SDS1000X Series

Super Phosphor Oscilloscope

SIGLENT®

DataSheet-2015.7

SIGLENT TECHNOLOGIES CO.,LTD

SDS1102X
SDS1102X-S
SDS1202X
SDS1202X-S

Overview

SIGLENT's new SDS1000X Series Super Phosphor Oscilloscopes are available in bandwidths, 100 MHz and 200 MHz, a sample rate of 1 GSa/s, and a standard record length of 14 Mpts. The most commonly used functions can be accessed with its user-friendly one-button design.

The SDS1000X series employs a new generation of SPO technology. With excellent signal fidelity, background noise is lower than similar products in the industry. The SDS1000X has a minimum vertical input range of 500uV/div, an innovative digital trigger system with high sensitivity and low jitter, and a waveform capture rate of 60,000 frames/sec. It also employs not only the common 256-level intensity grading display function but also a color temperature display mode not found in other models in this class. Siglent's new oscilloscope offering supports multiple powerful triggering modes including serial bus triggering and decoding. History waveform recording and sequential triggering allow for extended waveform records to be captured, stored, and analyzed. Add an impressive array of measurement and math capabilities, options for an integrated 25 MHz arbitrary waveform generator, as well as serial decoding, and the features and high-performance of the SDS1000X oscilloscopes cannot be matched at anywhere at this price.

Key Features

- 200MHz, 100MHz, bandwidth models
- Real-time sampling rate up to 1GSa/s
- Record length of 14Mpts
- Waveform capture rate up to 60,000 wfs/s
- New generation of SPO technology
- Supports 256-level intensity grading and color temperature display
- Intelligent trigger: Edge, Slope, Pulse, Window, Runt, Interval, Time out (Dropout), Pattern
- Serial bus triggering and decode, supports protocols I^2C, SPI, UART/RS232, CAN, LIN
- Video trigger, supports HDTV
- Low background noise, supports 500μV / div to 10V / div voltage scales
- 10 types of one-button shortcuts, supports Auto Setup, Default Setup, Cursor, Measure, Roll, History, Persistence, Clear Sweep, Zoom and Print
- Segmented acquisition (Sequence) mode, the maximum record length can be divided into 1000 segments, according to trigger conditions set by the user, with a very small dead time segment to capture qualifying event
- History waveform record (History) function, the maximum recorded waveform length is 80,000 frames
- 36 automatic measurement function, supports statistics calculations, Gating measurement, Math measurement, History measuring, Ref measurement
- Waveform math function (FFT, addition, subtraction, multiplication, division, integration, differentiation, square root)
- High Speed hardware based Pass/ Fail function
- 25MHz DDS arbitrary waveform generator, built-in 10 kinds of waveforms (SDS1000X-S models)
- Large 8 inch TFT-LCD display with 800 * 480 resolution, Abundant interfaces: USB Host, USB Device (USBTMC), LAN (VXI-11), Pass / Fail, Trigger Out
- Supports SCPI remote control commands
- Supports Multi-language display and embedded online help

Models and Key Specifications

Model	SDS1102X	SDS1102X-S	SDS1202X	SDS1202X-S
Bandwidth	100MHz		200MHz	
Sample Rate(Max)	1GSa/s			
Channels	2+EXT			
Memory Depth(Max)	7Mpts/CH (Dual-Channel); 14Mpts/CH (Single-Channel)			
Waveform Capture Rate	60,000 wfms/s			
Trigger Type	Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video			
Serial Trigger (Optional)	I^2C, SPI, UART/RS232, CAN, LIN			
Decode Type (Optional)	I^2C, SPI, UART/RS232, CAN, LIN			
DDS Waveform Generator	No	Yes	No	Yes
	Single Channel, Max Frequency up to 25MHz, 125 MS/s waveform generation Capabilities, wave length 16Kpts			
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out, 1KHz Cal			
Probe(Std)	2 pcs passive probe PP510		2 pcs passive probe PP215	
Display	8 inch TFT LCD (800x480)			
Weight	Net weight 3.26 Kg, Gross weight 4.25Kg			

