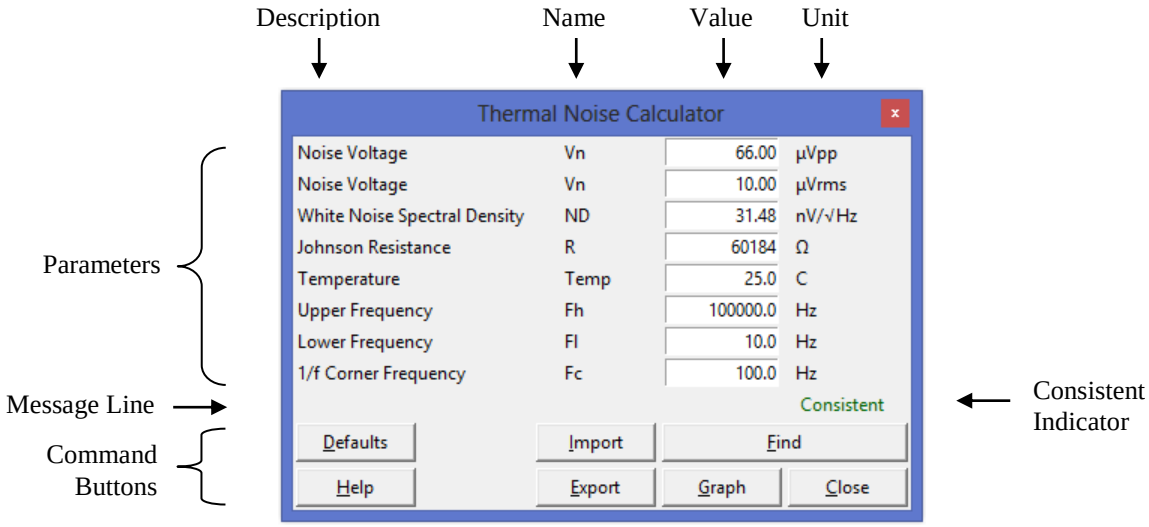
Help

Thermal Noise Calculator (TNC Calc) is a program that aids in the analysis of thermal noise found in resistors and other noise sources. TNC finds the noise voltage generated by any device if its white noise spectral density and 1/f corner frequency are known. Each parameter can be entered or found.

Parameters

1. Noise Voltage, **Vn,** in µVpp or µVrms
2. White Noise Spectral Density, **ND,** in nV/√Hz
3. Johnson Resistance, **R**, in Ω
4. Temperature, **T**, in °C
5. Upper Frequency, **Fh**, in Hz
6. Lower frequency, **Fl**, in Hz
7. 1/f Corner Frequency, **Fc**, in Hz

Calculator Window

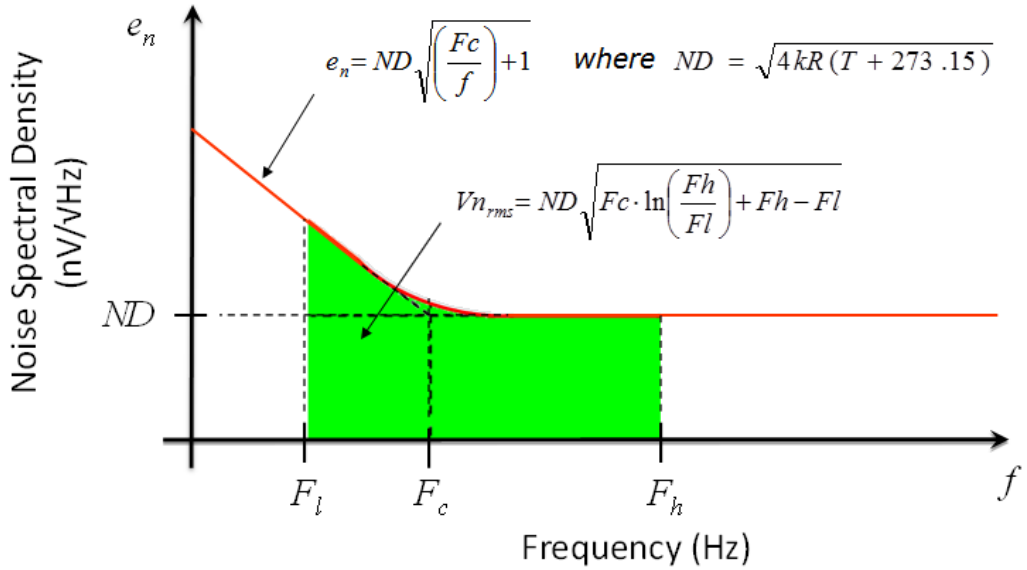


Commands

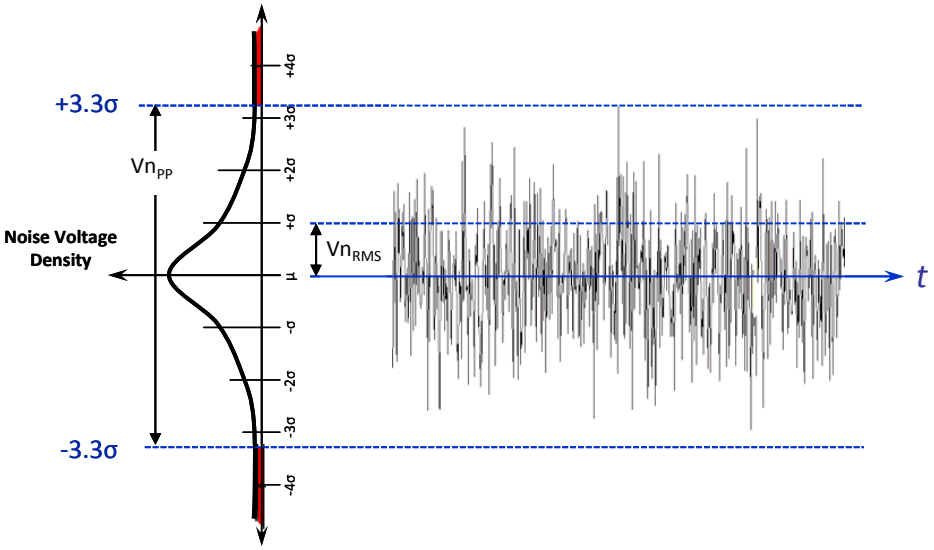
Find	Alt + F	Find the selected parameter
Graph	Alt + G	Graph the noise spectral density curve specified by the parameters
Export	Alt + E	Export all parameters to a .cvs file
Import	Alt + I	Import all parameters from a .cvs file
Defaults	Alt + D	Load the default startup parameter values
Help	Alt + H	Display the help page
Close	Alt +C	Close the calculator

"Consistent" indicates that all parameters are consistent. It appears following a Find (Alt + F) command. "Inconsistent" indicates that all parameters may not be consistent. It appears following an entry or import command.

Noise Density Curve with Parameters



Gaussian Noise Distribution



$$Vn_{pp} = 6.6 \cdot Vn_{rms}$$

The probability of exceeding ±3.3σ is 0.001, thus 6.6·Vrms is the peak to peak amplitude that will occur 0.1 % of the time.

About

Version 1.1.0
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