SDS1000D   Specifications

File Version__V1.0_____

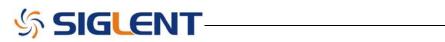**Siglent technology** Co., Ltd

CHARACTERISTIC:

● Single real-time sampling rate :500Msa/s; Equivalent sampling rate:50GSa/s.

● Memory Depth: Single Channel 32Kpts

● Max recording length:6M;Max recording time 33.3 h

● Trigger types: Edge, Pulse Width, Video, Slope, Alternative

● Unique Digital Filter function and Waveform recorder function

● Support Pass/Fail function.

● Thirty two parameters Auto measure function.

● Save/recall types: Setups, Waveforms, Csv file, Picture.

● Support Multilingual On-line help system

● Waveform Intensity and Grid Brightness can be adjusted.

● Support twelve types Language

● Standard Configuration Port:
 USB Host: Support USB flash driver save/recall function and update firmware;
 USB Device: Support PictBridge compatible printer and support PC remote control;
 RS232；
 Pass/Fail Output.

Input	
Input Coupling	AC，DC，GND
Input Impedance	DC: 1MΩ+/-2% ∥ 17pF +/−3pF
	AC: 1.2MΩ+/-2% ∥ 17pF +/−3pF, <=100mV/div
	1.0MΩ+/-2% ∥ 17pF +/−3pF, >100mV/div
Maximum Input Voltage	±400V PK-PK CATI
Ch to Ch Isolation (Both channels in same V/div setting)	>100：1 at 50MHZ（SDS1102D）
	>100：1 at 30MHZ（SDS1062D）
	>100：1 at 20MHZ （SDS1042D）
Probe attenuator	1X, 10X
Probe attenuator	1X, 10X, 100X, 1000X

Horizontal System	
Real Time Sampling Rate	Single Channel: 500MS/s
	Double Channel:250MS/s
Equivalent Sampling Rate	50GSa/s
Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X-Y
Timebase Accuracy	±100ppm measured over 10ms interval
Time Window	12 Divisions
Horizontal Scan Range	2.5ns/div -50s/div （SDS1102D）
	5ns/div -50s/div （SDS1062D）
	10 ns/div -50s/div （SDS1042D）
	25 ns/div -50s/div （SDS1022D）
	Scan: 100ms/div -50s/div（1-2.5-5 sequence）
Vertical System	
Vertical Sensitivity	2mV-10V/div at input BNC(1-2-5 order)
Channel voltage offset range	2mv-200 mV：±1.6V
	206mV-10V: ±40V in Fixed Gain Ranges and Variable Gain Ranges
Vertical Resolution	8 bit
Channels	2
Analog Bandwidth（at input BNC）	100MHz（SDS1102D）
	60MHz （SDS1062D）
	40MHz （SDS1042D）
	25MHZ （SDS1022D）
BW Flatness	DC-10% of rated BW: ±1DB
	10%-50% of rated BW: ±2DB
	50%-100% of rated BW: ±3DB
Lower frequency limit (AC -3dB)	≤10Hz(at input BNC)
Noise：Pk-Pk for 3K record	≤0.6Div for average of 10Pk-Pk readings in fixed

	gain settings.
	<=0.7 Div for average of 10 Pk-Pk readings, Variable gain settings
SFDR including harmonics	≥40dB
DC Gain Accuracy	<±3.0%: 5mv/div to 5V/div in Fixed Gain Ranges
	<±4.0%:typical for 2mv/div and Variable Gain Ranges
DC Measurement Accuracy: All Gain settings ≤ 100mv/div	± [3%X（|reading|+|offset|）+1% of |offset| +0.2div+2mv]
DC Measurement Accuracy: All Gain settings > 100mv/div	± [3%X（|reading|+|offset|）+1% of |offset| +0.2div+100mv]
Rise time，Typical（using 500ps pulse）	<3.5ns （SDS1102D） <5.8ns （SDS1062D） <8.8ns （SDS1042D） <14ns （SDS1022D）
Math operation	+,-, *, /,FFT
FFT	Window mode: Hanning, Hanmming, Blackman, Rectangular
	Sampling points: 1024
Bandwidth limiter	20MHZ±40% Typical(Note: BW limited below 20MHZ±40% when using probe X1)