Characteristics

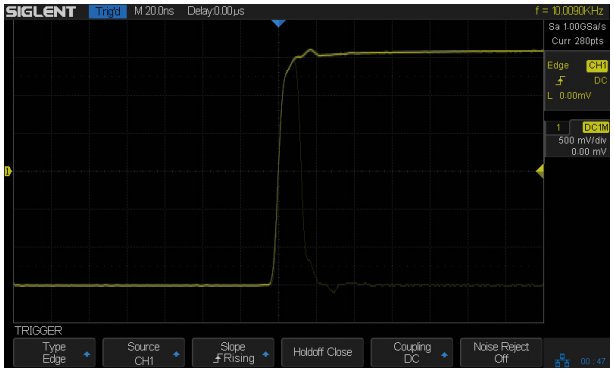
8 inch TFT-LCD display and 10 one-button menus

SDS1000X Equipped with 8” TFT-LCD display with a resolution of 800 * 480

SDS1000X Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default Setup, Cursor, Measure, Roll, History, Persist, Clear Sweep, Zoom, Print

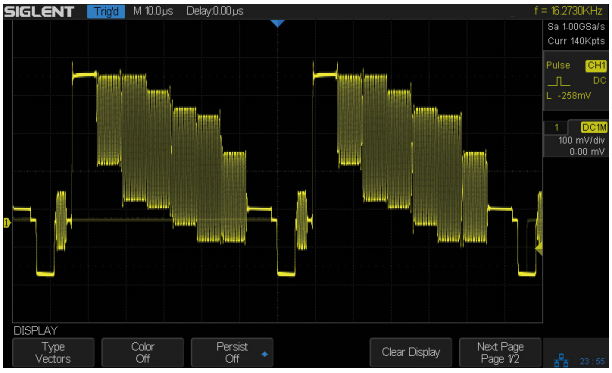
Characteristics

Waveform capture rate up to 60,000 wfms/s



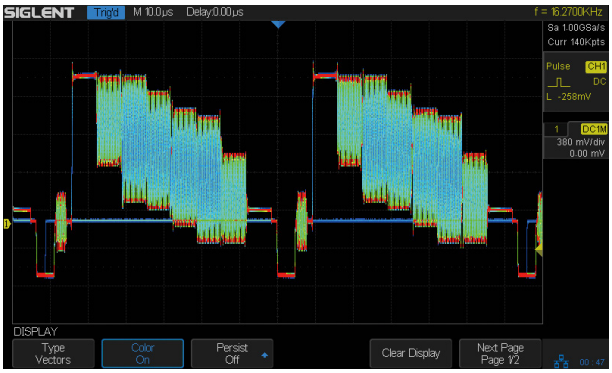
Up to 60,000 frames / second waveform capture rate, the oscilloscope can easily capture the unusual event or low-probability event

256-level intensity grading and color temperature display



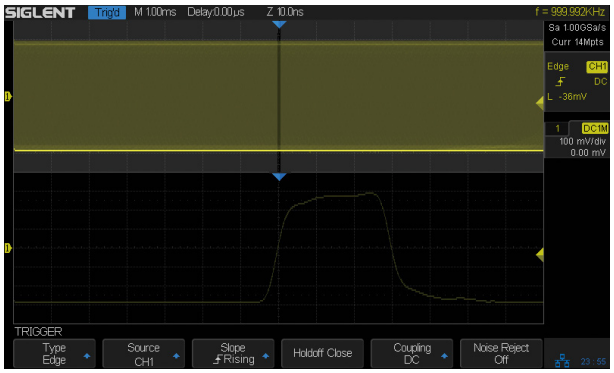
SPO display technology provides for fast refresh rates. The resulting intensity-graded trace is brighter for more often-occurring display points and dimmer in less-often-occurring points

Color Temperature Display



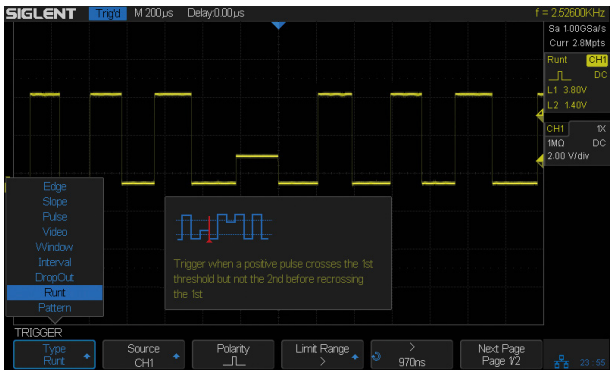
The color temperature display is similar to the intensity-graded trace except that the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red represents the most common occurrences or probabilities while blue are the least common points.

