



FG 501

Five Waveforms

.001 Hz to 1 MHz

VCF and Gated Burst

Hold Mode

The FG 501 is a general-purpose, low frequency function generator producing low distortion sine, square, triangle, pulse, and ramp waveforms. Frequency is selectable from .001 to 1 MHz (switched in decade steps). An external VCF input permits controlling the output frequency from an external voltage source. Frequency sweep up to 1,000:1 ratio may be accomplished by applying a voltage ramp to the VCF input. A hold control allows the operation of the generator to be halted instantaneously at any point in its cycle. Release of the hold will then allow the operation to continue normally. A gate input is provided to allow "burst" or single cycle operation, with the phase of the generator output at the start of the burst controllable over a $\pm 90^\circ$ range. Output signal voltage is adjustable up to 7.5 V p-p into a 50-ohm load, with dc offset also adjustable up to ± 2.5 V.

FG 501	
Waveforms	Sine, Square, Triangle, Pulse, Ramp
Frequency Range	0.001 Hz to 1 MHz
Amplitude Open Circuit	15 V p-p max, 0.5 V p-p min
Into 50 ohms	7.5 V p-p max, 0.25 V p-p min
Offset	± 5 V dc open circuit, ± 2.5 V dc into 50 Ω load
Output Impedance	50 ohms
Amplitude Flatness Sinewave	± 1.5 dB, 0.01 Hz - 1 MHz ref. 10 kHz
Square, Triangle	± 1 dB ref. sine
Frequency Stability	$\leq 0.05\%$ for 10 min, $\leq 0.1\%$ for 1 hour $\leq 0.5\%$ for 24 hours
Sinewave Distortion	$\leq 0.5\%$ 1 Hz to 20 kHz $\leq 1.0\%$ 20 kHz to 100 kHz $\leq 2.5\%$ (-32 dB) 100 kHz to 1 MHz
Squarewave Response	≤ 100 ns rise and fall $\leq 5\%$ total aberrations
Triangle Linearity	1% 0.001 Hz to 100 kHz 2% 100 kHz to 1 MHz
Voltage Controlled Frequency	1000:1 max with 0 - 10 V external signal. Input impedance, 10 k Ω . Bandwidth, ≥ 50 kHz
Burst/Gate	Input impedance, 1 k Ω . Control signal required +2 V; +15 V max. Bursts are synchronous with gate. Phase continuously variable from -90° to $+90^\circ$.
Trigger Output	TTL compatible; +2.5 V into 600 Ω



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