SDS2000X Series

Super Phosphor Oscilloscope

SIGLENT®

DataSheet-2019.12

SIGLENT TECHNOLOGIES CO.,LTD

SDS2304X / SDS2302X
SDS2204X / SDS2202X
SDS2104X / SDS2102X
SDS2074X / SDS2072X

Product Overview

SIGLENT's SDS2000X series Super Phosphor Oscilloscopes are available in bandwidths of 70MHz, 100MHz, 200MHz and 300MHz, maximum sample rate of 2GSa/s, and maximum record length of 140Mpts. The most commonly used functions can be accessed with its user-friendly one-button design.

The SDS2000X series employs a new generation of SPO technology. It has an innovative digital trigger system with high sensitivity and low jitter, and a maximum waveform capture rate of 140,000 wfm/s (normal mode), up to 500,000 wfm/s (sequence mode). It also employs not only the common 256-level intensity grading display function but also a color temperature display mode. The trigger system supports multiple powerful triggering modes including serial bus triggering. History waveform recording and sequence acquisition allow for extended waveform records to be captured, stored, and analyzed. An impressive array of measurement and math capabilities, options for a built-in 25 MHz arbitrary waveform generator, 16 digital channels (MSO), as well as serial decoding are also features of the SDS2000X.

Key Features

- 70MHz, 100MHz, 200MHz, 300MHz models
- Real-time sampling rate up to 2GSa/s
- New generation of SPO technology
  - Waveform capture rate up to 140,000 wfm/s (normal mode), and 500,000 wfm/s (sequence mode)
  - Supports 256-level intensity grading and color temperature display
  - Record length up to 140Mpts
  - Digital trigger system
- Intelligent trigger: Edge, Slope, Pulse, Window, Runt, Interval, Dropout, Pattern and Video (HDTV supported)
- Serial bus triggering and decoder, supports protocols IIC, SPI, UART, RS232, CAN and LIN
- Low background noise, supports 1mV/div to 10V/div voltage scales
- 10 types of one-button shortcuts, including Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweeps, 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 on 37 parameters, supports statistics, Gating measurement, Math measurement, History measurement and Ref measurement
- Math function (FFT, addition, subtraction, multiplication, division, integration, differential, square root)
- High Speed hardware based Pass/ Fail function
- 16 Digital channels (MSO), Maximum waveform capture rate up to 500 MSa/s, Record length up to 14 Mpts/CH
- 25MHz function/arbitrary waveform generator, built-in 10 types of waveforms
- 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	**SDS2072X** **SDS2074X**	**SDS2102X** **SDS2104X**	**SDS2202X** **SDS2204X**	**SDS2302X** **SDS2304X**
Bandwidth	70 MHz	100 MHz	200 MHz	300 MHz
Sampling Rate (Max.)	2 GSa/s			
Channels	2 + EXT 4 + EXT			
Memory Depth (Max.)	140 Mpts (Single-Channel), 70 Mpts (Dual-Channel)			
Waveform Capture Rate (Max.)	140,000 wfm/s (normal mode), 500,000 wfm/s (sequence mode)			
Trigger Type	Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video			
Serial Trigger	IIC, SPI, UART/RS232, CAN, LIN			
Decoder Type (Optional)	IIC, SPI, UART/RS232, CAN, LIN			
16 Digital Channels (MSO Option)	Maximum waveform capture rate up to 500 MSa/s, Record length up to 14 Mpts/CH			
Waveform Generator (Optional)	Single channel, Max. frequency up to 25MHz, 125MSa/s sampling rate, 16Kpts wave length			
I/O	USB Host, USB Device, LAN, Pass/Fail, Trigger Out			
Probe (Std)	PB470 70MHz 1 pcs for each channel	PP510 100MHz 1 pcs for each channel	SP2030A 300MHz 1 pcs for each channel	SP2030A 300MHz 1 pcs for each channel
Display	8 inch TFT LCD (800x480)			