Record length of up to 14Mpts



Using hardware-based Zoom technologies and record length of up to 14Mpts, users are able to use a higher sampling rate to capture more of the signal, and then quickly zoom in to focus on the area of interest

Abundant trigger function

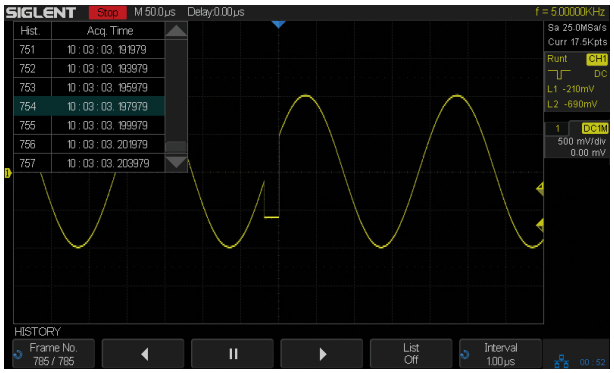


SDS1000X has a wealth of trigger modes, including Edge, Slope, Pulse, Video, Windows, Runt, Interval, Time out (Dropout), Pattern, IIC, SPI, UART/RS232, LIN, CAN

Serial bus decoding Function (optional)

SDS1000X displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in table form

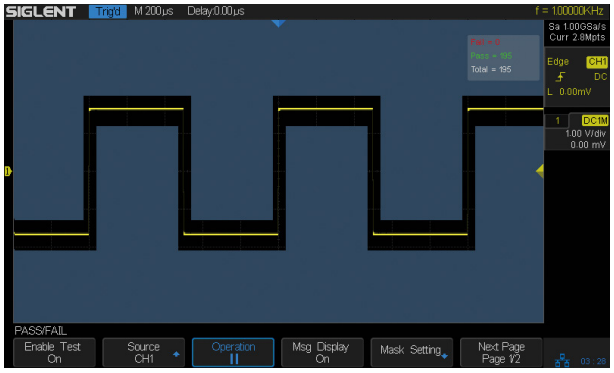
History Waveforms (History) mode and segmented acquisition (Sequence)



Playback history waveform to observe unusual events and locate the source quickly through the cursor or measurements, Located on the keyboard panel, this function is easily enabled.

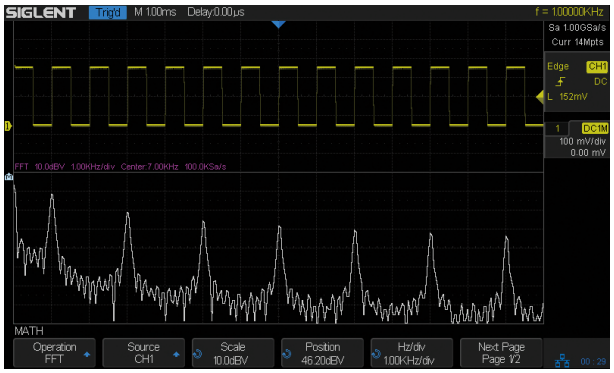
Segmented memory collection will store the waveform into multiple (1000) memory segments, each segment will store a triggered waveform and dead time information

Hardware-Based High Speed Pass/Fail Function



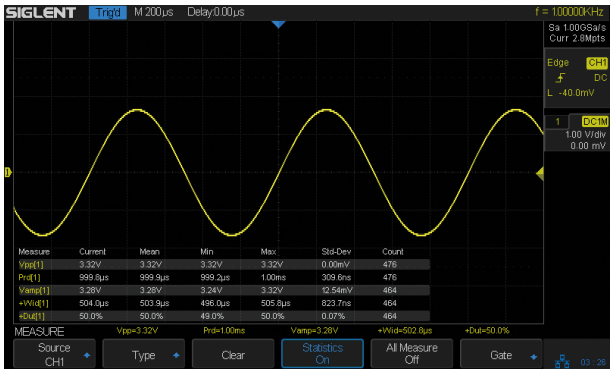
The SDS1000X utilizes a hardware-based Pass / Fail function, performing up to 60,000 Pass / Fail decisions each second. With easy to generate user-defined test templates, the SDS1000X compares the current measured trace to the template mask trace making it suitable for long-term signal monitoring or automated production line testing.

Advanced Math Function



In addition to the traditional (+, -, *, /) operation, SDS1000X oscilloscopes supports FFT, integration, differentiation, and square root operations

Comprehensive statistical functions



Parametric statistical functions to display any parameters of the five measurements: current, average, Minimum value, Maximum value, and the standard deviation. The measurement count is also displayed. The maximum number of parameters that can be measured and simultaneously analyzed statistically is five. Support Gating measurements, Math measurement, History measurement, Ref measurement.

