

DDS FUNCTION GENERATOR

ATFxxB Series Function Generator(ATF10B / ATF15B / ATF20B)



ATF10B	40mHz~10MHz
ATF15B	40mHz~15MHz
ATF20B	40mHz~20MHz

INTRODUCTION

ATFxxB series Function generator uses Direct Digital Synthesis (DDS) technology. Its outstanding performance and system features make it a perfect solution for your testing requirement. The simplified and optimized design of the front panel and dual-language (English/Chinese) TFT display interface make your testing much easier for operation and observation. Additionally, the extendable optional functions can also improve your system characteristics.

FEATURES

- Direct Digital Synthesis (DDS) technology, 2 independent output channels
- 3.5-inch TFT LCD display
- High Frequency Resolution: full-range resolution is 40 MHz
- Store 40 sets of the user parameters and recall
- 32 kinds of standard or build-in fixed waveforms
- Minimum stable output waveform: 1mV(50)
- Multiple modulation functions: FM, FSK, ASK, PSK
- Frequency sweep, amplitude sweep and burst functions
- Count the frequency, period, amplitude RMS value or peak-to-peak value
- Over-voltage, over-current, output short-circuit and reverse voltage protections
- High reliability: use VLSI components and surface mount technology
- Power Amplifier: optional part, maximum output power up to 7W
- Optional configurations: RS232 interface, Frequency Counter, Power Amplifier

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SPECIFICATIONS

Output A Characteristics	
WAVEFORM	Waveform type 32 kinds, such as Sine, Square, Triangle, Pulse etc
	Waveform length 1024 points
	Sample rate 100 MSa/s
	Vertical resolution 8 bits
	Harmonic rejection (sine) 40dBc (< 1MHz), 35dBc (1MHz~20MHz)
	Total distortion(sine) 1% (20Hz ~ 200kHz)
	Rise/fall time of square 35ns
	Overshoot 10%
	Square duty cycle 1% ~ 99%
	Frequency range 40mHz ~ max. frequency(sine) , 40mHz ~1MHz(other waveforms)
FREQUENCY	Frequency Resolution 40mHz
	Frequency Accuracy \pm (50ppm + 40mHz)
	Amplitude range
AMPLITUDE	2mVpp ~ 20Vpp 40mHz~10MHz (high impedance)
	2mVpp ~ 15Vpp 10MHz~15MHz (high impedance)
	2mVpp ~ 8Vpp 15MHz~20MHz (high impedance)
	Amplitude Resolution 20mVpp (amplitude>about 2 Vpp), 2mVpp (amplitude<about 2Vpp)
	Amplitude Accuracy \pm (1%+2mVrms)(high impedance,1kHz,sine)
	Amplitude Flatness \pm 5% (<10MHz), \pm 10% (>10MHz)
	Amplitude stability \pm 0.5%/3 hours
Output impedance 50	
OFFSET	Offset Range \pm 10V (high impedance, attenuation 0dB)
	Offset Resolution 20mVdc
	Offset accuracy \pm (1% + 20mVdc)
SWEEP	Sweep Type Linear sweep or frequency or amplitude
	Sweep range free to set the start and stop points
	Sweep step larger than any figure of the resolution
	Sweep rate 10ms~60s/step
	Sweep mode Up, Down, Up-Down, Single
FM	Carrier signal Channel A signal
	Modulating signal internal signal of Channel B or external signal
	FM depth 0% ~ 20%
SHIFT KEYING	FSK free to set the carrier and hop frequency
	ASK free to set the carrier and hop amplitude
	PSK Hop Phase: 0 ~ 360°, Max. resolution: 1°
	Alternate rate 10ms ~ 60s
BURST	Burst count 1~65000 cycles
	Burst mode internal, external, single

Output B Characteristics	
WAVEFORM	Waveform type 32 kinds, such as sine, square, triangle, pulse etc
	Waveform length 1024 points
	Sample rate 12.5 MSa / s
	Amplitude resolution 8 bits
FREQUENCY	Square duty cycle 1% ~ 99%
	Frequency range 40mHz ~ 1MHz(sine) 10mHz ~100kHz (other waveforms)
	Frequency Resolution 10mHz
AMPLITUDE	Frequency Accuracy \pm (1x10 ⁻⁵ + 10mHz)
	Amplitude range 50mVpp ~ 20Vpp (high impedance)
	Amplitude Resolution 20mVpp
BURST	Output impedance 50
	Burst count 1~65000 cycles
	Burst mode internal, external, single

TTL Output Characteristics		
TTL	Waveform	rise/fall time 20ns (square)
	Frequency	40mHz ~ 1MHz
	Amplitude	TTL,CMOS compatible, low level <0.3V,high level >4V

GENERAL CHARACTERISTICS	
Power Supply	AC220V (1 \pm 10%)
	AC110V (1 \pm 10%) (Pay attention to the voltage selection on rear panel)
Frequency	50Hz (1 \pm 5%)
Power Consumption	< 45VA
Operating Temperature	0°C to +40°C
Operating Humidity	80% R.H
Operation Characteristics	Keypad operation and rotary knob operation
Dimensions	415mm x 295mm x 195mm
Display	TFT display, 320*240
Weight	3.5kg

ACCESSORIES INCLUDED		
Standard		Optional Parts
ATFxxB Series DDS Function Generator	1 unit	RS232 interface
Power cord	1 pc	Power amplifier
Q9 testing cable	1 Pc	Frequency counter
Q9 BNC-clip test lead	1 pc	
User's Guide	1 pc	
RS232 cable (optional)	1 pc	