SDS1000X-E Series

Super Phosphor Oscilloscope

SIGLENT®

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SDS1202X−E

Product overview

SIGLENT's new SDS1000X-E Series Super Phosphor Oscilloscope is available in one bandwidth, 200 MHz. It has a maximum sample rate of 1 GSa/s and a standard record length of 14 Mpts. For ease-of-use, the most commonly used functions can be accessed with its user-friendly front panel design.

The SDS1000X-E series employs a new generation of SPO (Super Phosphor Oscilloscope) technology that provides excellent signal fidelity and performance. The system noise is also lower than similar products in the industry. It comes with a minimum vertical input range of 500 uV/div, an innovative digital trigger system with high sensitivity and low jitter, and a waveform capture rate of 400,000 frames/sec (sequence mode). The SDS1000X-E also employs a 256-level intensity grading display function and a color temperature display mode not found in other models in this class. Siglent's latest oscilloscopes offering supports multiple powerful triggering modes including serial bus triggering. Decoding is standard configuration including IIC,SPI,UART,CAN,LIN. History waveform recording and sequential triggering enable extended waveform recording and analysis. Another powerful addition is the new 1 million points FFT math function that gives the SDS1000X-E very high frequency resolution when observing signal spectra. The new design also includes a hardware co-processor that delivers measurements quickly and accurately. The features and performance of Siglent's new SDS1000X-E cannot be matched anywhere else in this price class.

Key Features

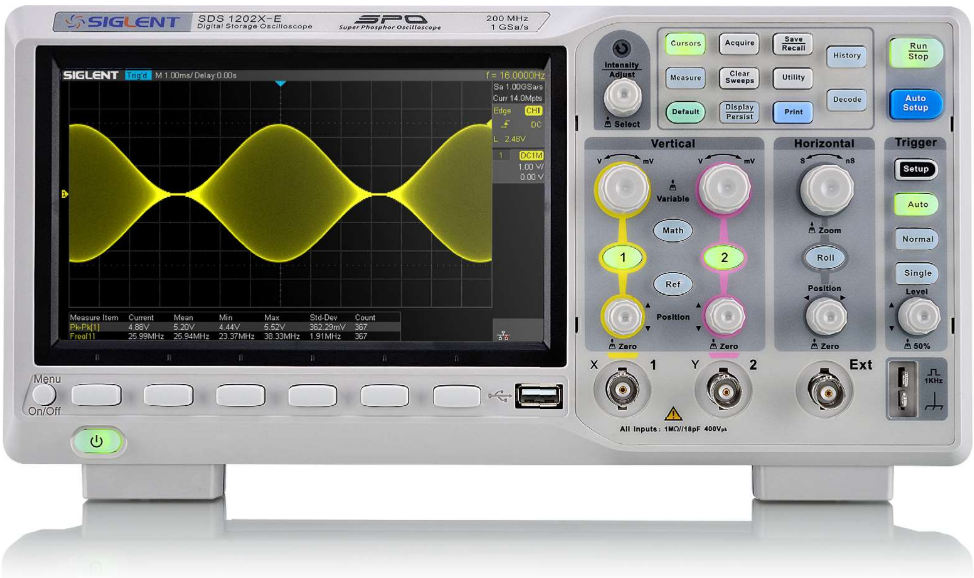
- 200 MHz bandwidth model
- Real-time sampling rate up to 1 GSa/s
- The newest generation of SPO technology
  - Waveform capture rate up to 100,000 wfm/s (normal mode), and 400,000 wfm/s (sequence mode)
  - Supports 256-level intensity grading and color display modes
  - Record length up to 14 Mpts
  - Digital trigger system
- Intelligent triggers: Edge, Slope, Pulse Width, Window, Runt, Interval, Time out (Dropout), Pattern
- Serial bus triggering and decoding (Standard), supports IIC, SPI, UART, RS232, CAN, and LIN
- Video trigger, supports HDTV
- Low noise, supports 500 μV / div to 10 V / div voltage scales
- 10 types of one-button shortcuts, supports Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweep, Zoom and Print
- Segmented acquisition (Sequence) mode, dividing the maximum record length into multiple segments (up to 80,000), according to trigger conditions set by the user, with a very small dead time segment to capture the qualifying event
- History waveform record (History) function, the maximum recorded waveform length is 80,000 frames
- Automatic measurement function for 38 parameters, supports Statistics, Zoom measurement, Gating measurement, Math measurement, History measurement and Ref measurement
- 1 Mpoints FFT
- True measurement and math of all sampled data points (to 14M)
- Math functions (FFT, addition, subtraction, multiplication, division, integration, differential, square root)
- Preset key can be customized for user settings or factory "defaults"
- Security Erase mode
- High Speed hardware based Pass/Fail function
- Large 7 inch TFT-LCD display with 800 * 480 resolution
- Multiple interface types: USB Host, USB Device (USB-TMC), LAN (VXI-11), Pass/Fail, Trigger Out
- Supports SCPI remote control commands
- Supports Multi-language display and embedded online help