Built-in 25MHz function/arbitrary waveform generator (SDS1000X-S model)

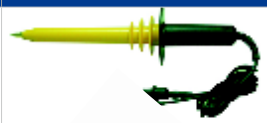
The SDS1000X-S has a built-in 25MHz function / arbitrary waveform generator, including 10 built-in waveforms plus 4 ARBs. The EasyWave PC software (included) to enter and edit arbitrary waveforms

Complete connectivity

SDS1000X supports USB Host, USB Device (USBTMC), LAN (VXI-11), Pass/Fail and Trigger Out

SDS1000X Probes

Type	Model	Picture	Specifications
Current Probe	CP4020		Bandwidth: 100KHz; Maximum continuous current 20Arms; Peak current 60A; Switching ratio: 50mV/A; 5mV/A; DC measurement accuracy: 50mV/A (0.4A-10ApK) ± 2%; 5mV/A (1A-60ApK)±2%; 9V battery-powered
	CP4050		Bandwidth: 1MHz; Maximum continuous current 50Arms; Peak current 140A; Switching ratio: 500mV/A; 50mV/A; DC measurement measurement accuracy: 500mV/A (20mA-14ApK) ±3%±20mA; 50mV/A (200mA-100ApK)±4%± 200mA; 50mV/A (100A-140ApK)±15% max; 9V battery-powered
	CP4070		Bandwidth: 150KHz; Maximum continuous current 70Arms;Peak current 200A;Switching ratio: 50mV/A; 5mV/A; DC measurement accuracy: 50mV/A(0.4A-10ApK)±2%±5mV/A (1A-200ApK)±2%;9V battery-powered
	CP4070A		Bandwidth: 300KHz; Maximum continuous current 70Arms; Peak current 200A;Switching ratio：100mV/A;10mV/A; DC measurement accuracy：100mV/A(50mA-10ApK) ±3%±50mA; 10mV/A (500mA-40ApK) ±4%±50mA; 10mV/A (40A-200ApK) ±15%max; 9V battery-powered
	CP5030		Bandwidth: 50MHz; Maximum continuous current 30Arms; Peak current 50A;Switching ratio: 5A/30A; Accuracy: 5A(±1%±1mA);30A(±1%±10mA); Standard DC12V/1.2A power adapter
	CP5030A		Bandwidth: 100MHz; Maximum continuous current 30Arms; Peak current 50A; Switching ratio: 5A/30; Accuracy: 5A(±1%±1mA);30A(±1%±10mA); Standard DC12V/1.2A power adapter
	CP5150		Bandwidth: 12MHz; Maximum continuous current 150Arms; Peak current 300A; Switching ratio: 30A/150A; Accuracy: 30A(±1%±10mA);150A(±1%±100mA); Standard DC12V/1.2A power adapter
	CP5500		Bandwidth: 5MHz; Maximum continuous current 500Arms; Peak current750A; Switching ratio:75A/500A; Accuracy: 75A(±1%±10mA);500A(±1%±100mA); Standard DC12V/1.2A power adapter
Differential Probe	DPB4080		Bandwidth: 50MHz; Maximum input differential voltage 800V (DC + Peak AC); Range selection (attenuation ratio):10X/100X; Accuracy: ±1%; Standard DC 9V/1A power adapter
	DPB5150		Bandwidth: 70MHz; Maximum input differential voltage 1500V (DC + Peak AC); Range selection (attenuation ratio): 50X/500X; Accuracy: ±2%; Standard 5V/1A USB power adapter
	DPB5150A		Bandwidth: 100MHz; Maximum input differential voltage 1500V (DC + Peak AC);Range selection (attenuation ratio): 50X/500X; Accuracy: ±2%; Standard 5V/1A USB power adapter
	DPB5700		Bandwidth: 70MHz; Maximum input differential voltage 7000V (DC + Peak AC);Range selection (attenuation ratio): 100X/1000X; Accuracy: ±2%; Standard 5V/1A USB power adapter
	DPB5700A		Bandwidth: 100MHz; Maximum input differential voltage 7000V (DC + Peak AC);Range selection (attenuation ratio): 100X/1000X; Accuracy: ±2%; Standard 5V/1A USB power adapter