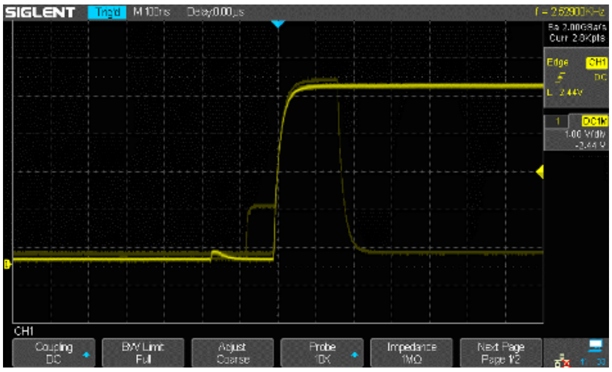
Functions & Characteristics

8 inch TFT-LCD Display and 10 One-button Menus

- 8-inch TFT-LCD display with 800 * 480 resolution
- Most commonly used functions are accessible using 10 different one-button operation keys: Auto Setup, Default, Cursors, Measure, Roll, History, Display/Persist, Clear Sweeps, Zoom and Print
- Supports auto detection of 10X probe with read-out port

Functions & Characteristics

Waveform Capture Rate up to 500,000wfm/s

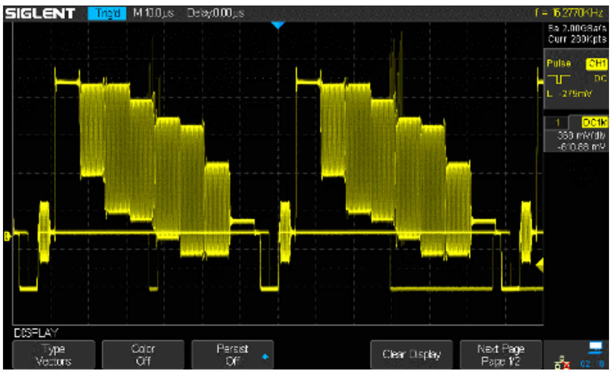


With a waveform capture rate of up to 500,000 wfm/s (sequence mode), the oscilloscope can easily capture the unusual or low-probability events

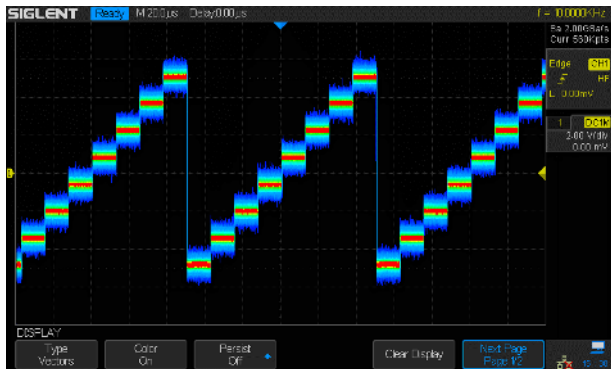
Record Length of up to 140Mpts

Using hardware-based Zoom technique and record length of up to 140Mpts, 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