Models and key Specification

Model	SDS1202X-E
Bandwidth	200 MHz
Sampling Rate (Max.)	1 GSa/s
Channels	2+EXT
Memory Depth (Max.)	7 Mpts/CH (Dual-Channel); 14 Mpts/CH (Single-Channel)
Waveform Capture Rate (Max.)	100,000 wfm/s (normal mode), 400,000 wfm/s (sequence mode)
Trigger Type	Edge, Slope, Pulse Width, Window, Runt, Interval, Dropout, Pattern, Video
Serial Trigger (Standard)	IIC, SPI, UART/RS232, CAN, LIN
Decode Type (Standard)	IIC, SPI, UART/RS232, CAN, LIN
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out
Probe (Std)	2 pcs passive probe PP215
Display	7 inch TFT-LCD (800x480)
Weight	Without package 2.5 Kg; With package 3.5 Kg

Functions & Characteristics

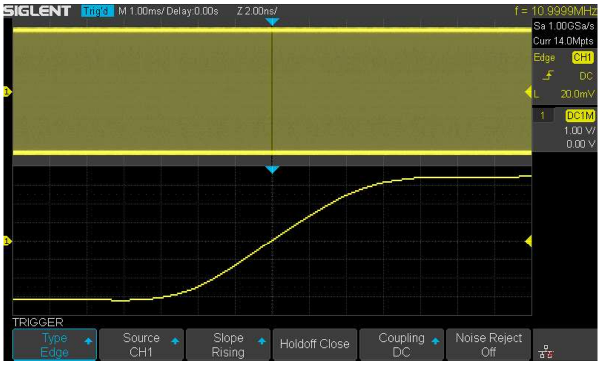
7 Inch TFT-LCD Display and 10 One-button Menus



- 7-inch TFT-LCD display with 800 * 480 resolution
- Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default, Cursor, Measure, Roll, History, Persist, Clear Sweep, Zoom, Print

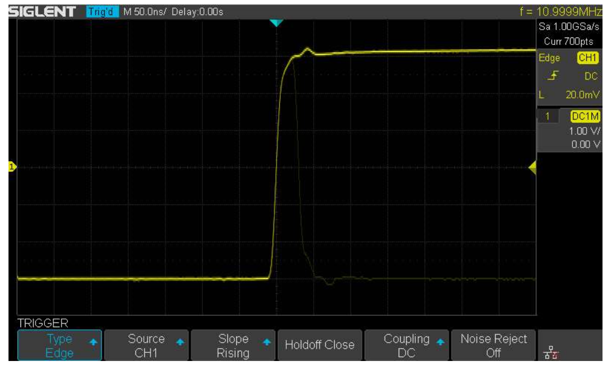
Functions & Characteristics

Record Length of Up to 14 Mpts



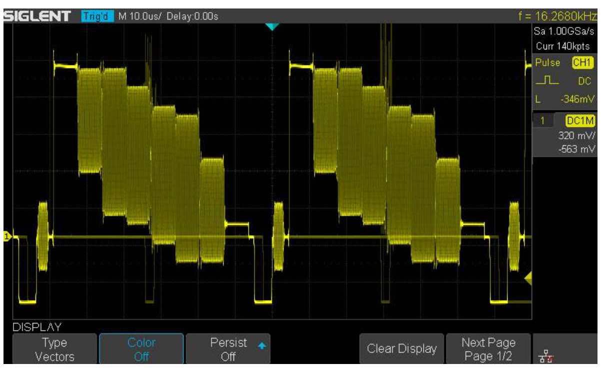
Using hardware-based Zoom technologies and a record length of up to 14 Mpts, users are able to use a higher sampling rate to capture more of the signal and then quickly zoom in to focus on the area of interest.