Type	Model	Picture	Specifications
High Voltage Probe	HPB4010		Bandwidth: 40MHz; Maximum input differential voltage DC: 10KV; AC（rms）: 7KV（sine）;AC（Vpp）：20KV（Pulse）; attenuation ratio1:1000; Accuracy：≤3%
Near-field probe	SRF5030		Four near-field probes; Frequency range: 30MHz ~ 3GHz; resolution 25mm; distinguished within 10cm range of the magnetic field; for EMI radiation interference and the intensity detector
Preamplifier	EM5020		"Maximum linear output power 10dBm; Frequency range: 9KHz ~ 3GHz; typical gain of about 20dB ~ 30dB; Maximum input power 13dBm ~ 15dBm"
"Power Amplifier (Accessory for Waveform Generator)"	SPA1010		Output Power: 10W (typical); Input Impedance: 15kΩ; Input: +/- 6.5V Vpp(Gain:X1); +/- 1.3V (Gain:X10); Gain: Switching in 10V/1V and 10V/10V; Output Voltage: 25.4 Vpp; Output Current: 1.12 A; Slew Rate: ≥ 90 V/μs; Overshoot: ≤ 4%. Work with SIGLENT Generator.
Isolated front end	ISFE		USB 5V power supply, plug and play, the maximum input voltage 600Vp-p, floating test. Work with oscilloscopes.
GPIB	USB-GPIB		USB-GPIB Adapter, USB Device expanded into GPIB interface.
Demo board	STB Test Board		Optional accessories For experimental teaching and product demos
Deskew fixture	DF2001A		Deskew fixture for voltage and current probes
Logic Probe	SPL1008		Logic Probe for SDS2000 series , 8-channel, 500MSa/s

Specifications

Acquire System	
Sample Rate	1GSa/s (Single-Channel), 500MSa/s(Dual-Channel)
Memory Depth	Max 14Mpts/Ch (Single-Channel), 7Mpts/Ch (Dual-Channel)
Peak Detect	1ns
Average	Averages: 4,16, 32,64,128,256,512,1024
Eres	Enhance bits: 0.5, 1, 1.5, 2, 2.5, 3 Selectable
Waveform interpolation	Sinx/x, Linear

Input	
Channel	2
Coupling	DC, AC, GND
Impedance	DC: (1MΩ±2%) || (18pF ±2pF) AC: (1.2MΩ±2%) || (18pF ±2pF) 50Ω: 50Ω±2%
Max Input voltage	1MΩ ≤400Vpk(DC + Peak AC <=10kHz), 50Ω ≤5Vrms
CH to CH Isolation	DC~Max BW >40dB
Probe attenuator	0.1X, 0.2X, 0.5X, 1X, 2X, 5X, 10X, 20X, 50X, 100X, 200X, 500X , 1000X

Vertical System

Bandwidth (-3dB)	200MHz (SDS1202X) 100MHz (SDS1102X)
Vertical Resolution	8 bit
Vertical Scale (Probe 1X)	500μV/div - 10V/div (1-2-5)
Offset Range (Probe 1X)	500μV ~ 150mV: ± 1V 152mV ~ 1.5V: ± 10V 1.52V ~ 10V: ± 100V
Bandwidth Limit	20MHz ±40%
Bandwidth Flatness	DC ~ 10%(BW): ± 1dB 10% ~ 50%(BW): ± 2dB 50% ~ 100%(BW): + 2dB/-3dB
Low Frequency Response (AC-3dB)	≤10Hz (at input BNC)
Noise	ST-DEV ≤0.7 division (<1mV/div) ST-DEV ≤0.4 division (<2mV/div) ST-DEV ≤0.2 division (≥2mV/div)
SFDR including harmonics	≥35dB;
DC Gain Accuracy	≤±3.0%: 5mV/div ~10V/div ≤±4.0%: ≤2mV/div
Offset Accuracy	±(1%* Offset+1.5%*8*div+2mV): ≥2mV/div ±(1%* Offset+1.5%*8*div+500uV): ≤1mv/div
Rise time	<1.8ns (SDS1202X) <3.5ns (SDS1102X)
Overshoot(500ps Pulse)	<10%

Horizontal System

Time base Scale	2.0ns/div ~ 50s/div
Channel Skew	<100ps
Waveform Capture Rate	60,000 wfm/s
Intensity grading	256 Levels
Display Format	Y-T, X-Y, Roll
Time base Accuracy	±25ppm
Roll Mode	50ms/div ~ 50s/div (1-2-5 step)