256-level Intensity Grading and Color Temperature Display

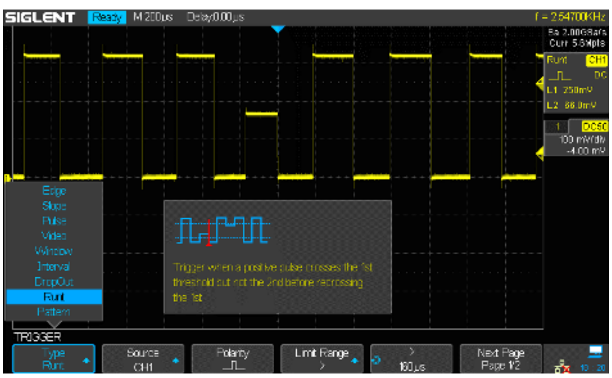


256-level intensity grading display on waveform



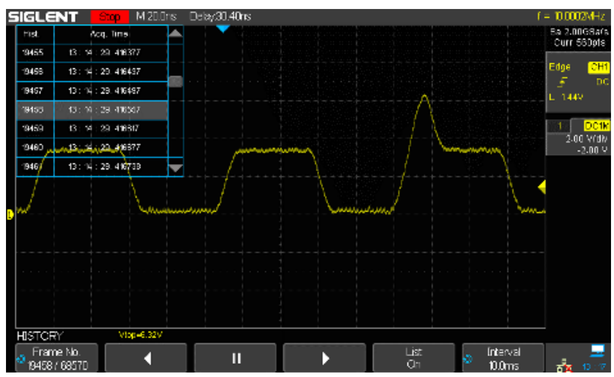
Color temperature display

Abundant Trigger Functions



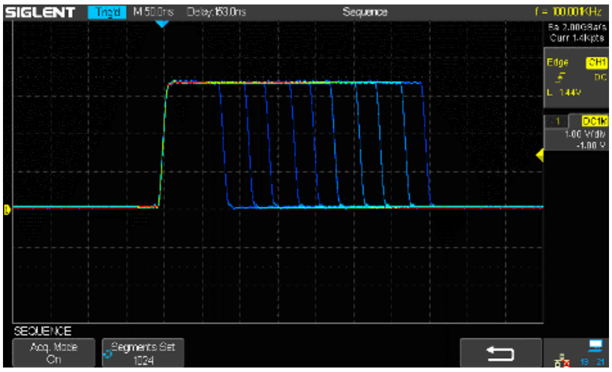
Edge, Slope, Pulse, Video, Windows, Runt, Interval, Dropout, Pattern, IIC, SPI, UART/RS232, LIN and CAN

History Mode



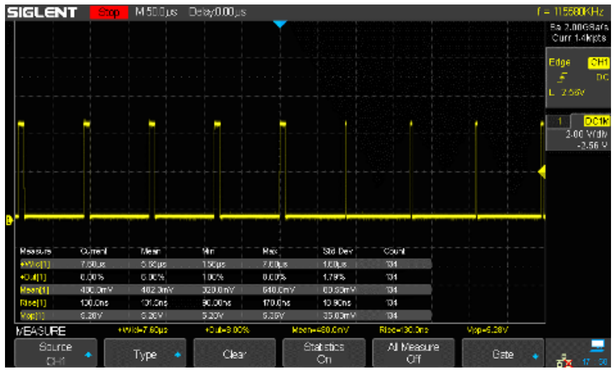
History function can record up to 80,000 frames of waveforms. The recording is executed automatically, so that the customer can play back the history waveforms at any time to observe unusual events, and locate the source quickly through the cursors or measurements. Located on the keyboard Panel, this function is easily accessible

Sequence Mode



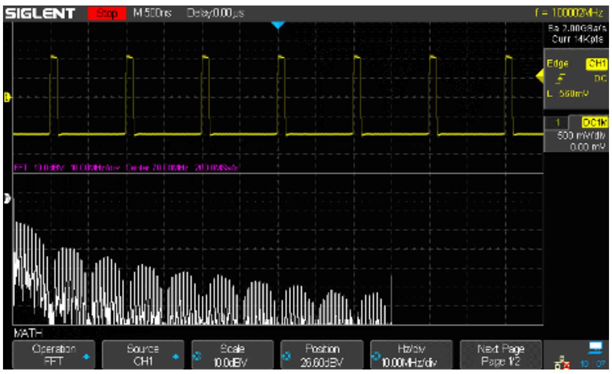
Segmented memory collection will store the waveform into multiple (up to 80,000) memory segments and each segment will store a triggered waveform, as well the dead time information. The dead time between segments could be as small as 2μs. All the segments can be play back using History function.