Waveform Capture Rate Up to 400,000 wfm/s

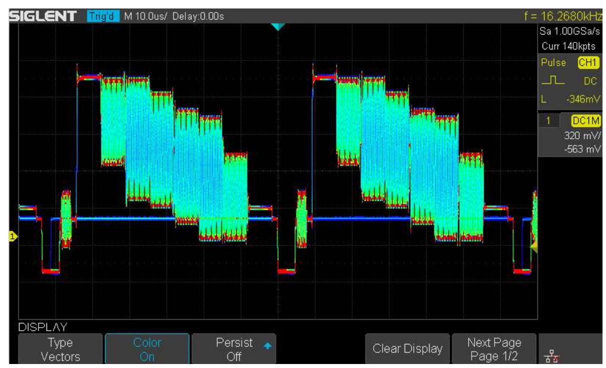


With a waveform capture rate of up to 400,000 wfm/s (sequence mode), the oscilloscope can easily capture the unusual or low-probability events.

256-Level Intensity Grading and Color Temperature Display



SPO display technology delivers fast refresh rates. The resulting intensity-graded traces are brighter where events occur more frequently and less bright where they occur less often.

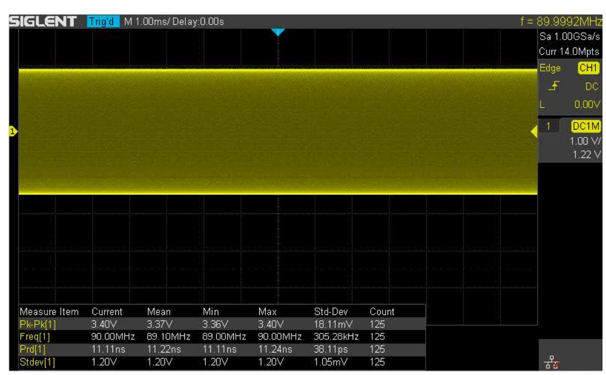


The color temperature display is similar to the intensity-graded trace in function, except that the trace occurrence is represented by different colors (color "temperature") as opposed to changes in the intensity of one color. Red represents the most common occurrences or probabilities, while blue is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

Serial Bus Decoding Function (Standard)

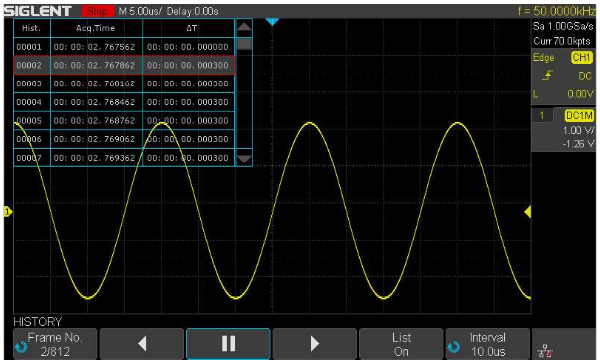
SDS1000X-E displays the decoding through the events list. Bus protocol information can be quickly and intuitively displayed in a tabular format.

True Measurement to 14 Mpoints



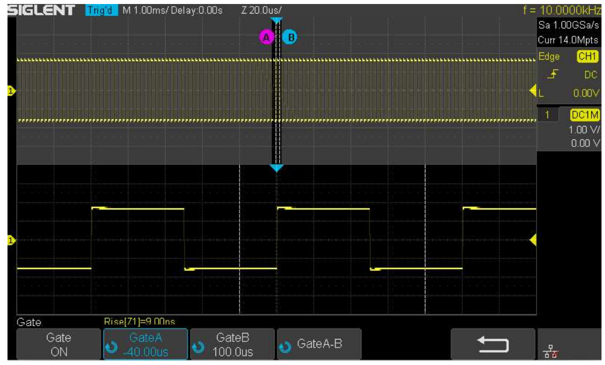
At any one timebase, the SDS1000X-E can measure using all 14M sample points. This ensures the accuracy of measurements while the math co-processor decreases measurement time and increases ease-of-use.

