

DDS Function Generator

DFG-1005 / DFG-1010 / DFG-1020



FEATURE

- Max. output frequency 5MHz/10MHz/20MHz
- 3.5-inch TFT LCD display
- Direct Digital Synthesis technology (DDS)
- Sampling rate 100Msa/s, vertical resolution 8 bit
- 32 Standard or built-in waveforms
- 40 sets panel setting save & recall
- Min. 1mV (50Ω) waveform output with good stability
- 0.1% pulse duty cycle resolution
- FM, FSK, ASK, and PSK modulations
- Over voltage protection, over current protection, short circuit protection, reverse voltage protection
- Numeric keyboard and rotary dial for data input
- SMT technology production, high reliability
- 100MHz frequency counter
- RS232 interface

■ TECHNICAL SPECIFICATIONS

	DFG-1005(5MHz)	DFG-1010(10MHz)	DFG-1020(20MHz)
Waveform (Output A)			
Waveform types	32 types waveforms, including Sine, Square, Pulse		
Waveform length	1024 points		
Amplitude resolution	8 bits		
Sampling rate	100MSa/s		
Harmonic distortion	≥40dBc (<1MHz,), ≥35dBc (1MHz~20MHz)		
Sine total distortion	≤1% (20Hz~200kHz)		
Pulse, Square	Rise/fall edge time: ≤35ns, Overshoot: ≤10%		
Square wave duty cycle	1%~99%		
Frequency (Output A)			
Frequency range	Sine wave: 40mHz~Max.frequency Other waveforms: 40mHz~1MHz		
Resolution	40mHz		
Accuracy	± (50ppm + 40mHz)		
Amplitude (Output A)			
Amplitude range	2mVpp~20Vpp, 40mHz~10MHz (high impedance) 2mVpp~15Vpp, 10MHz~15MHz (high impedance) 2mVpp~8Vpp, 15MHz~20MHz (high impedance)		
Resolution	20mVpp (amplitude>2Vpp), 2mVpp (amplitude<2Vpp)		
Accuracy	± (1% +2 mVrms) (high impedance, RMS, frequency 1kHz)		
Stability	±0.5% / 3 hours		
Flatness	±5% (frequency of 10MHz or below), ±10% (frequency above 10MHz)		
Output impedance	50Ω		
Offset (Output A)			
Offset range	±10V (high impedance, attenuation 0 dB)		
Resolution	20mVdc		
Accuracy	±(1% + 20mVdc)		
Sweep (Output A)			
Linear sweep or frequency sweep			
Sweep range	Free to set starting point and end point		
Sweep step	Higher than any figure of the resolution		
Sweep rate	10ms~60ms/step		
Sweep mode	Linear, Log Up or Log Down, Single		
Frequency Modulation (FM) (Output A)			
Carrier signal	Output A waveforms		
Modulating signal	Output B signal or External signal		
Modulating deviation	0%~20%		
Burst			
Burst counts	1~65000 cycles		
Burst mode	Internal, External, Single		
FSK, ASK, PSK (Output A)			
FSK	Free to set carrier waveform frequency and hopping frequency		
ASK	Free to set carrier waveform amplitude and hopping amplitude		
PSK	Hopping phase: 0~360°, Max. resolution: 1°		
Alternative rate	10ms~60s		
Output B			
Waveform	32 types waveforms, including Sine, Square, Pulse		
	Length: 1024 points		
	Sampling range : 12.5MSa/s		
	Amplitude resolution : 8 bits		
Frequency	Square wave duty cycle : 1%~99%		
	Range: Sine wave: 40mHz~1MHz; Other waveforms: 10mHz~100kHz		
	Resolution: 10mHz		

	Accuracy: $\pm (1 \times 10^{-5} + 10 \text{ mHz})$
Amplitude	Range: 50mVpp~20Vpp (high impedance)
	Resolution: 20mVpp
	Output impedance : 50Ω
Burst	Burst count : 1~65000 cycles
	Burst mode : Internal, External, Single
TTL output	
Waveform characteristics	Square wave, rise/fall time $\leq 20\text{ns}$
Frequency characteristics	40mHz~1MHz same as CHA
Amplitude characteristics	TTL and CMOS compatible, low<0.3V, high>4V
Frequency counter	
Frequency range	1Hz~100MHz
Input signal amplitude	100mVpp~20Vpp
General	
Power source	110V/220V AC, (1±10%), 50Hz (1±5%)
Power consumption	<30V
Environmental	Temperature: 0~40℃, humidity: <80%
Display	TFT LCD
Dimension	365*260*110mm
Weight	3KG