Comprehensive Statistical Functions



Parametric statistical functions to display 5 parameters of any measurements: current, mean, minimum value, maximum value, and standard deviation. The measurement count is also displayed. The maximum number of measurements that can be run and simultaneously analyzed statistically is five. Supports Gating measurements, Math measurement, History measurement and Ref measurement

Advanced Math Function



In addition to the traditional (+, -, X, /) operations, FFT, integration, differential, and square root operations are supported. The integration operation supports gating, which uses cursors to define the domain of integration

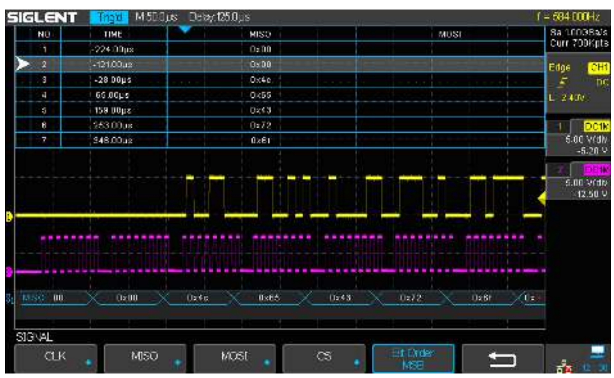
Eres Mode

Eres mode can improve the SNR effectively, without the dependence on the periodicity of signal and stable triggering

16 Digital Channels / MSO (Optional)

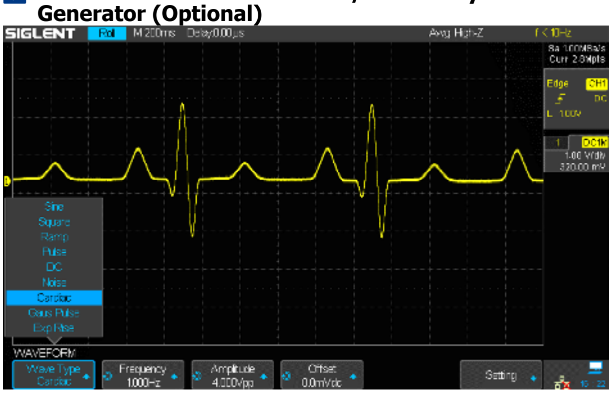
4 analog channels plus 16 digital channels enables users to acquire and trigger on the waveforms then analyze the pattern, simultaneously with one instrument.

Serial Bus Decoding Function (Optional)



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

Built-in 25MHz Function/Arbitrary Waveform Generator (Optional)



10 built-in waveforms plus 4 ARBs. The arbitrary waveforms can be accessed and edited by the EasyWave PC software

Complete Connectivity

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

Specifications

All specifications are not guaranteed unless the following conditions are met:

- The oscilloscope calibration period is valid
- The oscilloscope has been working continuously for at least 30 minutes at the specified temperature (18℃ ~ 28℃)

Acquire System	
Sampling Rate	2GSa/s (single-channel[1]), 1GSa/s (dual-channel)
Memory Depth	140Mpts (single-channel), 70Mpts (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
Interpolation	Sinx/x, Linear

Input	
Channel	2/4 + EXT
Coupling	DC, AC, GND
Impedance	DC: (1MΩ±2%) || (22pF ±3pF) 50Ω: 50Ω±2%
Max. Input voltage	1MΩ ≤400Vpk (DC + Peak AC <=10kHz) 50Ω ≤5Vrms
CH to CH Isolation	DC~Max BW >35dB
Probe Attenuation	0.1X, 0.2X, 0.5X, 1X, 2X, 5X, 10X, 20X, 50X, 100X, 200X, 500X, 1000X, 2000X, 5000X, 10000X

Horizontal System	
Time Scale	1.0ns/div ~ 50s/div
Channel Skew	<100ps
Waveform Capture Rate	Up to 140,000 wfm/s (normal mode), 500,000 wfm/s (sequence mode)
Intensity grading	256-level
Display Format	Y-T, X-Y, Roll
Time base Accuracy	±25ppm
Roll Mode	50ms/div ~ 50s/div (1-2-5 Step)