History Waveforms (History) Mode and Segmented Acquisition (Sequence)



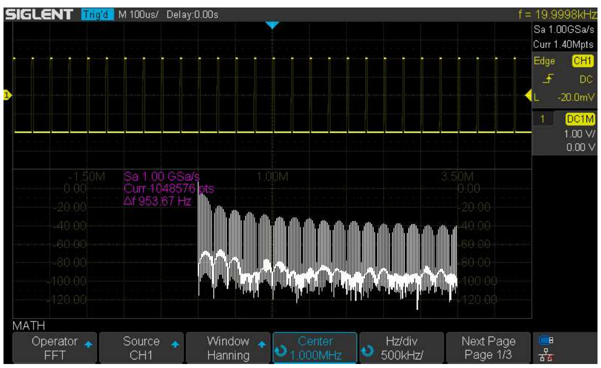
Playback the latest triggered events using the history function. Segmented memory zcquisition will store the waveform into multiple (up to 80,000) memory segments, each segment will store triggered waveforms and timestamp each frame.

Gate and Zoom Measurement



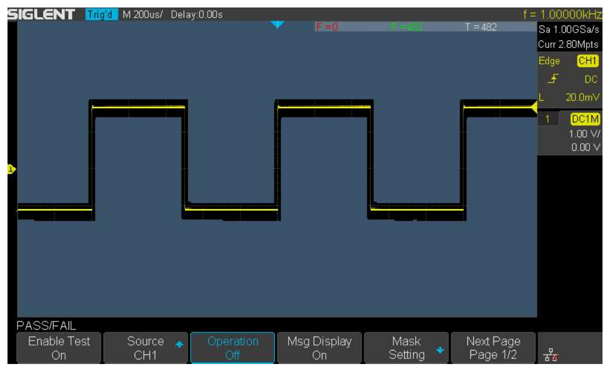
Through Gate and Zoom measurement, the user can specify an arbitrary interval of waveform data analysis and statistics. This helps avoid measurement errors that can be caused by invalid or extraneous data, greatly enhancing the measurements' validity and flexibility.

1 Mpoints FFT



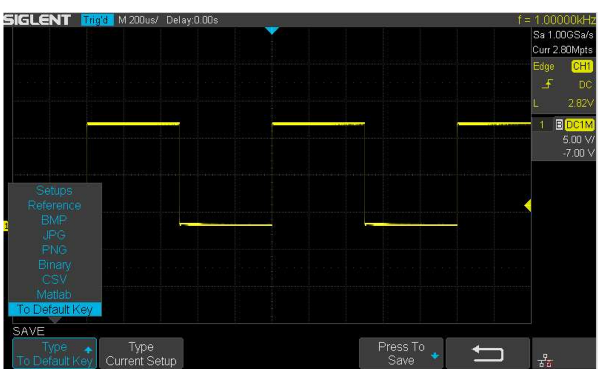
The new math co-processor enables FFT analysis of incoming signals using up to 1M samples per waveform. This provides high frequency resolution with a fast refresh rate. The FFT function also supports a variety of window functions so that it can adapt to different spectrum measurement needs.

High Speed Hardware-Based Pass/Fail Function



The SDS1000X-E utilizes a hardware-based Pass/Fail function, performing up to 40,000 Pass / Fail decisions each second. Easily generate user-defined test templates provide trace mask comparison making it suitable for long-term signal monitoring or automated production line testing.

Customizable Default Key



The current parameters of oscilloscope can be preset to Default Key through the Save menu.

