

SDS5000X HD SDS5000L Series

Digital Storage Oscilloscope



Data Sheet

EN01A

12-bit

HARDWARE



SIGLENT TECHNOLOGIES CO.,LTD

| | |
|-------------|-------------|
| SDS5108X HD | SDS5106X HD |
| SDS5058X HD | SDS5056X HD |
| SDS5038X HD | SDS5036X HD |

| | |
|-------------|----------|
| SDS5104X HD | SDS5108L |
| SDS5054X HD | SDS5058L |
| SDS5034X HD | SDS5038L |

Product Overview

SIGLENT's SDS5000X HD and SDS5000L series high resolution Digital Storage Oscilloscopes are available in 4, 6 and 8 channels, bandwidths of 350 MHz, 500 MHz and 1 GHz, have 12-bit ADCs with sample rate up to 5 GSa/s, maximum record length of 2.5 Gpts/ch.



















Both series employs Siglent's SPO technology with a maximum waveform capture rate of up to 160,000 wfm/s, 256-level intensity grading display function plus a color temperature display mode. It also employs an innovative digital trigger system with high sensitivity and low jitter. The trigger system supports multiple powerful triggering modes including serial bus triggering. Tools such as History waveform recording, Search and Navigate functions, Mask Test, Bode Plot, Power Analysis allow for extended waveform records to be captured, stored, and analyzed. An impressive array of measurement and math capabilities, as well as serial decoding are also features of them.

The SDS5000X HD employs a 12.1" capacitive touch screen and supports multi-touch gestures, with the addition of user-friendly UI design, can greatly improve the operational efficiency.

The SDS5000L is the low profile version, without display and digital channels. Combined with a 64-channel synchronization distributor (SYN64), multiple SDS5000L modules can be organized as a high-speed acquisition system with up to 512 channels. It can also be used as a stand-alone oscilloscope by being connected to an external display and a mouse.

Both the two series support remote web control over LAN. A complete SCPI command set over the standard 1000M LAN connection provides fast data acquisition to speed automated test applications.

Key Features

-  8/6/4 analog channels for SDS5000X HD and 8 channels for SDS5000L
-  Up to 1 GHz bandwidth with up to 5 GSa/s sample rate
-  12-bit ADC
-  Low noise floor: 140 μ Vrms @ 1 GHz bandwidth (typical)
-  SPO technology
 - Waveform capture rates up to 160,000 wfm/s in normal mode and 650,000 wfm/s in sequence mode
 - Supports 256-level intensity grading and color temperature display modes
 - Up to 2.5 Gpts/ch waveform length
 - Digital trigger system
-  Intelligent trigger: Edge, Slope, Pulse, Window, Runt, Interval, Dropout, Pattern, Qualified, Nth edge, Setup/hold, Delay and Video (HDTV supported). Zone Trigger simplifies advanced triggering
-  Serial bus triggering and decoder, supports protocols including I²C, SPI, UART, CAN, LIN, CAN FD, FlexRay, I²S, MIL-STD-1553B, SENT, Manchester and ARINC429
-  Segmented acquisition (Sequence) mode, dividing the maximum record length into multiple segments (up to 170,000), according to trigger conditions set by the user, with a very small dead time between segments to capture the qualifying event
-  History waveform record (History) function, the maximum recorded waveform length is 170,000 frames
-  Automatic measurements on 60+ parameters, supports statistics with histogram, track, trend, gating measurement, and measurements on Math, History and Memory traces
-  8 Math traces (8 Mpts FFT, Filter, addition, subtraction, multiplication, division, integration, differential, square root, etc.), supports formula editor
-  Abundant data analysis functions such as Search, Navigate, Digital Voltmeter, Counter, Waveform Histogram, Bode plot, Power Analysis and Double Pulse Test
-  High Speed hardware-based Average, Hi-Res; High Speed hardware-based Mask Test function, with Mask Editor tool for creating user-defined masks
-  16 digital channels (only for SDS5000X HD)
-  External 50 MHz waveform generator supported
-  Large 12.1" TFT-LCD display with 1280 * 800 resolution; Capacitive touch screen supports multi-touch gestures (only for SDS5000X HD)
-  Interfaces include: 2x USB Host 3.0 (1x for SDS5000L), USB 2.0 Host, USB 3.0 Device (USBTMC), 1000M LAN, HDMI, External Trigger In, Aux Out (Pass/Fail, Trigger Out), 10 MHz In, 10 MHz Out
-  Built-in web server supports remote control over the LAN port using a web browser. Supports SCPI remote control commands. Supports external mouse and keyboard

