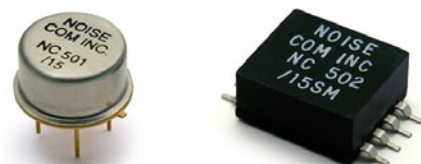


# NC500 / 500SM Series

## 200 kHz to 5 GHz



### Noise Modules for BITE

The NC500 (through hole) and NC500SM (surface mount) Series noise modules are an economical solution for built-in test requirements. They contain complete bias circuits and require no external components.

The surface mount package is suitable for mounting on microstrip. The modules produce extremely flat output power versus frequency characteristic that is insensitive to temperature and voltage variations.

The NC500 Series modules are housed in a TO-8 metal can, and require 0.2 to 5 mA, while the 500SM Series modules are housed in a surface mount plastic package. Both typically require 5 mA and produce a minimum of 31 dB ENR of white Gaussian noise. The NC510 and 510SM Series typically require 15 mA and have higher output with a minimum of 51 dB ENR.

Typical applications for these noise modules include built-in test equipment (BITE), signal strength meters for cellular, PCS, CATV, calibrators, spectrum analyzers, radar warning receivers (RWR), and dither A/D quantization error. Noise Com can optimize frequency range, voltage and output levels for specific applications. Most models are available from stock.

When ordering, add the suffix "SM" to the model number to denote the surface mount version. If the suffix is not included, the drop-in version will be supplied.

(Optional custom screening available)

### Applications

- Built-in test equipment (BITE)
- Signal strength meters for cellular, PCS and CATV
- Calibrators
- Spectrum analyzers
- Radar warning receivers (RWR)
- Dither A/D quantization error
- Gain-bandwidth product testing

Model For +12 V Supply	Model For +15 V Supply	Model For +28 V Supply	Frequency Range	Minimum Output ENR (dB) @ R <sub>i</sub> (Ω)		Output Flatness (dB)	I (Max) (mA)
NC501/12	NC501/15	NC501	200 kHz - 500 MHz	31	50	±0.5	10
NC502/12	NC502/15	NC502	200 kHz - 1 GHz	31	50	±1.0	10
NC503/12	NC503/15	NC503	200 kHz - 2 GHz	31	50	±1.5	10
NC504/12	NC504/15	NC504	200 kHz - 3 GHz	31	50	±1.5	10
NC505/12	NC505/15	NC505	200 kHz - 4 GHz	31	50	±2.0*	10
NC506/12	NC506/15	NC506	200 kHz - 5 GHz	31	50	±2.5*	10
NC511/12	NC511/15	N/A	200 kHz - 500 MHz	51	50	±2.0	30
NC512/12	NC512/15	N/A	200 kHz - 1 GHz	51	50	±2.0	30
NC513/12	NC513/15	N/A	200 kHz - 2 GHz	51	50	±2.0	30

1. Military version in compliance with MIL-E-5400T Class 2 (add suffix M). Not available in surface mount, NC501 to NC506 Series only.

2. Add SM for surface mount. Otherwise TO-8 is standard.

\* Flatness ±4.0 for SM Series of these models.

## Specifications

Output	White Gaussian noise
Minimum power output	31 dB ENR (-143 dBm/Hz) 51 dB ENR (-123 dBm/Hz)
Crest factor	5:1
Supply current	0.2 to 5 mA (NC500 Series) 10 to 20 mA (NC510 Series)
Temperature coefficient	0.01 dB/°C
Supply sensitivity	0.1 dB/% ΔV
Operating temperature	0° C to +70° C (surface mount) -55° C to 85° C (drop-in)
Storage temperature	-65° to +150° C
Packaging	Drop-in or surface mount
Power	+12, +15 V or +28 V
Absolute maximum input voltage	+30 V for +15 V models +40 V for +28 V models

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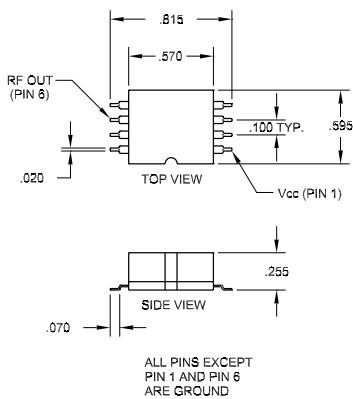
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NC/NC500/0908/EN  
Note: Specifications, terms and conditions  
are subject to change without prior notice.

### NC500 Series Dimensions (inches)



### NC500SM Series Dimensions (inches)