Trigger System

Trigger Mode	Auto, Normal, Single
Trigger Level	Internal: ±4.5 div from the center of the screen EXT: ±0.6 V EXT/5: ±3V
Hold-off Range	80ns ~ 1.5s
Trigger Coupling	AC , DC, LFRJ, HFRJ , Noise RJ (CH1~CH2)
Coupling Frequency Response (CH1~CH2)	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 5.8Hz LFRJ: Blocks the DC component and attenuates the low-frequency components below 2 MHz HFRJ: Attenuates the high-frequency components above 1.2MHz
Coupling Frequency Response (EXT)	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 30Hz LFRJ: Blocks the DC component and attenuates the low-frequency components below 300Hz HFRJ: Attenuates the high-frequency components above 7 MHz
Trigger Accuracy(Typical)	Internal: ±0.2div EXT: ±0.4div
Trigger Sensitivity	CH1~CH2: DC~ Max BW 0.6div EXT: 200mVpp DC ~ 10MHz 300mVpp 10MHz ~ BW frequency EXT/5: 1Vpp DC ~ 10MHz 1.5Vpp 10MHz ~ BW frequency
Trigger Jitter	<100ps(CH1~CH2)
Trigger Displacement	Pre-Trigger: 0~100% Memory Delay Trigger: 0 to 10,000 div

Slope Trigger	
Slope	Rising, Falling
Limit Range	<, >, <>, ><
Source	CH1/CH2
Time Range	2ns ~ 4.2s
Resolution	1ns
Edge Trigger	
Slope	Rising, Falling, Rising & Falling
Source	CH1/CH2 /EXT/(EXT/5)/AC Line
Pulse Trigger	
Polarity	+wid , -wid
Limit Range	<, >, <>, ><
Source	CH1/CH2
Pulse Range	2ns ~ 4.2s
Resolution	1ns
Video Trigger	
Signal Standard	NTSC, PAL, 720p/50, 720p/60, 1080p/50, 1080p/60, 1080i/50,
Source	1080i/60, Custom CH1/CH2
Sync	Any, Select
Trigger condition	Line, Field
Interval Trigger	
Slope	Rising, Falling
Limit Range	<, >, <>, ><
Source	CH1/CH2
Time Range	2ns ~ 4.2s
Resolution	1ns
Dropout Trigger	
Timeout Type	Edge, State
Source	CH1/CH2
Slope	Rising, Falling
Time Range	2ns ~ 4.2s
Resolution	1ns
Runt Trigger	
Polarity	+wid , -wid
Limit Range	<, >, <>, ><
Source	CH1/CH2
Time Range	2ns ~ 4.2s
Resolution	1ns
Pattern Trigger	
Pattern Setting	Invalid, Low, High
Logic	AND, OR, NAND, NOR
Source	CH1/CH2
Limit Range	<, >, <>, ><
Time Range	2ns ~ 4.2s
Resolution	1ns
Window Trigger	
Window Type	Absolute, Relative
Source	CH1/CH2

Serial Trigger	
I^2C Trigger	
Condition	Start, Stop, Restart, No Ack, EEPROM, 7bits Address & Data, 10bits Adress & Data, Data Length
Source(SDA/SCL)	CH1, CH2
Data format	Hex
Limit Range	EEPROM: =, >, <
Data Length	EEPROM: 1byte Addr & Data: 1~2byte Data Length: 1~12byte
R/W bit	Addr & Data: Read, Write, Do not care
SPI Trigger	
Condition	Data
Source(CS/CL/Data)	CH1, CH2
Data format	Binary
Data Length	4 ~ 96 bit
Bit Value	0, 1, X
Bit Order	LSB, MSB
UART/ RS232 Trigger	
Condition	Start, Stop, Data, Parity Error
Source (RX/TX)	CH1, CH2
Data format	Hex
Limit Range	=, >, <
Data Length	1byte
Data Width	5 bit, 6 bit, 7 bit, 8 bit
Parity Check	None, Odd, Even
Stop Bit	1 bit, 1.5 bit, 2 bit
Idle Level	High, Low
Baud(Selectable)	600/1200/2400/4800/9600/19200/38400/57600/115200bit/s
(Custom)	300bit/s ~ 334000 bit/s
Serial Decode	
I^2C	
Signal	CL, SDA
Address	7bit, 10bit
Threshold Level	-4.5~4.5div
List	1~7 lines
SPI	
Signal	SCL, MISO, MOSI
Edge Select	Rising, Falling
Idle Level	Low, High
Bit Order	MSB, LSB
Threshold Level	-4.5~4.5 div
List	1~7 lines
UART/ RS232	
Signal	RX, TX
Data Width	5 bit, 6 bit, 7 bit, 8 bit
Parity Check	None, Odd, Even
Stop Bit	1 bit, 1.5 bit, 2 bit
Idle Level	Low, High
Threshold Level	-4.5~4.5 div
List	1~7 lines