Models and Key Specifications

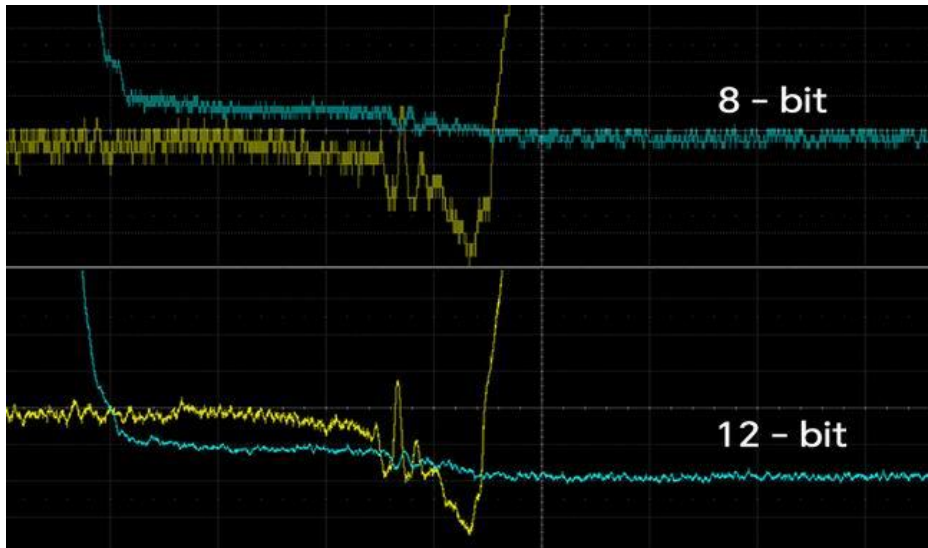
| Model Channel | 1 GHz | 500 MHz | 350 MHz |
|------------------|-------------------------|-------------------------|-------------------------|
| 8 | SDS5108X HD SDS5108L | SDS5058X HD SDS5058L | SDS5038X HD SDS5038L |
| 6 | SDS5106X HD | SDS5056X HD | SDS5036X HD |
| 4 | SDS5104X HD | SDS5054X HD | SDS5034X HD |