Complete Connectivity

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

Specification

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

Input	
Channels	2 Analog
Coupling	DC, AC, GND
Impedance	DC: (1 MΩ±2%) || (18 pF ±2 pF)
Max. Input voltage	1 MΩ ≤400 Vpk (DC + Peak AC <=10 kHz)
CH to CH Isolation	DC~ Max BW >40 dB
Probe attenuator	0.1X, 0.2X, 0.5X, 1X, 2X, 5X, 10X…… 1000X, 2000X, 5000X, 10000X

Vertical System	
Bandwidth（-3dB）	200 MHz
Vertical Resolution	8 bit
Vertical Scale（Probe 1X）	500 μV/div - 10 V/div (1-2-5 sequence)
Offset Range（Probe 1X）	500 μV - 150 mV: ± 2 V
	152 mV - 1.5 V: ± 20 V
	1.52 V - 10 V: ± 200 V
Bandwidth Limit	20 MHz ±40%
Bandwidth Flatness	DC - 10% (BW): ± 1 dB
	10% - 50% (BW): ± 2 dB
	50% - 100% (BW): + 2 dB/-3 dB
Low Frequency Response	
(AC -3dB)	≤10 Hz (at input BNC)
Noise	ST-DEV ≤0.5 division (<1 mV/div)
	ST-DEV ≤0.2 division (<2 mV/div)
	ST-DEV ≤0.1 division (≥2 mV/div)
SFDR including harmonics	≥35 dB
DC Gain Accuracy	≤±3.0%: 5 mV/div ~10 V/div
	≤±4.0%: ≤2 mV/div
Offset Accuracy	±(1%* Offset+1.5%*8*div+2 mV): ≥2 mV/div
	±(1%* Offset+1.5%*8*div+500 uV): ≤1 mv/div
Risetime	Typical 1.8 ns
Overshoot (500 ps Pulse)	<10%

Horizontal System	
Timebase Scale	1.0 ns/div - 100 s/div
Channel Skew	<100 ps
Waveform Capture Rate	Up to 100,000 wfm/s (normal mode), 400,000 wfm/s (sequence mode)
Intensity grading	256 Levels
Display Format	Y-T、 X-Y、Roll
Timebase Accuracy	±25 ppm
Roll Mode	50 ms/div - 100 s/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: ±3 V
Holdoff Range	80 ns - 1.5 s
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 8 Hz LFRJ: Blocks the DC component and attenuates the low-frequency components below 2 MHz HFRJ: Attenuates the high-frequency components above 1.2 MHz
Coupling Frequency Response (EXT)	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 30 Hz LFRJ: Blocks the DC component and attenuates the low-frequency components below 10 KHz HFRJ: Attenuates the high-frequency components above 500 KHz
Trigger Accuracy (Typical)	Internal: ±0.2 div EXT: ±0.4 div
Trigger Sensitivity	CH1 - CH2: DC - Max BW 0.6 div EXT: 200 mVpp DC - 10 MHz 300 mVpp 10 MHz - BW frequency EXT/5: 1 Vpp DC - 10 MHz; 1.5 Vpp 10 MHz - BW frequency
Trigger Jitter	<100 ps (CH1 - CH2)
Trigger Displacement	Pre-Trigger: 0 - 100% Memory
	Delay Trigger: 0 to 10,000 div
Edge Trigger	
Slope	Rising, Falling, Rising & Falling
Source	CH1/CH2/EXT/(EXT/5)/AC Line
Slope Trigger	
Slope	Rising, Falling
Limit Range	< , > , < > , > <
Source	CH1/CH2
Time Range	2 ns - 4.2 s
Resolution	1 ns

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

Serial Trigger	
I2C Trigger	
Condition	Start, Stop, Restart, No Ack, EEPROM, 7 bits Address & Data, 10 bits Address & Data, Data Length
Source (SDA/SCL)	CH1, CH2
Data format	Hex
Limit Range	EEPROM: =, >, <
Data Length	EEPROM: 1 byte Addr & Data: 1 - 2 byte Data Length: 1 - 12 byte
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	1 byte
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)	600/1200/2400/4800/960019200/38400/57600/115200 bit/s
(Custom)	300 bit/s - 334000 bit/s
CAN Trigger	
Condition	All, Remote, ID, ID + Data, Error
Source	CH 1, CH 2
ID	STD (11 bit), EXT (29 bit)
Data Format	Hex
Data Length	1 - 2 byte
Baud Rate (Selectable)	5k/10k/20k/50k/100k/125k/250k/500k/800k/1M bit/s
Baud Rate (Custom)	5 kbit/s - 1 Mbit/s
LIN Trigger	
Condition	Break, Frame ID, ID+Data, Error
Source	CH1, CH2
ID	1 byte
Data Format	Hex
Data Length	1 - 2 byte
Baud Rate (Selectable)	600/1200/2400/4800/9600/19200 bit/s
Baud Rate (Custom)	300 bit/s - 20 kbit/s

