Data sheet

Function Generators
Models 4017A & 4040A



Model 4040A

These analog function generators offer familiar controls, stable output, and reliable operation at budget-saving price points.

4017A
10 MHz Sweep Function Generator

- 0.1 Hz to 10 MHz
- Sine, Square, Triangle, Pulse, & Ramp output
- Coarse and Fine tuning
- 5 digit LED display
- Linear and log sweep
- Variable duty cycle
- Variable DC offset
- cUL certified

4040A
20 MHz Sweep Function Generator

- 0.2 Hz to 20 MHz
- Sine, Square, Triangle, Pulse, & Ramp output
- Coarse and Fine tuning
- AM & FM modulation
- Burst operation
- External frequency counter to 30 MHz
- Linear and log sweep
- Variable duty cycle
- Variable DC offset
- cUL certified

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Model 4040A	
AM Modulation Characteristics	
Source	Internal, External
Modulation Ratio	0 to 100%
Int modulation	1 kHz
Ext Modulation	DC to 500 kHz
Ext Sensitivity	Less than 10V p-p for 100% modulation
FM Modulation Characteristics	
Source	Internal, External
Modulation Ratio	0 to 100%
Deviation	0 to 5%
INT Modulation	1 kHz
Ext Modulation	DC to 500 kHz
Ext Sensitivity	Less than 10V p-p for 100% modulation
Burst Characteristic	
Source	Internal, External
Burst Width	Cont. variable from 5% to 90% of internal gating frequency
Repition Rate	0.5 Hz to 50 Hz, internal DC to 500 kHz external
External Level	TTL levels
Burst Frequency	Determined by main generator frequency setting

Specifications	4017A	4040A
Frequency Characteristics		
Waveforms	Sine, Square, Triangle, ±Pulse, ±Ramp	
Range	0.1 Hz to 10 MHz in 8 ranges	0.2 Hz to 20 MHz in 8 ranges
Resolution	5 digits	5 digits
Tuning Range	10:1	10:1
Fine	±5% of coarse setting	±5% of coarse setting
Variable Duty Cycle	15:85:15 cont variable	15:85:15 cont variable
Operating Modes	Normal, sweep, VCG	Normal,sweep, VCG, AM, FM,burst
Output Characteristics		
Impedance	50Ω ±10%	
Level	20 V p-p Open circuit, 10V p-p into 50Ω	
Amplitude	Variable, 20 dB range typical	
Attenuation	-20 dB ±1dB	
DC Offset	Preset ±0.1 V typ Variable: ±10V open-circuit ±5 into 50Ω	
Sine Wave		
Distortion	≤ 3% typical at 1 kHz	
Flatness	±5% (.45 dB) 0.1 Hz to 8 MHz ±20% (2.0 dB) 8 MHz to 10 MHz	±5% (.45 dB) 10 Hz to 8 MHz ±20% (2.0 dB) 8 MHz to 20 MHz
Square wave		
Symmetry	0.1 Hz to 100 kHz <2%	0.2 Hz to 100 kHz <2%
Rise time	≤ 30 ns	
Triangle Wave	Linearity: ≥ 98% to 100 kHz	
TTL Output		
Level	0.8V to 2.4V	
Rise time	≤ 20 nS	
Duty Cycle	50% typical	
CMOS Output		
Max. Frequency	2 MHz	
Level	4V to 14V ±0.5 p-p cont. variable	
Rise Time	≤ 120 nS	
VCG (Voltage controlled generator)		
Input Voltage	0-10V ±1V causes a 100:1 frequency change	
Impedance	10kΩ ±5%	
Sweep Operation		
Mode	LIN/LOG	
Width	100:1 continuously variable	
Rate	0.5 s to 30 s cont variable	20 ms to 2 s cont variable
Sweep Output	0 to 10 V	0 to 2 V
Start/Stop Frequencies	NA	Adjustable
Frequency Counter		
Accuracy	Time base accuracy ±1 count	
Time Base Accuracy	±10 ppm (23° ±5°C)	
Display	5 digit LED	
Mode	NA	INT or EXT
External Input		
Frequency	Does not apply	5 Hz to 30 MHz
Resolution	Does not apply	0.1, 1, 10, 100, 1 kHz
Sensitivity	Does not apply	25 mVrms
General		
AC Input	120/230 VAC ±10%, 50/60 Hz, internal jumper selectable	
Dimensions	4.5 x 11.75 x 10.575" (140 x 298 x 264mm)	5.5 x 11.75 x 10.575" (114 x 298 x 264mm)
Weight	4 lbs. (1.8 kg)	4.5 lbs. (2 kg)
		Two-Year Warranty
Included Accessories	Output Cable with BNC to Alligator Clips, Instruction Manual Carrying Case (not included): LC-40	

Technical data subject to change
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