Vertical System

Bandwidth (-3dB)	300MHz (SDS2304X/ SDS2302X) 200MHz (SDS2204X/ SDS2202X) 100MHz (SDS2104X/ SDS2102X) 70 MHz (SDS2074X/ SDS2072X)
Vertical Resolution	8 bit
Vertical Range	8 divisions
Vertical Scale (Probe 1X)	1mV/div - 10V/div (1-2-5 step)
Offset Range (Probe 1X)	1mV/div ~ 100mV/div: ±1V 102mV/div ~ 1V/div: ±10V 1.02V/div ~ 10V/div: ±100V
Bandwidth Limit	20MHz ±40%
Bandwidth Flatness	DC ~ 10%(BW): ±1dB 10% ~ 50%(BW): ±2dB 50% ~ 100%(BW): +2dB/-3dB
Low Frequency Response (AC Coupling -3dB)	≤10Hz (at input BNC)
Noise	stdev ≤ 0.2 div (< 2mV/div) stdev ≤ 0.5 div (≥ 2mV/div)
DC Gain Accuracy	5mV/div ~10V/div: ≤3.0% ≤2mV/div: ≤4.0%
Offset Accuracy	≥2mV/div: ±(1%*offset+1.5%*8*div+2mV) <2mV/div: ±(1%* offset +1.5%*8*div+1mV)
Rise Time [1]	(Typ.) <1.2ns (SDS2304X/ SDS2302X) (Typ.) <1.7ns (SDS2204X/ SDS2202X) (Typ.) <3.5ns (SDS2104X/ SDS2102X) (Typ.) <5.0ns (SDS2074X/ SDS2072X)
Overshoot (500ps Rise Edge)	<10%

Trigger System

Mode	Auto, Normal, Single
Level	Internal: ±4.5div from the center of the screen EXT: ±0.6V EXT/5: ±3V
Ext Trigger Channel Input Range	Ext≤1.5Vrms Ext/5≤7.5Vrms
Holdoff Range	100ns ~ 1.5s
Coupling	AC, DC, LFRJ, HFRJ, Noise RJ (CH1~CH4)
Coupling Frequency Response (CH1~CH4)[2]	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 8Hz LFRJ: Attenuates the frequency components below 900kHz HFRJ: Attenuates the frequency components above 500kHz
Coupling Frequency Response (EXT) [2]	DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 8Hz LFRJ: Attenuates the frequency components below 400kHz HFRJ: Attenuates the frequency components above 1MHz
Accuracy[2]	CH1 ~ CH4: ±0.2div EXT: ±0.3div
Sensitivity	CH1~ CH4: 0.6div EXT: 200mVpp (DC~ 10MHz) 300mVpp (10MHz~ BW) EXT/5: 1Vpp (DC~ 10MHz) 1.5Vpp (10MHz~ BW)
Jitter	<100ps (CH1~ CH4)
Displacement	Pre-Trigger: 0 ~ 100% memory Delay-Trigger: 0 ~ 2,000 div

Edge Trigger

Slope	Rising, Falling, Rising&Falling
Source	CH1~CH4/EXT/(EXT/5)/AC Line

Slope Trigger

Slope	Rising, Falling
Limit Range	<, >, < >, > <
Source	CH1 ~ CH4
Time Range	2ns ~ 4.2s
Resolution	1ns

Pulse Width Trigger	
Polarity	+wid , -wid
Limit Range	<, >, < >, > <
Source	CH1~CH4
Pulse Width Range	2ns ~ 4.2s
Resolution	1ns
Video Trigger	
Signal Standard	NTSC, PAL, 720p/50, 720p/60, 1080p/50, 1080p/60, 1080i/50, 1080i/60, Custom
Source	CH1~CH4
Sync	Any, Select
Trigger Condition	Line, Field
Window Trigger	
Window Type	Absolute, Relative
Source	CH1~CH4
Interval Trigger	
Slope	Rising, Falling
Limit Range	<, >, < >, > <
Source	CH1~CH4
Time Range	2ns ~ 4.2s
Resolution	1ns
Dropout Trigger	
Timeout Type	Edge, State
Source	CH1~CH4
Slope	Rising, Falling
Time Range	2ns ~ 4.2s
Resolution	1ns
Runt Trigger	
Polarity	+wid , -wid
Limit Range	<, >, < >, > <
Source	CH1~CH4
Time Range	2ns ~ 4.2s
Resolution	1ns
Pattern Trigger	
Pattern Setting	Invalid, Low, High
Logic	AND, OR, NAND, NOR
Source	CH1~CH4
Limit Range	<, >, < >, > <
Time Range	2ns ~ 4.2s
Resolution	1ns