| Model | SDS5108X HD SDS5106X HD SDS5104X HD SDS5108L | SDS5058X HD SDS5056X HD SDS5054X HD SDS5058L | SDS5038X HD SDS5036X HD SDS5034X HD SDS5038L |
|-------------------------------|--|---|---|
| Analog channels | 8/6/4 + EXT | | |
| Bandwidth | 1 GHz | 500 MHz | 350 MHz |
| Sample rate (Max.) | 5 GSa/s (quarter channel/half channel mode) 2.5 GSa/s (full channel mode) | | |
| Vertical Resolution | 12-bit Up to 16-bit in HiRes mode | | |
| Memory depth (Max.) | 2.5 Gpts/ch (quarter channel mode) 1 Gpts/ch (half channel mode) 500 Mpts/ch (full channel mode) | | |
| Waveform capture rate (Max.) | Normal mode: Up to 160,000 wfm/s; Sequence mode: Up to 650,000 wfm/s | | |
| Trigger type | Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video, Qualified, Nth edge, Setup/hold, Delay, Serial | | |
| Serial trigger and decode | Standard: I ² C, SPI, UART, CAN, LIN Optional: CAN FD, FlexRay, I ² S, MIL-STD-1553B, SENT, Manchester (decode only), ARINC429 | | |
| Measurement | 60+ parameters. Statistics, histogram, trend, and track supported | | |
| Math | 8 traces 8 Mpts FFT, +, -, x, ÷, ∫dt, d/dt, √, Identity, Negation, Absolute, Sign, e ^x , 10 ^x , ln, lg, Interpolation, MaxHold, MinHold, ERES, Average, Filter. Supports formula editor | | |
| Data analysis | Search, Navigate, History, Mask Test, Digital Voltmeter, Counter, Waveform Histogram, Bode plot, Power Analysis, Double Pulse Test | | |
| Waveform generator (optional) | SAG1021I USB isolated waveform generator module, frequency up to 50 MHz, 125 MSa/s sample rate, 16 kpts waveform memory | | |
| Probe (Standard) | 500 MHz, 1 probe supplied for each channel | | |

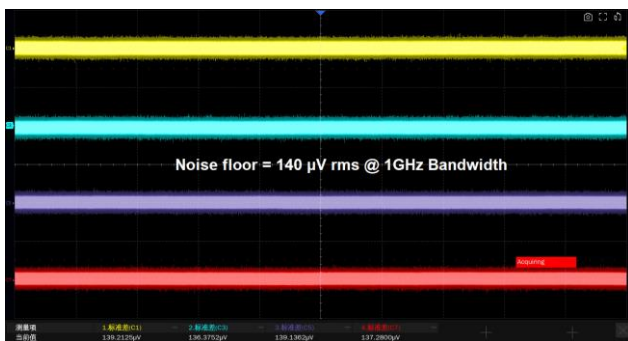
| Series | SDS5000X HD | SDS5000L |
|-----------------|--|---|
| Display | 12.1" TFT-LCD with capacitive touch screen (1280*800) | None |
| Digital channel | 16-channel; maximum sample rate up to 1.25 GSa/s; record length up to 250 Mpts | None |
| I/O | I/O: 2x USB 3.0 Host, USB 2.0 Host, USB 3.0 Device (USBTMC), 1000M LAN (VXI-11+SCPI, Telnet (5024)+SCPI, Socket (5025)+SCPI, LXI, WebServer) Display: HDMI Others: External Trigger In, Aux Out (TRIG OUT, PASS/FAIL), 10 MHz In, 10 MHz Out | I/O: USB 3.0 Host, USB 2.0 Host, USB 3.0 Device (USBTMC), 1000M LAN (VXI-11+SCPI, Telnet (5024)+SCPI, Socket (5025)+SCPI, LXI, WebServer) Display: HDMI Others: External Trigger In, Aux Out (TRIG OUT, PASS/FAIL), 10 MHz In, 10 MHz Out |