Measure System		
Source	CH1, CH2, Math, Ref, History	
Number of Measurements	Display 5 measurements at the same time	
Measurement Range	Screen region, Gate region	
Measurement Parameters (36 Types)		
Vertical (Voltage)	Vmax	Highest value in input waveform
	Vmin	Lowest value in input waveform
	Vpp	Difference between maximum and minimum data values
	Vamp	Difference between top and base in a bimodal signal ,or between max and min in an unimodal signal
	Vtop	Value of most probable higher state in a bimodal waveform
	Vbase	Value of most probable lower state in a bimodal waveform
	Mean	Average of all data values
	Vmean	Average of data values in the first cycle
	stdev	Standard deviation of all data values
	Vstd	Standard deviation of all data values in the first cycle
	Vrms	Root mean square of all data values
	Crms	Root mean square of all data values in the first cycle
	FOV	Overshoot after a falling edge;(base-min)/Amplitude
	FPRE	Overshoot before a falling edge;(max-top)/Amplitude
	ROV	Overshoot after a rising edge;(max-top)/Amplitude
	RPRE	Overshoot before a rising edge;(base-min)/Amplitude
Horizontal (Time)	Period	Period for every cycle in waveform at the 50% level ,and positive slope
	Freq	Frequency for every cycle in waveform at the 50% level ,and positive slope
	+Wid	Width measured at 50% level and positive slope
	-Wid	Width measured at 50% level and negative slope
	Rise Time	Duration of rising edge from 10-90%
	Fall Time	Duration of falling edge from 90-10%
	Bwid	Time from the first rising edge to the last falling edge ,or the first falling edge to the last rising edge at the 50% crossing
	+Dut	Ratio of positive width to period
	-Dut	Ratio of negative width to period
	Delay	Time from the trigger to the first transition at the 50% crossing
	Time@Level	Time from trigger of each transition at a specific level and slope, include: Current, Max, Min, Mean, Std-dev
Delay	Phase	Calculate the phase difference between two edges
	FRR	Time between the first rising edges of the two channels
	FRF	Time from the first rising edge of channel A ,to the first falling edge of channel B
	FFR	Time from the first falling edge of channel A ,to the first rising edge of channel B
	FFF	Time from the first falling edge of channel A ,to the first falling edge of channel B
	LRR	Time from the first rising edge of channel A ,to the last rising edge of channel B
	LRF	Time from the first rising edge of channel A ,to the last falling edge of channel B
	LFF	Time from the first falling edge of channel A ,to the last rising edge of channel B
Cursors	Manual : Time X1, X2, (X1-X2), (1/ΔT) Voltage Y1, Y2, (Y1-Y2) Track: Time X1, X2, (X1-X2)	
Statistics	Current, Mean, Min, Max, Std-Dev, Count	
Counter	Hardware 6 bits counter (channels are selectable)	

Math Function	
Operation	+ , - , * , / , FFT , d/dt , ∫dt , √
FFT window	Rectangular, Blackman, Hanning, Hamming
FFT display	Full Screen, Split
Decoding number	2

Built-in Function Generator (SDS1000X-S)	
Channel	1
Max. Output Frequency	25MHz
Sample Rate	125 MSa/s
Frequency Resolution	1 μHz
Frequency Accuracy	±50 ppm
Vertical Resolution	14 bits
Amplitude Range	-1.5 ~ +1.5V (50Ω)
	-3 ~ +3V (High-Z)
Waveform Type	Sine, Square, Ramp, Pulse, DC, Noise, Cardiac, Gaus Pulse, Exp Rise, Exp Fall, Arb
Output impedance	50Ω±2%
Protection	Short-Circuit Protection

Sine	
Frequency	1μHz ~ 25MHz
Offset Accuracy(100 kHz)	±(0.3dB*Offset Setting Value +1mVpp)
Amplitude flatness (100 kHz, 5Vpp)	±0.3 dB
SFDR	DC ~ 1 MHz -60dBc
	1 MHz ~ 5 MHz -55dBc
	5 MHz ~ 25 MHz -50dBc
HD	DC-5 MHz -50dBc
	5 MHz - 25MHz -45dBc