Trigger System	
Trigger Types	Edge, Pulse Width, Video, Slope, Alternative
Trigger Modes	Auto, Normal, Single
Trigger Sources	Ch1-2, EXT, EXT/5, AC Line
Trigger Coupling	AC, DC, LF rej, HF rej
Trigger Level Range	CH1, CH2: ±6divisions from center of screen EXT: ±1.2V EXT/5: ±6V
Trigger Level Accuracy (typical) applicable for the signal of rising and falling time ≥20ns	Internal：±(0.2 div×V/div)(within±4 divisions from center of screen)
	EXT：±(6% of setting + 40 mV)
	EXT/5：±(6% of setting + 200 mV)
Edge Trigger	Edge type：Rising，Falling, Rising and Falling
Pulse Width Trigger	Trigger Modes: (>,<,=) Positive Pulse Width, (>,<,=)Negative Pulse Width
	Pulse Width Range: 20ns-10s
Video Trigger	Support signal Formats: PAL/SECAM, NTSC
	Trigger condition: odd field, even field, all lines, line Num
Slope Trigger	(>,<,=) Positive slope, (>,<,=)Negative

	slope
	Time: 20ns-10s
Alternative Trigger	CH1 trigger type: Edge, Pulse, Video, Slope
	CH2 trigger type: Edge, Pulse, Video, Slope

Control Panel Function	
Auto Set	Auto adjusting the Vertical, Horizontal system and Trigger Position
Save/Recall	Support 2 Group referenced Waveforms, 20 Group setups, 20 Group captured Waveforms internal Storage/Recall function and USB flash driver storage function.

Hard Ware Frequency Counter	
Reading resolution	6 Bytes
Accuracy	±0.01%
Range	DC Couple，10HZ to MAX Bandwidth
Signal Types	Satisfying all Trigger signal (Except Pulse width trigger and Video Trigger)

Acquisition System	
Sample Types	Real time, Equivalent time
Memory Depth	Single Channel:32Kpts
Sample Mode	Sample， Peak Measure, Average
Averages	4,16,32,64,128,256

Measure System	
Auto Measure	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FOVShoot, RPREShoot, FPREShoot, Rise time, Fall time, Freq, Period, +Wid, -Wid, +Dut, -Dut, Bwid, Phase, FRR, FRF, FFR, FFF,LRR,LRF, LFR, LFF
Cursor Measure	Manual mode, Track mode and Auto mode

Generic Specification

Display System	
Display Mode	Color TFT 5.7in.(145mm)diagonal Liquid Crystal Display
Resolution	320 horizontal by 234 vertical pixels
Display Color	64K color
Display Contrast （Typical state）	150:1
Backlight Intensity （Typical state）	300nit
Wave display range	8 x 12 div
Wave Display Mode	Point, Vector
Persist	Off, 1 sec, 2 sec, 5 sec, Infinite
Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite
Skin	Succinct
Screen saver	1min, 2min, 5min, 10min,15min, 30min, 1hour, 2hour, 5hour, off
waveform interpolation	Sin(x)/x、Linear
Color model	Normal , Invert
Language	Simplified Chinese, Traditional Chinese, English, French, German, Russian, Spanish, Portuguese Japanese, Korean, Italian,Arabic

Power Supply	
Input Voltage	100-240 VAC, CAT II, Auto selection
Frequency Scope	45Hz to 440Hz
Power	50VA Max

Mechanical		
Dimension	length	305mm
	Width	133mm
	Height	154mm
Weight	2.3 kg	

Environments	
Temperature	Operating:10℃ to +40℃
	Not operating: -20℃ to +60℃
Humidity	Operating: 85%RH, 40℃, 24 hours
	Not operating: 85%RH, 65℃, 24 hours
Height	Operating: 3000m
	Not operating: 15,266m