CNS7108

COAXIAL AMPLIFIED NOISE SOURCE

50 KHZ TO 100 MHZ

available from stock

DESCRIPTION

The CNS7108 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.
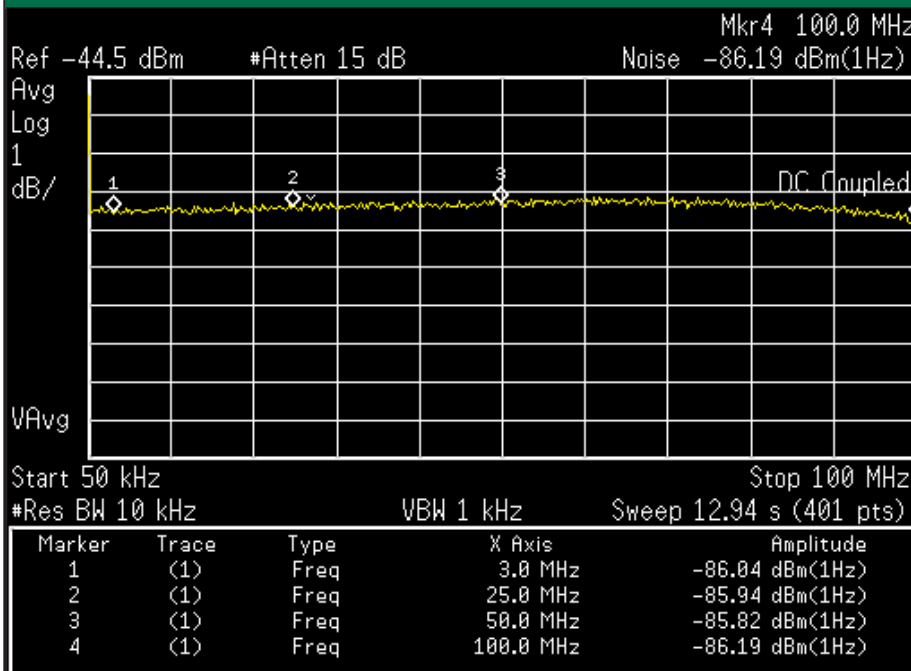
1. *Barrage Jamming:*
The noise source is fed into the tuning port of a VCO via a bias tee and a positive DC voltage. The random nature of noise makes the output of the VCO to hop around in a given frequency band randomly making an ideal jamming signal. Further circuitry can be used between the noise 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.

CNS7108 TYPICAL DATA

Ref −44.5 dBm	#Atten 15 dB	Mkr4 100.0 MHz Noise −86.19 dBm(1Hz)

Avg Log 1 dB/ ... DC Coupled

VAvg

Start 50 kHz — Stop 100 MHz
#Res BW 10 kHz — VBW 1 kHz — Sweep 12.94 s (401 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	3.0 MHz	−86.04 dBm(1Hz)
2	(1)	Freq	25.0 MHz	−85.94 dBm(1Hz)
3	(1)	Freq	50.0 MHz	−85.82 dBm(1Hz)
4	(1)	Freq	100.0 MHz	−86.19 dBm(1Hz)

