

# Data Sheet

## 5 MHz Sweep Function Generator Model 4012A



Model 4012A is a popular 5 MHz generator for general bench and lab use with an ideal mixture of features and sweep function at a compelling price.

### Features & Benefits

- 0.5 Hz to 5 MHz
- Sine, Square, Triangle, Pulse, and Ramp output
- Coarse and fine tuning knobs
- 4-digit LED display
- Linear and log sweep
- Variable duty cycle
- Variable DC offset
- Variable 20 Vpp output into open circuit (10 Vpp into 50 Ω)

Specifications	4012A
<b>Frequency Characteristics</b>	
Waveforms	Sine, Square, Triangle, $\pm$ Pulse, $\pm$ Ramp
Range	0.5 Hz to 5 MHz in 7 ranges
Resolution	4 digits
Tuning Range	10:1
Fine	$\pm 5\%$ of coarse setting
Variable Duty Cycle	15:85:15 cont variable
Operating Modes	Normal, Sweep, VCG
<b>Output Characteristics</b>	
Impedance	50 $\Omega$ $\pm 10\%$
Level	20 V p-p Open circuit, 10 V p-p into 50 $\Omega$
Amplitude	Variable, 20 dB range typical
Attenuation	-20 dB $\pm 1$ dB
DC Offset	Preset: $\pm 0.1$ V typical Variable: $\pm 10$ V open-circuit $\pm 5$ into 50 $\Omega$
<b>Sine Wave</b>	
Distortion	<3% typical at 1 kHz
Flatness (Into 50 $\Omega$ )	$\pm 5\%$ ( $\pm 0.45$ dB) 0.5 Hz to 5 MHz
<b>Square Wave</b>	
Symmetry	0.1 Hz to 100 kHz <2%
Rise time (Into 50 $\Omega$ )	$\leq 120$ nS
<b>Triangle Wave</b>	
Linearity	$\geq 98\%$ to 100 kHz
<b>TTL Output</b>	
Level	0.8 V to 2.4 V
Rise time	$\leq 20$ nS
Duty Cycle	50% typical
<b>CMOS Output</b>	
Max. Frequency	2 MHz
Level	4 V to 14 V $\pm 0.5$ V p-p continuously variable
Rise Time	$\leq 120$ nS (Open circuit)
<b>VCG (Voltage controlled generator)</b>	
Input Voltage	0-10 V $\pm 1$ V causes a 100:1 frequency change (Typical)
Impedance	10 k $\Omega$ $\pm 5\%$
<b>Sweep Operation</b>	
Mode	LIN/LOG
Width	100:1 continuously variable
Rate	0.5 s to 30 s continuously variable
<b>Frequency Counter</b>	
Accuracy	Time base accuracy $\pm 1$ count
Time Base Accuracy	$\pm 10$ ppm (23 $^{\circ}$ C $\pm 5$ $^{\circ}$ C)
Display	4 digit LED
<b>General</b>	
AC Input	115/230 VAC $\pm 10\%$ , 50/60 Hz, internal jumper selectable
Dimensions (W x H x D)	10.5" x 4.5" x 12.25" (266.7 x 114.3 x 311.15 mm)
Weight	4 lbs (1.8 kg)
<b>Two-Year Warranty</b>	
Included Accessories	Instruction manual, output cable (BNC to alligator clips)