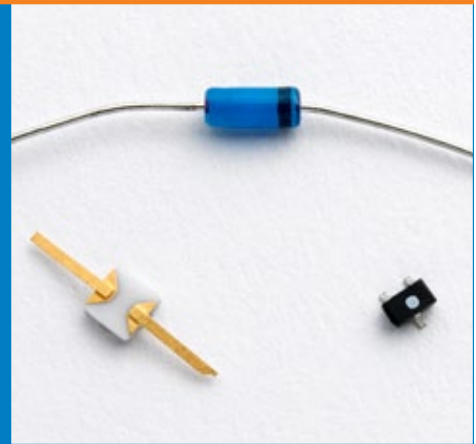


NC 100/200/300/400 Series

0.1 Hz to 110 GHz



Noise Diodes

Noisecom's noise diodes are the fundamental building blocks of all noise systems. They are hand-picked for performance characteristics that make them ideally suited to broadband noise generation with flat response.

All Noisecom noise diodes deliver symmetrical white Gaussian noise and flat output power versus frequency. The diodes are hermetically sealed and available in a wide variety of package styles. Special package configurations or screening processes are available upon request.

The NC100 and NC200 Series diodes are designed for audio and RF applications. The NC300 and NC400 Series diodes are designed for microwave applications in which a 50-ohm impedance is required.

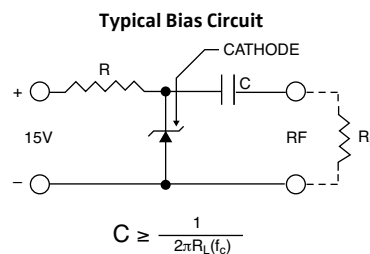
Typical small signal impedance of the NC300 and NC400 Series is 10-20 ohms after a diode is biased. The output level is higher at low frequencies with low currents and driving the diodes with higher current results in greater output at higher frequencies.

Applications

- Built-in test equipment (BITE)
- Dither circuitry for A/D converters

Specifications

Output	White Gaussian Noise
Operating temperature	0°C to +55°C temperature for NC100 series -55°C to +125°C for all others
Storage temperature	-65°C to +150°C



For NC100 Series
R = 150K

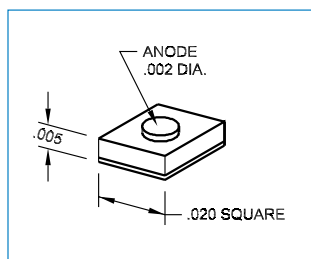
For NC200 Series
R = 15K

For NC300/400 Series
R = Adjust for performance

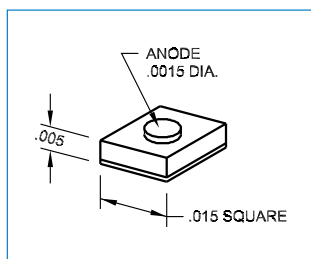
R_L = Load resistor
For recommended value,
see charts on page 31

f_c = low frequency cut-off

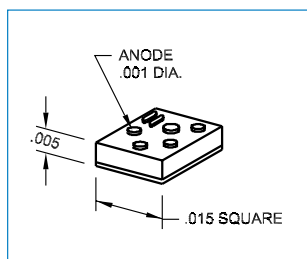
CH1 Chip (inches)



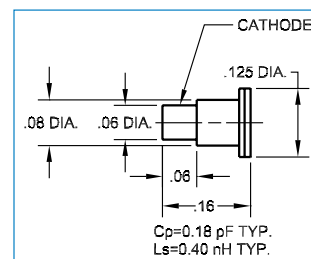
CH2 Chip (inches)



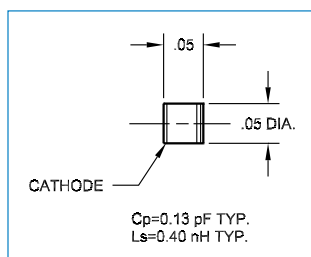
CH3 Chip (inches)



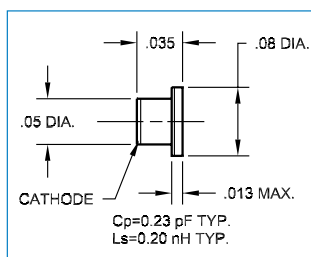
C10 (inches)



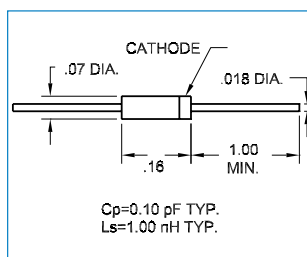
C50 (inches)



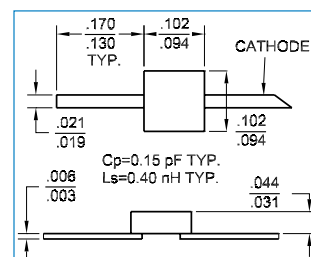
C50H (inches)



DO-35 Package (inches)



BL Package (inches)



Audio & VHF Types

Model	Frequency	Operating Conditions			Minimum Output ($\mu\text{V}/\sqrt{\text{Hz}}$)	Package
	Range	V_b (V)	I_{op}	RL (Ω)		
NC101	0.1 Hz - 100 kHz	7 - 10	30 - 60 μA	2200	3.0	DO-35
NC102	0.1 Hz - 500 kHz	7 - 10	30 - 60 μA	2200	3.0	DO-35
NC103	0.1 Hz - 1 MHz	7 - 10	30 - 60 μA	2200	3.0	DO-35
NC104	0.1 Hz - 3 MHz	7 - 10	30 - 60 μA	2200	3.0	DO-35
NC201	0.1 Hz - 10 MHz	7 - 10	0.2 - 0.5 mA	2200	0.1	DO-35
NC202	0.1 Hz - 25 MHz	7 - 10	0.2 - 0.5 mA	2200	0.1	DO-35
NC203	0.1 Hz - 100 MHz	7 - 10	0.2 - 0.5 mA	50	0.05	DO-35

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NC/NC100/200/300/400/0609/EN
Note: Specifications, terms and conditions
are subject to change without prior notice.

RF & Microwave Types

Model	Frequency	Operating Conditions			Output ENR (dB)	Package
	Range	V_b (V)	I_{op} (mA)	RL (Ω)		
NC302L	10 Hz - 3 GHz	6 - 8	6	50	30 - 35	DO-35 BL CH1
NC303	10 Hz - 8 GHz	8 - 12	8	50	30 - 35	DO-35 BL CH1
NC305	10 MHz - 11 GHz	8 - 12	10	50	29 - 34	BL CH1
NC401	100 MHz - 18 GHz	8 - 12	10	50	30 - 35	C10 C50H CH2
NC403	100 MHz - 27 GHz	8 - 12	12	50	24 - 28	C50 CH3
NC404	18 GHz - 50 GHz	8 - 12	15	50	20 - 25	C50 CH3
NC405	18 GHz - 75 GHz	8 - 12	20	50	15 - 25	C50 CH3
NC406	18 GHz - 110 GHz	8 - 12	25	50	15 - 25	C50 CH3

1. For chip configuration, add suffix "C".
2. For beam lead configuration, add suffix "BL".
3. For C50H configuration, add suffix "H".