Serial Decoder	
I2C Decoder	
Signal	SCL, SDA
Address	7 bits, 10 bits
Threshold	-4.5 - 4.5 div
List	1 - 7 lines
SPI Decoder	
Signal	SCL, MISO, MOSI, CS
Edge Select	Rising, Falling
Idle Level	Low, High
Bit Order	MSB, LSB
Threshold	-4.5 - 4.5 div
List	1 - 7 lines
UART/ RS232 Decoder	
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	-4.5 - 4.5 div
List	1 - 7 lines
CAN Decoder	
Signal	CAN_H, CAN_L
Source	CAN_H, CAN_L, CAN_H-CAN_L
Threshold	-4.5 - 4.5 div
List	1 - 7 lines
LIN Decoder	
LIN Specification Package Revision	Ver1.3, Ver2.0
Threshold	-4.5 - 4.5 div
List	1 - 7 lines

Measurement		
Source	CH1, CH2, Math, Ref, History	
Number of Measurements	Display 5 measurements at the same time	
Measurement Range	Screen region, Gate region	
Measurement Parameters (38 Types)		
Vertical (Voltage)	Max	Highest value in input waveform
	Min	Lowest value in input waveform
	Pk-Pk	Difference between maximum and minimum data values
	Ampl	Difference between top and base in a bimodal signal, or between max and min in an unimodal signal
	Top	Value of most probable higher state in a bimodal waveform
	Base	Value of most probable lower state in a bimodal waveform
	Mean	Average of all data values
	Cmean	Average of data values in the first cycle
	Stdev	Standard deviation of all data values
	Cstd	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
	Level@X	the voltage value of the trigger point
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
	LFR	Time from the first falling edge of channel A to the last rising edge of channel B
	LFF	Time from the first falling edge of channel A to the last falling edge of channel B
	Skew	Time of source A edge minus time of nearest source B edge
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, Stdev, Count	
Counter	Hardware 6 bit counter (channels are selectable)	

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

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

Display (Screen)	
Display Type	7-inch TFT LCD
Display Resolution	800×480
Display Color	24 bit
Contrast (Typical)	500:1
Backlight	300 nit
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	1 min, 5 min, 10 min, 30 min, 1 hour, 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℃ , 24 hours
	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

Power Supply	
Input Voltage	100 - 240 VAC, CAT II, Auto selection
Frequency	50 / 60 / 400 Hz
Power	25 W Max

Mechanical	
Dimensions	Length: 312 mm
	Width: 134 mm
	Height: 150 mm
Weight	N.W: 2.5 Kg; G.W: 3.5 Kg

