Data Sheet

Function Waveform Generator

HDG1012A

▸Feature

- Direct Digital Synthesis (DDS) technology, 2 independent output channels
- 3.5-inch TFT display, English/Chinese menu
- 32 kinds of built-in pre-stored waveforms in Channel B
- Minimum stable output waveform: 1mV(50Ω)
- Multiple modulation functions: FM, AM, FSK, ASK, PSK
- Frequency sweep, amplitude sweep, burst and A B add functions
- Over voltage, over current, output short-circuit and reverse voltage protections
- Non-volatie parameter memory can store the settings even instrument is power off

Specifications

Model	HDG1012A
Frequency range(sine)	40mHz~10MHz
Output Characteristics of Channel A	
Waveform Characteristics	
Waveform type	Sine, Square, Triangle, Ramp, Pulse etc.
Waveform length	1024 points
Sample rate	100MSa/s
Waveform amplitude resolution	8bits
Sinusoidal harmonic rejection	≥40dBc (<1MHz), ≥35dBc (1MHz~20MHz)
Sine wave total distortion	≤1% (20Hz~200kHz)
Pulse and square rise/fall time	≤35ns
Pulse and square overshoot	≤10%
Square wave duty cycle	1%~99%
Frequency Characteristics	
Frequency range	sine: 40mHz~Max.frequency (MHz); square: 40mHz~5MHz; other waveforms: 40mHz~1MHz;
Frequency resolution	40mHz
Frequency accuracy	±(5×10-5+40mHz)
Frequency stability	±5×10-6/3 hours
Amplitude Characteristics	
Amplitude range	2mVpp~20Vpp 40mHz~10MHz (high impedance), 2mVpp~15Vpp 10MHz~15MHz (high impedance), 2mVpp~8Vpp 15MHz~20MHz (high impedance)
Amplitude resolution	20mVpp (amplitude>2Vpp), 2mVpp (amplitude<2Vpp)
Amplitude accuracy	±(1%+2mVrms) (high impedance, RMS, 1kHz)
Amplitude stability	±0.5%/3 hours
Amplitude flatness	±5% (frequency<10MHz), ±10% (frequency >10MHz)
Output impedance	50Ω
Offset Characteristics	
Offset range	±10V (high impedance)
Resolution	20mVdc
Offset accuracy	±(1%+20mVdc)
Sweep Characteristics	
Sweep type	linear/logarithm sweep on frequency or amplitude
Sweep range	free to set start point and stop point
Sweep step	Larger that any value more than resolution
Sweep rate	10ms~60s/step
Sweep mode	Up, Down, Up-Down
Manual sweep	step/time
Frequency Modulation Characteristics	
Modulation signal	internal or external waveforms
FM deviation	0%~20%
Carrier signal	channel A signal
Shift Keying Characteristics	
FSK	free to set carrier frequency and hop frequency
ASK	free to set carrier amplitude and hop amplitude
PSK	hop phase 0~360°, resolution 1°
Alternative rate	10ms~60s

Output Characteristics of Channel B	
Waveform Characteristics	
Waveform type	32 kinds of waveforms, like sine, square, triangle, ramp, sawtooth, pulse, dc, noise or arbitrary
Waveform length	1024 points
Sample rate	12.5MSa/s
Waveform amplitude resolution	8bits
Frequency Characteristics	
Frequency range	Sine: 10mHz~1MHz; Other waveforms: 10mHz~100kHz
Frequency resolution	10mHz
Frequency accuracy	±(1×10-5+10mHz)
Amplitude Characteristics	
Amplitude range	50mVpp~20Vpp (high impedance)
Amplitude resolution	20mVpp
Output impedance	50Ω
Burst Characteristics (channel B signal is used as burst signal)	
Frequency of Channel B	40mHz ~ 1MHz
Burst Frequency	10mHz ~ 50kHz
Burst count	1~65000 cycles
Burst mode	continuous burst and single burst (Trigger)
TTL Output Characteristics	
Waveform characteristics	Square, rise/fall time≤20ns
Frequency characteristics	10mHz ~ 1MHz
Amplitude characteristics	TTL, CMOS compatible, low level<0.3V, high level>4V
Common Characteristics	
Power source	Voltage: AC220V (1±10%), AC110V (1±10%) (Pay attention to the position of voltage selection switch) Frequency: 50Hz (1±5%) Power: <45VA
Environment	Temperature: 0~40℃ Humidity: <80%
Operation characteristics	Key operation for all functions, menu display, rotary dial adjustment
Display	TFT display, 320*240,
Dimension (D×W×H)	415mm×295mm×195mm
Weight	3.5kg
Manufacturing technology	Surface Mount Technology, Integrated Circuit. High reliability and stability.

▶ Standard Accessories

- HDG1012A DDS Function Generator
- Power Cord
- Q9 test cable
- Q9 BNC-clip test lead
- RS232 serial interface
- USB to RS232 Cable
- User's Guide
- Arbitrary Waveform Generator Software CD

▶ Optional Parts

- 200MHz frequency counter
- Power amplifier

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