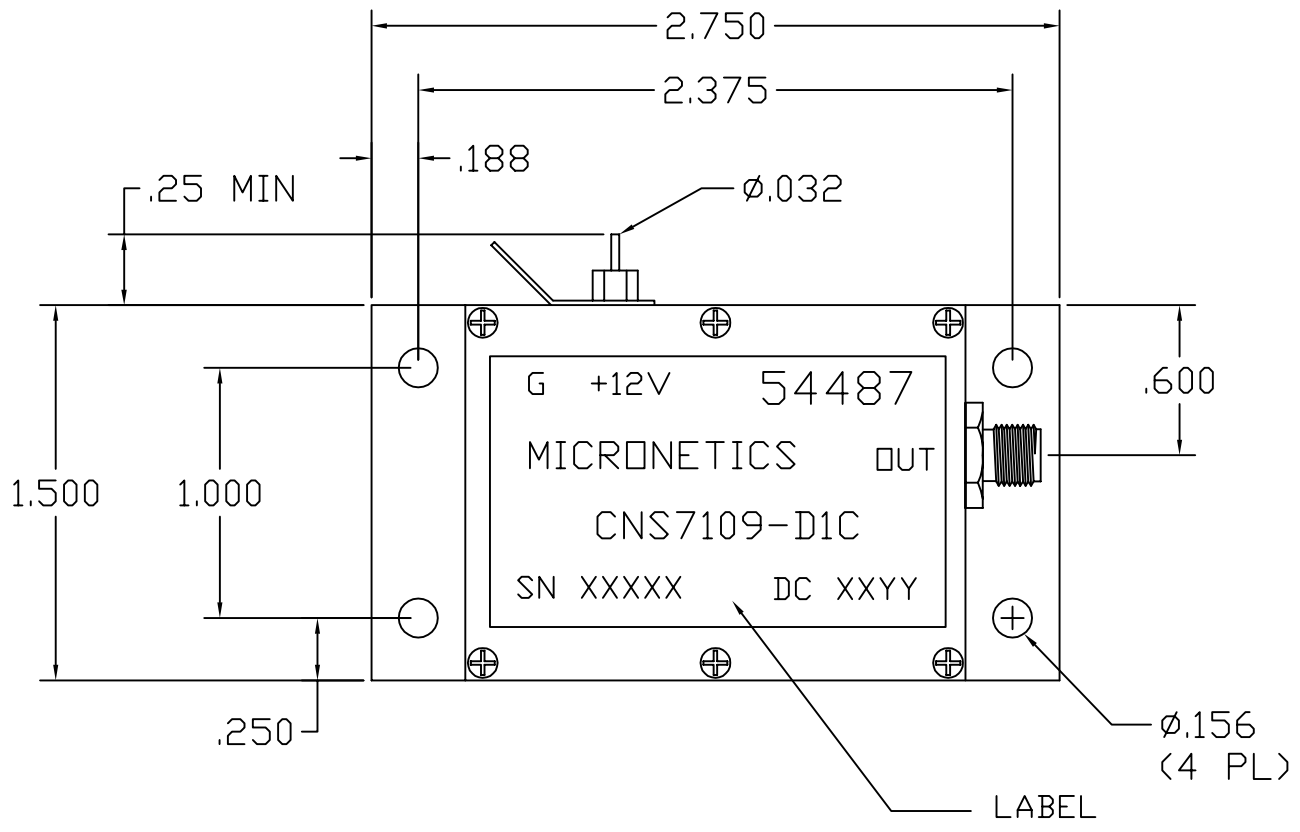
- Frequency: 5 MHz to 500 MHz
- Noise Power Spectral Density (N_0): -103 dBm/Hz (min)
- Noise Power (N): -16 dBm
- Spectral Flatness: 3 dB (total window)
- Bias: 12 Vdc, Internally Regulated
- Current Draw: 50 mA Max
- Peak Factor: 5:1
- Operating Temp: -55 to +85 C
- Storage Temp: -55 to 125 C

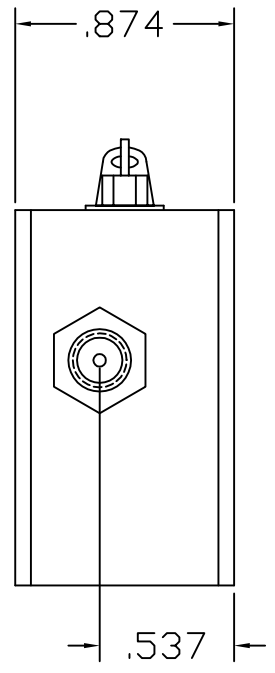
MICRONETICS
NOISE PRODUCTS

MICRONETICS, HUDSON, NH 03051 / TEL: 603-883-2900 / FAX: 603-882-8987 / NOISESALES@MICRONETICS.COM WWW.MICRONETICS.COM

REVISIONS							
ZONE	REV.	ECO NO.	DESCRIPTION	DATE	APPROVED ENG.	QC.	MFG.
	1		ENGINEERING RELEASE				







NOTES

1. FINISH: IRRIDITE

UNLESS OTHERWISE SPECIFIED	DRAWN BY B. ALEXANDER	DATE 11/4/05	MICRONETICS, INC. 26 HAMPSHIRE DRIVE * HUDSON, N.H. 03051 TEL.: (603) 883-2900 * FAX: (603) 882-8987
DIMENSIONS ARE IN INCHES TOLERANCES ON FINISH: 63 ANGLES: ±1/2° FRACTIONS: ±1/64 4 PLACE DECIMALS: ±.0005 3 PLACE DECIMALS: ±.005 2 PLACE DECIMALS: ±.015	CHECKED BY	DATE	TITLE OUTLINE DRAWING CNS7109-D1C
COMMERCIAL PUBLISHED TOLERANCES SHALL APPLY TO TUBING, BAR, PLATE ETC. ALL THREADS TO BE CLASS 2A OR 2B. PLATED PARTS MUST FIT GAUGES AND MEET SPECIFIED TOLERANCES AFTER PLATING.	ENGINEER	DATE	SIZE B / FSCM NO. 54487 / DWG NO. CNS7109-D1C-70
CAUTION UNLESS THIS DRAWING BEARS AUTHORIZED SIGNED APPROVAL(S) IT IS PRELIMINARY AND IS NOT TO BE USED FOR MANUFACTURING PURPOSES.	THIRD ANGLE PROJECTION	THIS DRAWING CONTAINS MATERIAL PROPRIETARY TO MICRONETICS	SCALE N/A / SHEET 1 OF 1
	DO NOT SCALE DRAWING		

B SIZE FORM NO	REVISION & ECO NO.
MWF-03-103	REV. A ECO 03-185