SPECIFICATIONS

- Frequency: 50 kHz to 100 MHz
- Noise Power Spectral Density (No): -87 dBm/Hz (min)
- Noise Power (N): -7 dBm
- Spectral Flatness: 2 dB (total window)
- Bias: 12 Vdc , Internally Regulated
- Current Draw: 50 mA Max
- Peak Factor: 5:1
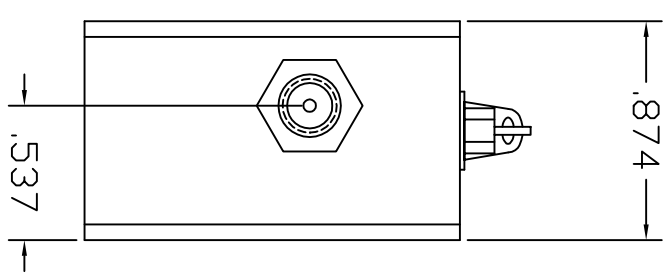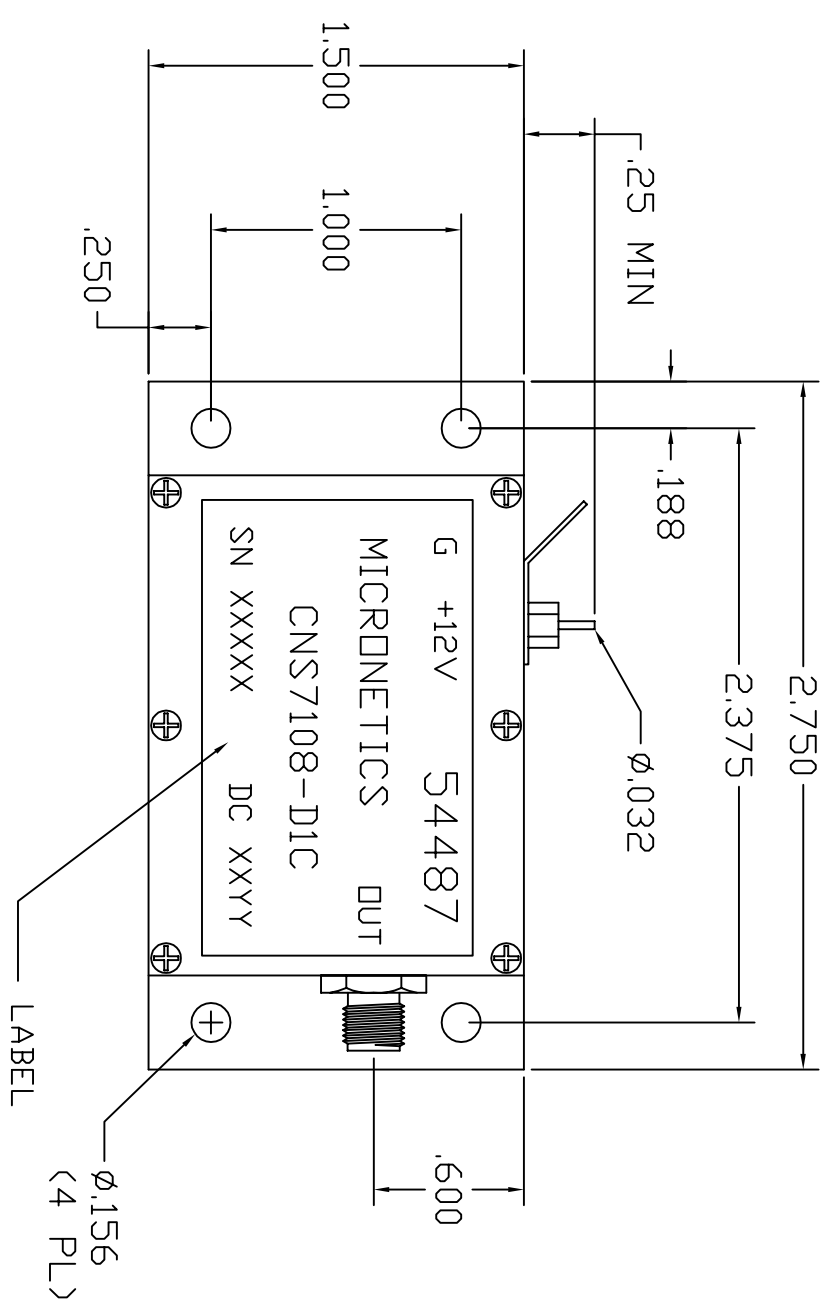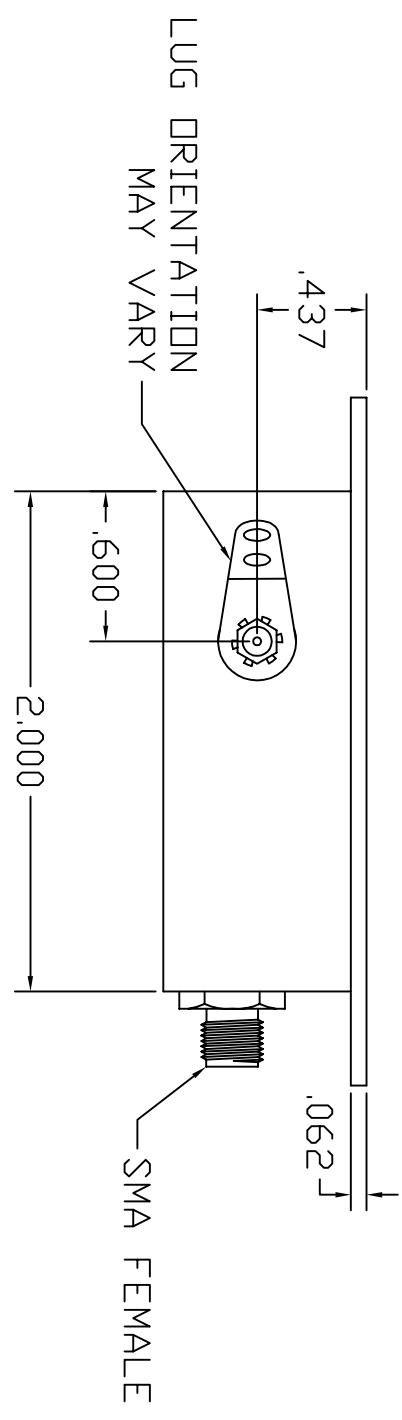- Operating Temp: -55 to +85 C
- Storage Temp: -55 to 125 C

MICRONETICS
NOISE PRODUCTS

NOTES

1. FINISH: IRIDITE

LUG ORIENTATION
MAY VARY

1.500

1.000

.250

.25 MIN

.188

2.375

2.750

.437

.600

2.000

.062

ø.032

G +12V   54487
MICRONETICS
CNS7108-D1C
SN XXXXX   OUT
        DC XXYY

LABEL

ø.156
(4 PL)

.600

SMA FEMALE

.537

.874

DRAWN BY   DATE
B. ALEXANDER   11/4/05
CHECKED BY   DATE
ENGINEER   DATE

THIS DRAWING CONTAINS
MATERIAL PROPRIETARY TO
MICRONETICS

THIRD ANGLE
PROJECTION

DO NOT SCALE DRAWING

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TITLE
OUTLINE DRAWING
CNS7108-D1C

SIZE   FSCM NO.   DWG NO.
B   54487   CNS7108-D1C-70

SCALE N/A   SHEET 1 OF 1

REVISIONS

ZONE	REV.	ECO NO.	DESCRIPTION	DATE	APPROVED
1			ENGINEERING RELEASE		

ENG: QC: MFG.

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

REVISION &
ECO NO.