Serial Trigger

IIC Trigger	
Condition	Start, Stop, Restart, No Ack, EEPROM, Address&Data, Data Length
Source (SDA/SCL)	CH1~CH4
Data format	Hex
Limit Range	EEPROM: =, >, <
Data Length	EEPROM: 1byte Address&Data: 1~2byte Data Length: 1~12byte
R/W bit	Address&Data: Read, Write, Do not care
SPI Trigger	
Condition	Data
Source (CS/CLK/Data)	CH1~CH4
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~CH4
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 Rate (Selectable)	600/1200/2400/4800/9600/19200/38400/57600/115200 bit/s
Baud Rate (Custom)	300bit/s~334000bit/s
CAN Trigger	
Type	All, Remote, ID, ID+Data, Error
Source	CH1~CH4
ID	STD (11bit), EXT(29bit)
Data format	Hex
Data Length	1~2byte
Baud Rate (Selectable)	5k/10k/20k/50k/100k/125k/250k/500k/800k/1M bit/s
Baud Rate (Custom)	5kbit/s~1Mbit/s
LIN Trigger	
Type	Break, Frame ID, ID+Data, Error
Source	CH1~CH4
ID	1byte
Data format	Hex
Data Length	1~2byte
Baud Rate (Selectable)	600/1200/2400/4800/9600/19200 bit/s
Baud Rate (Custom)	300bit/s~20kbit/s

Serial Decoder (Optional)	
No. of Decoder	2
IIC Decoder	
Signal	SCL, SDA
Address	7bit, 10bit
Threshold	-4.5~4.5div
List	1~7 Lines
SPI Decoder	
Signal	CLK, 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~CH4, Math, Ref, History	
No. of Measurements	Display 5 measurements at the same time	
Range	Screen, Gating	
Measurement Parameters (37 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
	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

Measurement

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
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	±1Hz counter error	

Math

Operation	+, -, *, /, FFT, d/dt, ∫dt, square root
FFT Window	Rectangular, Blackman, Hanning, Hamming
FFT Display	Full Screen, Split

Built-in Function/Arbitrary Waveform Generator (Optional)

Channel	1
Max. Output Frequency	25MHz
Sampling Rate	125 MSa/s
Frequency Resolution	1 μHz
Frequency Accuracy	±50 ppm
Vertical Resolution	14 bits
Amplitude Range	2mVpp ~ 3Vpp (into 50Ω) 4mVpp ~ 6Vpp (into HiZ)
Waveforms	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 (Compare to 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	< 3% (typical, 1KHz, 1Vpp)
Pulse Width	> 50ns
Jitter (Cycle to Cycle)	< 500ps + 10ppm
Ramp	
Frequency	1μHz ~ 300kHz
Linearity (Typical)	< 0.1% of Pk-Pk (Typical, 1 kHz, 1 Vpp, 100% Symmetry)
Symmetry	0% ~ 100%
DC	
Offset range	±1.5V (into 50Ω) ±3 V (into HiZ)
Accuracy	±(|offset|*1%+3 mV)
Noise	
Bandwidth	>25MHz (-3dB)
Arb	
Frequency	1μHz ~ 5MHz
Wave Length	16Kpts
Sampling Rate	125MSa/s
Waveform Import	EasyWave, U-Disk