Functions & Characteristics

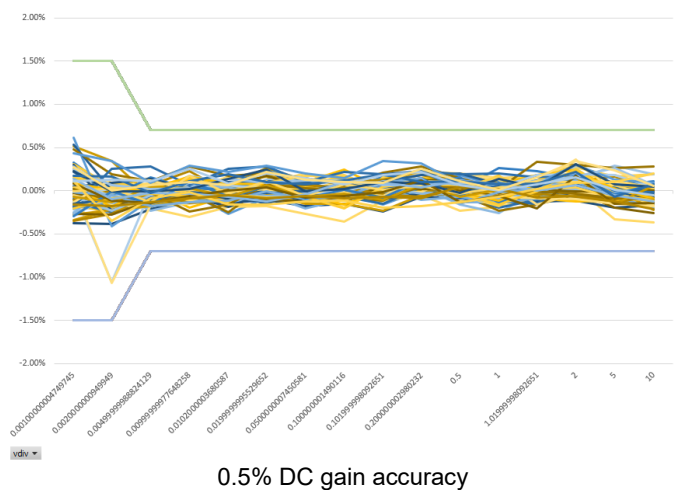
12-bit High Resolution



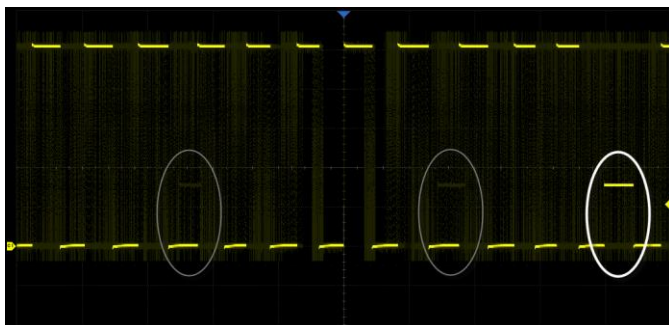
12-bit resolution shows you more details and less noise on the waveform.



Low noise floor: 140 μ Vrms at 1 GHz bandwidth

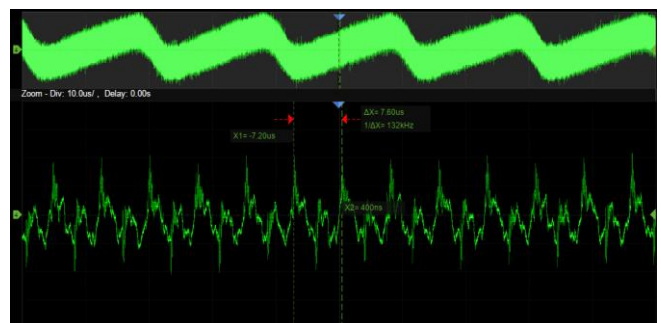


High Waveform Update Rate



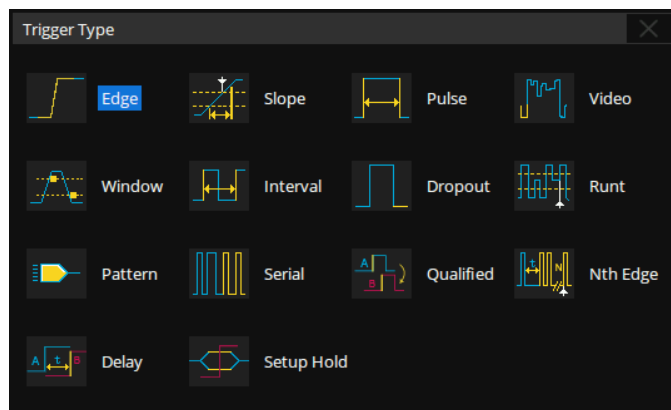
With a waveform update rate of up to 160,000 wfm/s, the oscilloscope can easily capture unusual or low-probability events. In Sequence mode, the waveform capture rate can reach 650,000 wfm/s

Deep Record Length



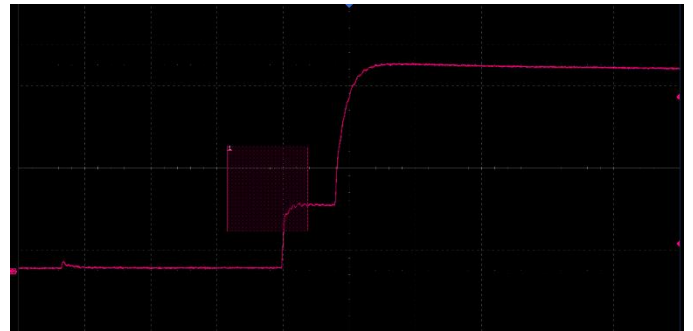
Using hardware-based Zoom technique and record length of up to 2.5 Gpts, users can select a slower timebase without compromising the sample rate, and then quickly zoom in to focus on the area of interest

