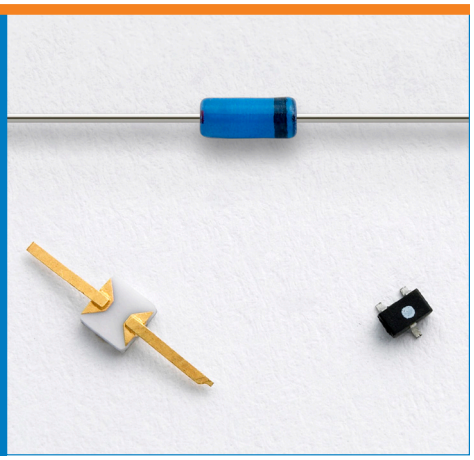
Noisecom

Data Sheet

NC 100/200/300/400 Series

0.1 Hz to 110 GHz



Count on the noise leader

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.

Audio & VHF Types

Model	Frequency Range	Operating Conditions			Minimum Output	Package
		V_b (V)	I_{op}	RL (Ω)	(μV/ √Hz)	
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

RF & Microwave Types

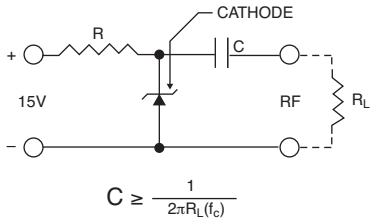
Model	Frequency Range	Operating Conditions			Output	Package
		V_b (V)	I_{op}(mA)	RL (Ω)	ENR (dB)	
NC302L	10 Hz - 3 GHz	6 - 8	6	50	30 - 35	DO-35, BL, CH1
NC302	10 Hz - 3 GHz	8 - 12	8	50	30 - 35	DO-35, BL, CH1
NC303	10 Hz - 8 GHz	8 - 12	8	50	30 - 35	DO-35, BL, CH1
NC303SQ	10 Hz - 10 GHz	8 - 12	8	50	30 - 35	SQ
NC303SOT	10 Hz - 10 GHz	8 - 10	8	50	30 - 35	SOT323
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
NC407	1 GHz - 110 GHz	8 - 12	8	50	15 - 25	B

1. For chip configuration, add suffix "C".
2. For beam lead configuration, add suffix "BL".
3. For C50H configuration, add suffix "H".
4. ESD Rating for NC401C is 1C.

Specifications

Output	White Gaussian Noise
Operating temperature	0°C to +55°C temperature for DO-35 and SOT323 Packages -55°C to +125°C for all others
Storage temperature	-65°C to +150°C

Typical Bias Circuit



$$C \geq \frac{1}{2\pi R_L(f_c)}$$

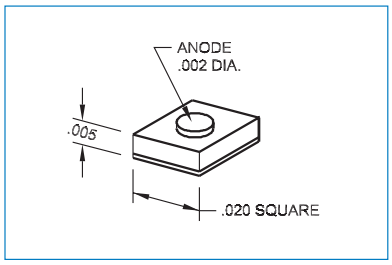
f_c = low frequency cut-off

For NC100 Series
R = 150K

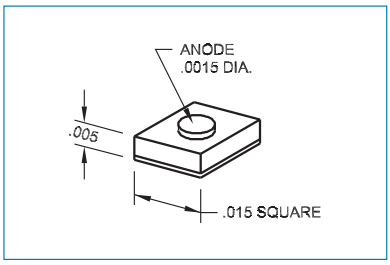
For NC200 Series
R = 15K

For NC300/400 Series
R = Adjust for performance

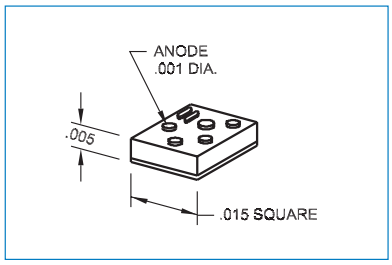
CH1 Chip (inches)



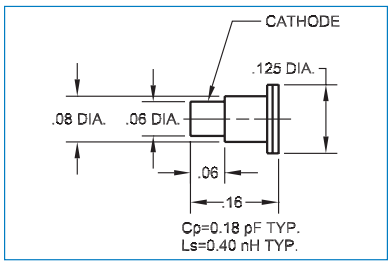
CH2 Chip (inches)



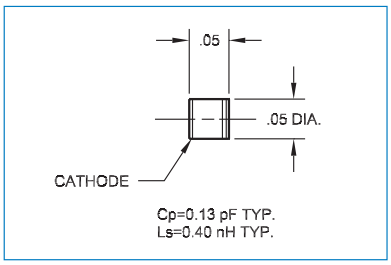
CH3 Chip (inches)



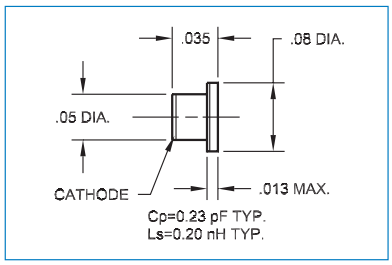
C10 (inches)



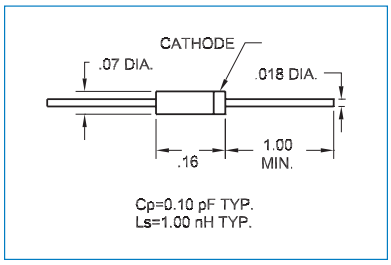
C50 (inches)



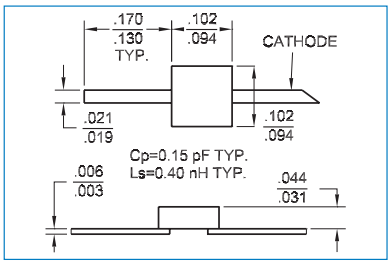
C50H (inches)



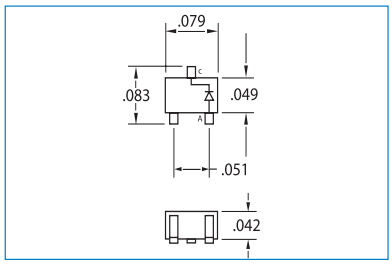
DO-35 Package (inches)



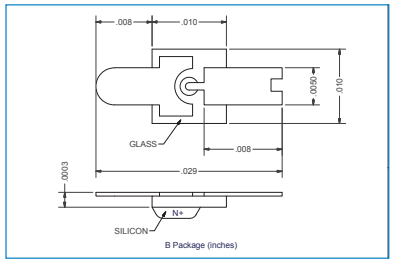
BL Package (inches)



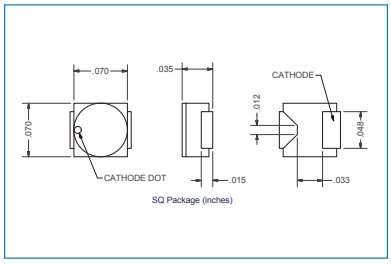
SOT323 Package (inches)



B Package (inches)



SQ Package (inches)



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