

# Data Sheet

## Function Generators Models 4010A & 4011A



### 4010A 2 MHz Function Generator

- 0.2 Hz to 2 MHz
- Sine, Square, Triangle, Pulse & Ramp output
- Variable duty cycle
- Variable DC offset
- Variable amplitude output plus 20 dB attenuator
- 20 Vpp output into open circuit (10 Vpp into 50 Ωs)
- cUL certified



### 4011A 5 MHz Function Generator

- 0.5 Hz to 5 MHz
- Sine, Square, Triangle, Pulse, & Ramp output
- Coarse and Fine tuning
- 4 digit LED display
- Variable duty cycle
- Variable DC offset
- Variable amplitude output plus 20 dB attenuator
- 20 Vpp output into open circuit (10 Vpp into 50 Ωs)
- cUL certified



Specifications	4010A	4011A
<b>Frequency Characteristics</b>		
Waveforms	Sine, Square, Triangle, ±Pulse, ±Ramp	
Range	0.2 Hz to 2 MHz in 7 ranges	0.5 Hz to 5 MHz in 7 ranges
Resolution	NA	4 digits
Tuning Range	10:1 Does not apply	Coarse, 10:1 Fine ±5% of coarse setting
Variable Duty Cycle	15:85:15 cont. variable	15:85:15 cont. variable
Operating Modes	Normal, VCG	
<b>Output Characteristics</b>		
Impedance	50 Ω ±10%	
Level	20 V p-p open circuit, 10 V p-p into 50 Ω	
Amplitude	Variable, 20 dB range typical	
Attenuation	-20 dB ±1 dB	
DC Offset	Preset ±0.1 V typ Variable: ±10 V open-circuit ±5 into 50 Ω	
Distortion	≤ 4% @ 1 kHz	≤ 3% @ 1 kHz
Flatness	≤ 5% (.45 dB)	
Symmetry	0.5 Hz to 100 kHz ≤ 2%	
Risetime (Into 50 Ω)	≤ 120 nS	≤ 20 nS
Linearity	≥ 98% to 100 kHz, ≥ 95% to 2 MHz	
<b>TTL Output</b>		
Level	0.8 V to 2.4 V	
Rise Time (0.8 V to 2.9 V)	≤ 50 nS	≤ 20 nS
Duty Cycle	50% typical	
<b>CMOS Output</b>		
Maxi. Frequency	2 MHz	
Level	4 V to 14 V ±0.5 p-p cont. variable	
Rise Time	≤ 120 nS	
<b>Input VCG</b>		
Input Voltage	0-10 V ±1 V causes a 100:1 frequency change	
Impedance	10 kΩ ±5%	
<b>Frequency Counter INT</b>		
Accuracy	NA	Time base accuracy ±1 count
Time Base Accuracy	NA	±10 PPM (23°C ±5°C)
<b>General</b>		
Display	NA	4 digit LED
AC Input	120/230 VAC ± 10%, 50/60 Hz, Internal jumper selectable	
Dimensions (H x W x D)	4.5" x 11.75" x 10.375", (114 x 298 x 264 mm)	
Weight	4 lbs, (1.8 kg)	
<b>Two-Year Warranty</b>		
Standard Accessories	Output cable with BNC to alligator clips, instruction manual, line cord	
Optional Accessories	Carrying case (Not included); LC-40, TLFK kit	