

ATF10B, ATF15B, ATF20B

DDS Function Generator

10MHz, 15MHz, 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.

ATF10B

40mHz ~ 10MHz

ATF15B

40mHz ~ 15MHz

ATF20B

40mHz ~ 20MHz

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(50Ω)
- 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

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)	$\geq 40\text{dBc}$ ($< 1\text{MHz}$), $\geq 35\text{dBc}$ ($1\text{MHz}\sim 20\text{MHz}$)
	Total distortion(sine)	$\leq 1\%$ ($20\text{Hz} \sim 200\text{kHz}$)
	Rise/fall time of square	$\leq 35\text{ns}$
	Overshoot	$\leq 10\%$
	Square duty cycle	1% ~ 99%
FREQUENCY	Frequency range	40mHz ~ max. frequency(sine) , 40mHz ~1MHz(other waveforms)
	Frequency Resolution	40mHz
	Frequency Accuracy	$\pm (50\text{ppm} + 40\text{mHz})$
AMPLITUDE	Amplitude range	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	$\pm (1\% + 2\text{mVrms})$ (high impedance,1kHz,sine)
	Amplitude Flatness	$\pm 5\%$ ($< 10\text{MHz}$), $\pm 10\%$ ($> 10\text{MHz}$)
	Amplitude stability	$\pm 0.5\%$ / 3 hours
	Output impedance	50 Ω
OFFSET	Offset Range	$\pm 10\text{V}$ (high impedance, attenuation 0dB)
	Offset Resolution	20mVdc
	Offset accuracy	$\pm (1\% + 20\text{mVdc})$
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
	Square duty cycle	1% ~ 99%
FREQUENCY	Frequency range	40mHz ~ 1MHz(sine) 10mHz ~100kHz (other waveforms)
	Frequency Resolution	10mHz
	Frequency Accuracy	$\pm (1 \times 10^{-5} + 10\text{mHz})$
AMPLITUDE	Amplitude range	50mVpp ~ 20Vpp (high impedance)
	Amplitude Resolution	20mVpp
	Output impedance	50Ω
BURST	Burst count	1~65000 cycles
	Burst mode	internal, external, single

TTL Output Characteristics

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

GENERAL CHARACTERISTICS

Power Supply	AC220V (1±10%) AC110V (1±10%) (Pay attention to the voltage selection on rear panel)
Frequency	50Hz (1±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

- ATFxxB Series DDS Function Generator 1 unit
- Power cord 1 pc
- Q9 testing cable 1 Pc
- Q9 BNC-clip test lead 1 pc
- User's Guide 1 pc
- RS232 cable (optional) 1 pc

Optional Parts

- RS232 interface
- Power amplifier
- Frequency counter

Ordering Information

ATF10B : 10MHz

ATF15B : 15MHz

ATF20B : 20MHz

Reflecting Atten's commitment to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification. We pursue a policy of continuous development and product improvement. Thus the specifications and picture in this Spec sheet may be changed to make product improvements at any time and without notice and is not responsible for typographical errors.

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