Multiple Trigger Functions



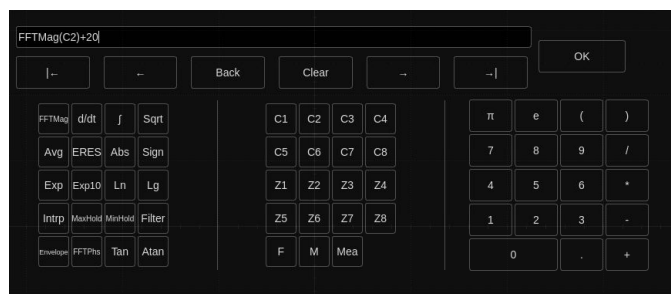
Edge, Slope, Pulse, Video, Windows, Runt, Interval, Dropout, Pattern, Qualified, Nth edge, Setup/hold, Delay and serial trigger

Zone Trigger



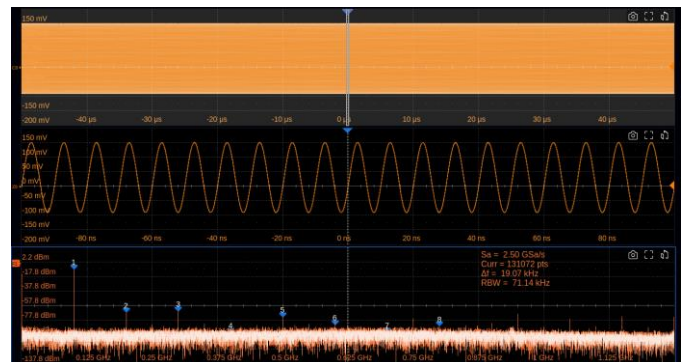
Zone Trigger is available for advanced triggering. Combine spatial triggering with common trigger modes to isolate signals of interest

Advanced Math Function



In addition to the traditional (+, -, X, /) operations, FFT, Filter, integration, differential, square root, and more are supported. Formula Editor is available for more complex operations. 8 math traces are available.

Deep Memory FFT



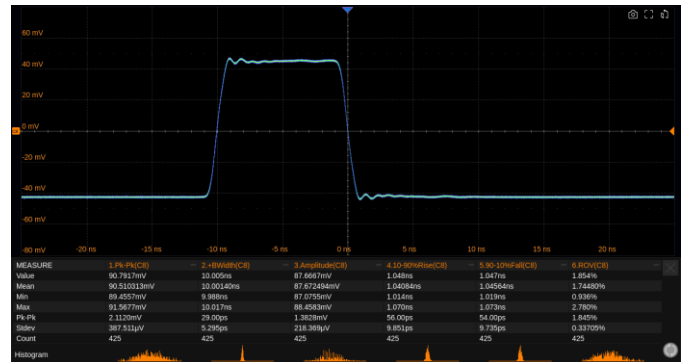
FFT supports up to 8 Mpts operation. This provides high-frequency resolution with a fast refresh rate. The FFT function also supports a variety of window functions so that it can adapt to different spectrum measurement needs. Three modes (Normal, Average, and Max hold) can satisfy different requirements for observing the power spectrum. Auto peak detection and markers are supported.

Measurements of a Variety of Parameters



Parameter measurements include 4 categories: horizontal, vertical, miscellaneous, and CH delay providing a total of 60+ different types of measurements. Measurements can be performed within a specified gate period. Measurements on Math, Reference, and History frames are supported

