



Oscillator Glossary

Aging: A systematic average change of an oscillator's output frequency as a function only of time. Aging does not include effects of changing environments.

Deviation: The amount by which a quantity differs from its nominal value. For purposes, the amount by which a frequency differs from the nominal or specified frequency.

Enable/Disable: The enable/disable pin is similar to an on/off switch. A low or logic 0 on the enable/disable causes the unit not to oscillate. A "high" or logic 1 on the enable/disable pin allows the unit to work as normal (enabled) producing the specified output.

Fall Time: the time required for a signal to go from Logic '1' to logic '0'.

Frequency Range: The range of frequencies over which an oscillator can be fabricated with minimal impact on specifications.

Linearity: The departure from a straight line relationship of control voltage to output frequency.

Oscillator: A circuit or device that produces an alternating current of a specific frequency at its output terminals.

Phase Noise: The ratio of the power density of one phase modulation sideband to the total signal. All phase noise data in the catalog are normalized to a one Hertz equivalent bandwidth.

Load (Fan out): The capacity of the oscillator to drive other devices. TTL devices are specified in the number of gates that can be driven; i.e., 10 TTL gates. CMOS outputs are specified in pF; i.e. 15 pF or 50 pF loads.

PPM: The abbreviation for "Parts Per Million," a method of calculation used to specify the permissible frequency deviation of a crystal or oscillator. May also be seen as "ppm".

Pullability: The frequency shift of a VCXO as a function of control voltage.

Rise Time: The time required for a signal to go from Logic '0' to logic '1'.

Stability: The change in oscillator frequency, referenced to the desired oscillator frequency, caused by temperature change.

Start-Up: The period from the instant voltage is applied to the oscillator until the oscillator output is stabilized.

Symmetry: The percentage of each period that a signal is in logic high. This parameter is measured at a specified voltage threshold or at a percentage of the output waveform amplitude.

Tri-state: The tri-state option is similar to the Enable/Disable. When you have a “logic 1” (ex 5 Vdc) on pin1, the unit works as normal “enabled” producing the specified output (ex TTL). When the pin is disabled, “logic 0” (ex 0 Vdc) it goes into high impedance or tristate mode. The tristate mode allows the customer to remove the oscillator from their circuit without physically removing it. Useful for tuning, testing or trouble shooting their board.

Warm-Up: The time required for an oscillator’s frequency to settle to within a given tolerance of the frequency several hours later.

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