Probes and Accessories

Probe	Picture	Model	Description
Passive	PB470		Bandwidth: 70 MHz, 1 X/10 X, 1 M/10 Mohm, 300 V/600 V
	PP510		Bandwidth: 100 MHz, 1 X/10 X, 1 M/10 Mohm,300 V/600 V
	PP215		Bandwidth: 200 MHz, 1 X/10 X, 1 M/10 Mohm, 300 V/600 V
Current Probe	CP4020		Bandwidth: 100 KHz, Max. continuous current: 20 Arms, Peak current: 60 A Switch Ratio: 50 mV/A, 5 mV/A, Accuracy: 50 mV/A (0.4 A-10 Apk) ±2%, 5 mV/A (1 A-60 Apk) ± 2%, 9 V battery source
	CP4050		Bandwidth: 1 MHz, Max. continuous current: 50 Arms, Peak current: 140 A Switch Ratio: 500 mV/A, 50 mV/A Accuracy: 500 mV/A (20 mA -14 ApK) ± 3% ± 20 mA , 50 mV/A (200 mA-100 ApK) ± 4% ± 200 mA, 50 mV/A (100 A-140 ApK) ± 15% max, 9 V battery source
	CP4070		Bandwidth: 150 KHz, Max. continuous current: 70 Arms, Peak current: 200 A Switch Ratio: 50 mV/A, 5 mV/A, Accuracy: 50 mV/A (0.4 A -10 ApK) ± 2% , 5 mV/A (1 A-200 ApK) ±2%, 9 V battery source
	CP4070A		Bandwidth: 300 KHz, Max. continuous current: 70 Arms, Peak current: 200 A Switch Ratio: 100 mV/A, 10 mV/A, Accuracy: 100 mV/A (50 m A- 10 ApK)± 3% ± 50 mA , 10mV/A (500 mA -40 ApK) ± 4% ± 50 mA, 10 mV/A (40 A-200 ApK) ± 15% max, 9 V battery source
	CP5030		Bandwidth: 50 MHz, Max. continuous current: 30 Arms, Peak current: 50 A Switch Ratio: 100 mV/A, 1 V/A, Accuracy: 1 V/A (± 1% ± 1 mA), 100 mV/A (± 1% ± 10 mA), DC 12 V/ 1.2 A power adapter
	CP5030A		Bandwidth: 100 MHz, Max. continuous current: 30 Arms, Peak current: 50 A Switch Ratio: 100 mV/A, 1 V/A, Accuracy: 1 V/A (± 1% ± 1 mA), 100 mV/A (± 1% ± 10 mA), DC 12 V/1.2 A power adapter
	CP5150		Bandwidth: 12 MHz, Max. continuous current: 150 Arms, Peak current: 300 A Switch Ratio: 100 mV/A, 10 mV/A, Accuracy: 100 mV/A (± 1% ± 10 mA), 10 mV/A (± 1% ± 100 mA), DC 12 V/1.2 A power adapter
	CP5500		Bandwidth: 5 MHz, Max. continuous current: 500 Arms, Peak current: 750A Switch Ratio: 100 mV/A, 10 mV/A, Accuracy: 100 mV/A (± 1% ±10 mA), 10 mV/A (± 1% ±100 mA), DC 12 V/1.2 A power adapter
Differential Probe	DPB4080		Bandwidth: 50 MHz, Differential Range: 800 V (DC + Peak AC), 100 X/200 X/500 X/1000 X, Accuracy: ± 1%, DC 9 V/1 A power adapter

Probe	Picture	Model	Description
Differential Probe	DPB5150		Bandwidth: 70 MHz, Differential Range: 1500 V (DC + Peak AC), 50 X/500 X Accuracy: ± 2%, DC 5 V/1 A USB adapter
	DPB5150A		Bandwidth: 100 MHz, Differential Range: 1500 V (DC + Peak AC), 50 X/500 X , Accuracy: ± 2% DC 5 V/1 A USB adapter
	DPB5700		Bandwidth: 70 MHz, Differential Range: 7000 V (DC + Peak AC), 100 X/1000 X , Accuracy: ± 2%, DC 5 V/1 A USB adapter
	DPB5700A		Bandwidth: 100 MHz Differential Range: 7000 V (DC + Peak AC), 100 X/1000 X Accuracy: ± 2% DC 5 V/1 A USB adapter
High Voltage	HPB4010		Bandwidth: 40 MHz Differential Range: DC 10 KV, AC (rms): 7 KV (sine), AC (Vpp): 20 KV (Pulse) 1000 X Accuracy: ≤3%
Isolated front end	ISFE		The USB Device interface allows a connection into the GPIB interface. USB-GPIB adapter allows the oscilloscope to easily send and receive commands through the GPIB. USB follows the USB2.0 specification. GPIB follows the IEEE488.2 standard.
Demo Board	STB-3		Output signals include square waves, sine, AM, fast edge , pulse, PWM, I2C, CAN, LIN etc. Used in teaching and demonstrations.

Ordering information

Product Name	SDS1000X-E Series Digital Oscilloscope SDS1202X-E 200 MHz Two Channels	
Standard Accessories	USB Cable -1	
	Quick Start -1	
	Passive Probe -2	
	Certification -1	
	Power Cord -1	
	CD (Included User Manual and EasyScopeX software)-1	
Optional Accessories	Isolated Front End	ISFE
	STB Demo Source	STB-3
	High Voltage Probe	HPB4010
	Current Probe	CP4020/CP4050/CP4070/ CP4070A/CP5030/CP5030A/ CP5150/CP5500
	Differential Probe	DPB4080/DPB5150/DPB5150A /DPB5700/DPB5700A