Square/Pulse	
Frequency	1μHz ~ 10MHz
Duty Cycle	20% ~ 80%
Rise/Fall time	< 24 ns (10% ~ 90%)
Overshoot (1kHz, 1Vpp, Typical)	< 3%
Pulse Width	> 50ns
Jitter	< 500ps + 10ppm

Ramp	
Frequency	1μHz ~ 300kHz
Linearity(Typical)	< 0.1% of Pk-Pk (Typical, 1 kHz, 1 Vpp, 100% Symmetry)
Symmetry	0% ~ 100%(Adjustable)

DC	
Offset range	±1.5 V(50Ω) ±3 V(High-Z)
Accuracy	±(|offset|*1%+3 mV)

Noise	
Bandwidth	>25MHz (-3dB)

Arbitrary Wave	
Frequency	1μHz ~ 5MHz
Wave Length	16Kpts
Sample Rate	125MSa/s
Lead in	EasyWave

I/O	
Standard	USB Host, USB Device, LAN, Pass/Fail, Trigger Out
Pass/Fail	3.3V TTL Output

Display(Screen)	
Display Type	8 inches TFT LCD
Display Resolution	800×480
Display Color	24 bit
Contrast(Typical)	500:1
Backlight	300nit
Range	8 x 14 divisions

Display(Waveform)	
Display Mode	Dot, Vector
Persist Time	Off, 1 Sec, 5 Sec, 10 Sec, 30 Sec, Infinite
Color Display	Normal, Color
Screen Saver	1min, 5min, 10min, 30min, 1hour, Off
Language	Simplified Chinese, Traditional Chinese, English, French, Japanese, Korean, German, Russian, Italian, Portuguese

Environments	
Temperature	Operating: 10℃～ +40℃
	Non-operating:-20℃～ +60℃
Humidity	Operating: 85%RH, 40℃ , 24hours
	Non-operating: 85%RH, 65℃ , 24 hours
Height	Operating: ≤3000m
	Non-operating: ≤15,266m
Electromagnetic Compatibility	2004/108/EC), Execution Standard EN 61326-1:2006 EN 61000-3-2:2006 + A2:2009, EN 61000-3-3:2008
Safety	2006/95/EC Execution Standard EN 61010-1:2010/EN 61010-2-030:2010

Mechanical	
Dimensions	Length 340mm
	Width 123mm
	Height 184mm
Weight	N.W: 3.26 Kg; G.W:4.25Kg

Power Supply	
Input Voltage	100 ~ 240 VAC, CAT II, Auto selection
Frequency	50/60 /400Hz
Power	50W Max

Ordering information

Product Description	Product Name
100MHz Two Channels	SDS1102X
200MHz Two Channels	SDS1202X
100MHz Two Channels Built-In Waveform Generator	SDS1102X-S
200MHz Two Channels Built-In Waveform Generator	SDS1202X-S

Standard Accessories	
USB Cable -1	
Quick Start-1	
Certification-1	
Passive Probe-2	
Power Cord -1	
CD (Included User Manual and EasyScopeX software-1)	
Optional Accessories	
I^2C,SPI,UART/RS232,CAN,LIN Decode key	SDS-1000X-DC
Power analyze Software	SDS-1000X -PA
USB-GPIB Adapter	USB-GPIB
16 Channels MSO	SDS-1000X-LA
Isolated Front End	ISFE
High Voltage Probe	HPB4015
Current Probe	CP4060/CP4020/CP5050/CP5300
Differential Probe	DPB4050/DPB3050

SDS1000X Series

Super Phosphor Oscilloscope

About SIGLENT

SIGLENT is an international high-tech company, concentrating on R&D, sales, production and services of test &measurement Instruments.

SIGLENT began to research and develop the Digital Oscilloscope independently in 2002. After a decade of development products have included digital oscilloscopes, isolated handheld oscilloscopes, function/arbitrary waveform generators, digital multimeters, DC power supplies, spectrum analyzers, and other general purpose test instrumentation. Since SIGLENTs first oscilloscope, the ADS 7000 series produced in 2005, SIGLENT has maintained the highest annual growth rate and has been the fastest developing DSO manufacturer over the past 10 years. Nowadays, SIGLENT Technologies is the leading manufacturer of oscilloscopes by shipments in China.

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