Digital Channels	
No. of Channels	16
Max. Sampling Rate	500MSa/s
Memory Depth	14Mpts/CH
Min. Detectable Pulse Width	4ns
Level Group	D0~D7,D8~D15
Level Range	-3V~3V
Logic Type	TTL, CMOS, LVCMOS3.3, LVCMOS2.5, custom
Skew[2]	D0~D15: ±1 sampling interval Digital to Analog: ± (1 sampling interval +1ns)

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

Display	
Display Type	8-inch TFT LCD
Resolution	800×480
Color	24 bit
Contrast	500:1
Backlight	300nit
Range	8 x 14 divisions

Waveform Display	
Type	Dot, Vector
Persistence Time	OFF, 1s, 5s, 10s, 30s, infinite
Color Display	Normal, Color
Screen Saver	1min, 5min, 10min, 30min, 1hour, OFF

Language

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
Altitude	Operating: ≤3,000m 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 & Frequency	100 ~ 240 Vrms 50/60Hz
	100 ~ 120 Vrms 400Hz
Power	60W Max

Mechanical

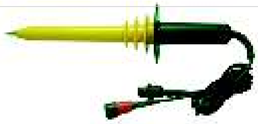
Dimensions	Length* Width*Height = 352mm*128mm*224mm
Weight	N.W 3.4 Kg(2-ch); 3.6 Kg(4-ch) G.W 4.9 Kg(2-ch); 5.2 Kg(4-ch)

Note[1] Single-channel: one channel in CH1/CH2 (or CH3/CH4) is ON and another is OFF
Dual-channel: both channels in CH1/CH2 (or CH3/CH4) are ON

Note[2] Typical Value refers to the tested value under specific conditions. It might vary with the ambient temperature or other conditions

SDS2000X Probes

Probe type	Model	Picture	Description
Passive	PB470		PB470, 70MHz bandwidth, 1X/10X (SDS2072X/SDS2074X) PP510, 100MHz bandwidth, 1X/10X (SDS2102X/SDS2104X) SP2030A, 300MHz bandwidth, 10X (SDS2202X/SDS2204X, SDS2302X/ SDS2304X)
	PP510		
	SP2030A		
Logic Probe	SPL2016		16 Channel Logic Probe
Current	CP4020		Bandwidth: 100KHz , Max. continuous current: 20Arms, Peak current: 60A Switch Ratio: 50mV/A, 5mV/A, Accuracy: 50mV/A (0.4A-10ApK)±2%, 5mV/A (1A-60ApK) ±2%, 9V battery source
	CP4050		Bandwidth: 1MHz , Max. continuous current: 50Arms, Peak current: 140A Switch Ratio: 500mV/A, 50mV/A Accuracy: 500mV/A (20mA-14ApK)±3%±20mA , 50mV/A (200mA-100ApK) ±4%±200mA, 50mV/A (100A-140ApK) ±15%max, 9V battery source
	CP4070		Bandwidth: 150KHz , Max. continuous current: 70Arms, Peak current: 200A Switch Ratio: 50mV/A, 5mV/A, Accuracy: 50mV/A (0.4A-10ApK)±2% , 5mV/A (1A-200ApK) ±2%, 9V battery source
	CP4070A		Bandwidth: 300KHz , Max. continuous current: 70Arms, Peak current: 200A Switch Ratio: 100mV/A, 10mV/A, Accuracy: 100mV/A (50mA-10ApK)±3%±50mA , 10mV/A (500mA-40ApK) ±4%±50mA, 10mV/A (40A-200ApK) ±15% max., 9V battery source
	CP5030		Bandwidth: 50MHz , Max. continuous current: 30Arms, Peak current: 50A Switch Ratio: 100mV/A, 1V/A, Accuracy: 1V/A (±1%±1mA), 100mV/A (±1%±10mA), DC12V/1.2A power adapter
	CP5030A		Bandwidth: 100MHz , Max. continuous current: 30Arms, Peak current: 50A Switch Ratio: 100mV/A, 1V/A, Accuracy: 1V/A (±1%±1mA), 100mV/A (±1%±10mA), DC12V/1.2A power adapter
	CP5150		Bandwidth: 12MHz , Max. continuous current: 150Arms, Peak current: 300A Switch Ratio: 100mV/A, 10mV/A, Accuracy: 100mV/A (±1%±10mA), 10mV/A (±1%±100mA), DC12V/1.2A power adapter
	CP5500		Bandwidth: 5MHz , Max. continuous current: 500Arms, Peak current: 750A Switch Ratio: 100mV/A, 10mV/A, Accuracy: 100mV/A (±1%±10mA), 10mV/A (±1%±100mA), DC12V/1.2A power adapter
High Voltage Differential	DPB4080		Bandwidth: 50MHz, Differential Range: 800V (DC + Peak AC), 100X/200X/500X/1000X, Accuracy: ±1%, DC 9V/1A power adapter
	DPB5150		Bandwidth: 70MHz, Differential Range: 1500V (DC + Peak AC),50X/500X Accuracy: ±2%, DC 5V/1A USB adapter
	DPB5150A		Bandwidth: 100MHz, Differential Range: 1500V (DC + Peak AC), 50X/500X , Accuracy: ±2% DC 5V/1A USB adapter

