

nc5000 series

18 GHz to 110 GHz

4

PRECISION

CALIBRATED

MILLIMETER-WAVE

WAVEGUIDE NOISE

SOURCES



General Specifications:

Noise output rise and fall times	Less than 1 μ s
Noise output variation with temperature	Less than 0.01 dB/ $^{\circ}$ C
Noise output variation with voltage	Less than 0.1 dB/1 % Δ V
Operating temperature	0 to +85 $^{\circ}$ C
Input power	+28 VDC at 30 mA max

Specifications subject to change without notice.

The **NC5000 Series** noise sources feature outstanding stability, switching speed, and ripple-free response over standard waveguide bands. The high stability of the **NC5000 Series** allows these units to be used in place of cumbersome gas tube noise sources.

Ripple in the output of noise sources has a direct effect on measurement accuracy, so Noise Com has tailored the response of the **NC5000 Series** so that ripple is minimized throughout the specified frequency range.

The **NC5000 Series** is available with noise output of 15.5 dB for instrumentation (noise figure meter) applications, as well as in narrow and full waveguide bands with 15 to 25 dB ENR output. The standard input bias connector is BNC female; others are available.

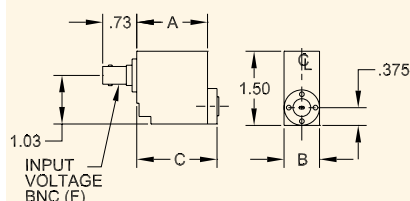
Applications:

- Noise figure measurement
- Built-in test equipment (BITE)
- Military applications
- Radiometers

NOISE/COM

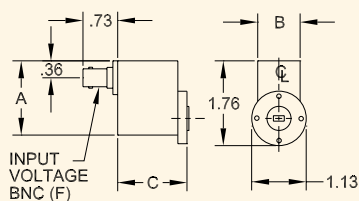
www.noisecom.com

NC5000 Series Dimensions (inches)



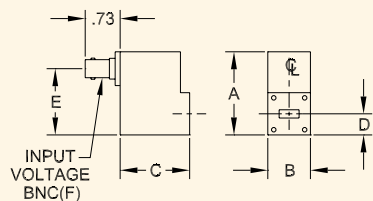
WAVEGUIDE	DIM A (in.)	DIM B (in.)	DIM C (in.)
WR15	1.78	0.76	1.96
WR10	1.50	0.76	1.70

NC5000 Series Dimensions (inches)



WAVEGUIDE	DIM A (in.)	DIM B (in.)	DIM C (in.)
WR22	1.51	0.75	1.31
WR19	1.51	0.75	1.31

NC5000 Series Dimensions (inches)



WAVEGUIDE	DIM A (in.)	DIM B (in.)	DIM C (in.)	DIM D (in.)	DIM E (in.)
WR42	1.72	0.88	1.44	0.44	1.38
WR28	1.55	0.75	1.30	0.38	1.20

NOISE FIGURE METER-COMPATIBLE—FULL BAND

MODEL	FREQUENCY RANGE (GHz)	NOISE OUTPUT ENR (dB)	Flatness(dB)	TYPICAL VSWR	MATING FLANGE	CALIBRATION FREQUENCIES	WAVEGUIDE	I (max) (mA)
NC5142	18 - 26.5	15.5	±0.75	1.3:1	UG595/U	1 GHz steps	WR42	30
NC5128	26.5 - 40	15.5	±0.75	1.3:1	UG599/U	1 GHz steps	WR28	30
NC5122	33 - 50	15.5	±1.0	1.3:1	UG383/U	1 GHz steps	WR22	30
NC5119	40 - 60	15.5	±1.5	1.3:1	UG383/UM	1 GHz steps	WR19	30
NC5115	50 - 75	15.5	±2.5	1.6:1*	UG385/U	1 GHz steps	WR15	30
NC5110	75 - 110	15.0	±5.0	1.6:1*	UG387/U	1 GHz steps	WR10	30

* Maximum VSWR with isolator — option 5.

HIGH NOISE OUTPUT—FULL BAND

MODEL	FREQUENCY RANGE (GHz)	NOISE OUTPUT ENR (dB)	FLATNESS (dB)	MATING FLANGE	CALIBRATION FREQUENCIES	WAVEGUIDE	I (max) (mA)
NC5242	18 - 26.5	25.0	±1.0	UG595/U	1 GHz steps	WR42	30
NC5228	26.5 - 40	23.0	±2.0	UG599/U	1 GHz steps	WR28	30
NC5222	33 - 50	21.0	±2.0	UG383/U	1 GHz steps	WR22	30
NC5219	40 - 60	20.0	±2.0	UG383/UM	1 GHz steps	WR19	30
NC5215	50 - 75	17.0	±2.5	UG385/U	1 GHz steps	WR15	30

HIGH NOISE OUTPUT—NARROW BAND

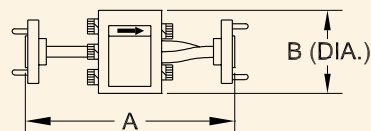
MODEL	FREQUENCY RANGE (GHz)	NOISE OUTPUT ENR (dB)	Flatness(dB)	MATING FLANGE	CALIBRATION FREQUENCIES	WAVEGUIDE	I (max) (mA)
NC5342	18 - 26.5*	25.0	±0.5	UG595/U	Minimum	WR42	30
NC5328	26.4 - 40*	23.0	±0.5	UG599/U	Minimum	WR28	30
NC5322	33 - 50*	21.0	±0.5	UG383/U	Center	WR22	30
NC5319	40 - 60*	20.0	±0.5	UG383/UM	and	WR19	30
NC5315	50 - 75*	17.0	±0.7	UG385/U	Maximum	WR15	30
NC5310	75 - 110*	11.0	±0.7	UG387/U	Maximum	WR10	30

* Bandwidths of 1 GHz may be specified anywhere in the band. Other bandwidths may be specified. However, wider bandwidths may result in a different flatness specification.

OPTIONS

Option Number	Description
NC5opt01	+ 15 VDC
NC5opt02	TNC bias connector
NC5opt03	Right-angle BNC bias connector
NC5opt04	+28 VDC with regulation. Stabilized noise output for ±2V variation.
NC5opt05	Output isolator
NC5opt06	Other waveguide sizes are available on request

Output Isolator (NC5opt05) (inches)



	WR42	WR28	WR22	WR19	WR15	WR10
DIM A (in.)	4.34	3.28	2.69	2.63	2.56	2.46
DIM B (in.)	1.45	1.32	1.73	1.32	0.99	0.99