Probe type	Model	Picture	Description
High Voltage Differential	DPB5700		Bandwidth: 70MHz, Differential Range: 7000V (DC + Peak AC), 100X/1000X , Accuracy: ±2%, DC 5V/1A USB adapter
	DPB5700A		Bandwidth: 100MHz Differential Range: 7000V (DC + Peak AC), 100X/1000X Accuracy: ±2% DC 5V/1A USB adapter
High Voltage	HPB4010		Bandwidth: 40MHz Differential Range: DC 10KV, AC (rms): 7KV (sine), AC (Vpp): 20KV (Pulse) 1000X Accuracy: ≤3%

Ordering Information

Description	Model
300MHz, 4CH, 2GSa/s (Max.), 140Mpts	SDS2304X
300MHz, 2CH, 2GSa/s (Max.), 140Mpts	SDS2302X
200MHz, 4CH, 2GSa/s (Max.), 140Mpts	SDS2204X
200MHz, 2CH, 2GSa/s (Max.), 140Mpts	SDS2202X
100MHz, 4CH, 2GSa/s (Max.), 140Mpts	SDS2104X
100MHz, 2CH, 2GSa/s (Max.), 140Mpts	SDS2102X
70MHz, 4CH, 2GSa/s (Max.), 140Mpts	SDS2074X
70MHz, 2CH, 2GSa/s (Max.), 140Mpts	SDS2072X
Standard Accessories	
USB Cable -1	
Passive Probe -2 (2-ch model); -4 (4-ch model)	
Power Cord -1	
Quick Start -1	
Certificate of Calibration -1	
Optional Accessories	
SDS-2000X-DC	IIC, SPI, UART/RS232, CAN, LIN Decoder
SDS-2000X-FG	25MHz Function/Arbitrary Waveform Generator
SDS-2000X-PA	Power Analyze Software
SDS-2000X-16LA	16 Digital Channels（Software）
SPL2016	16 Channel Logic Probe
ISFE	Isolated Front End
STB	STB3
DF2001A	Power analysis Deskew Fixture
HPB4010	High Voltage Probe
CP4020/CP4050/CP4070/ CP4070A/CP5030/ CP5030A/CP5150/CP5500	Current Probe
DPB4080/DPB5150/ DPB5150A/DPB5700/ DPB5700A	High Voltage Differential Probe

SDS2000X Series

Super Phosphor Oscilloscope

About SIGLENT

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

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, function/arbitrary waveform generators, RF generators, digital multimeters, DC power supplies, spectrum analyzers, vector network analyzers, isolated handheld oscilloscopes, electronic load and other general purpose test instrumentation. Since its first oscilloscope, the ADS7000 series, was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test & measurement.

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