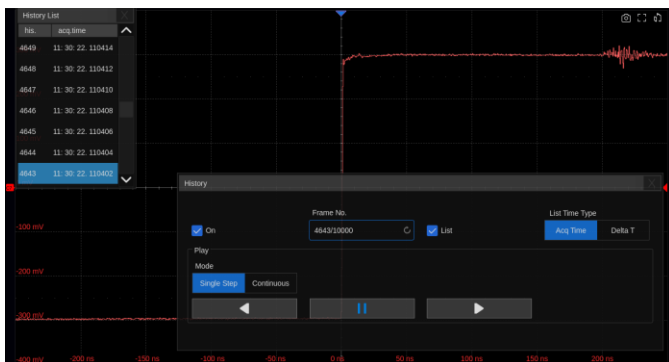
Parameter Statistics Function



Statistics show the current value, maximum value, minimum value, standard deviation, and mean value of up to 12 parameters simultaneously. A histogram is available to show the probability distribution of a parameter. Trend and Track are available to show the parameter value vs. time.

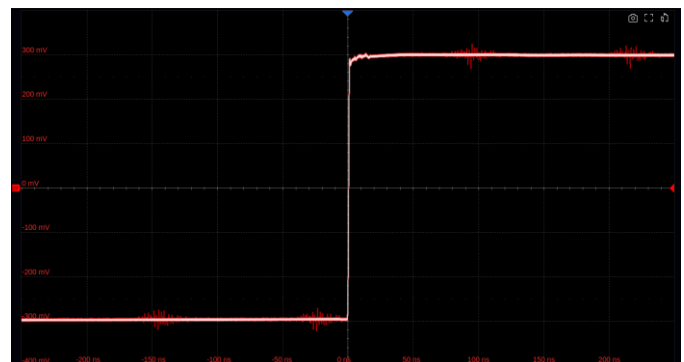
For horizontal parameters such as period, all results are extracted from a frame, instead of just calculating the first one. This accelerates statistics on horizontal measurements and enables distribution observation in a frame using Histogram and Track

History Mode



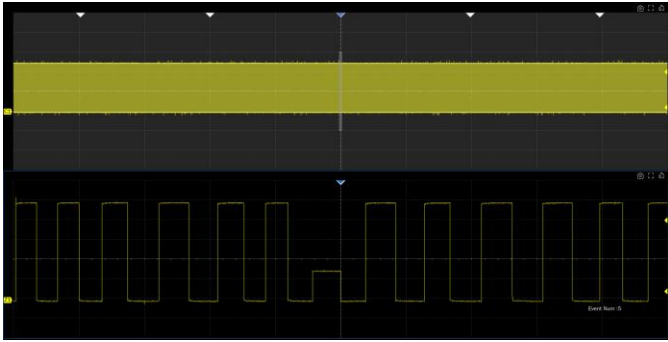
History function can record up to 170,000 frames of waveforms. The recording is executed automatically so that the customer can playback the history waveforms at any time to observe uncursors or quickly locate the area of interest using the cursors or measurements. The failed frames of the Mask Test can be stored as history

Sequence Mode



Segmented memory collection will store the waveform into multiple memory segments (up to 170,000) and each segment will store a triggered waveform as well the dead time information. The interval between segments can be as small as 1.5 μs. All of the segments can be played back using the History function

Search and Navigate



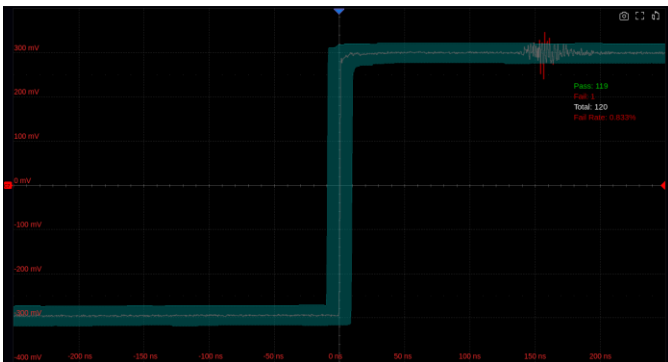
The oscilloscope can search events specified by the user in a frame based on hardware. Events flagged by the Search can be recalled automatically using Navigate. It can also navigate by time (delay position) and history frames

Serial Bus Decode

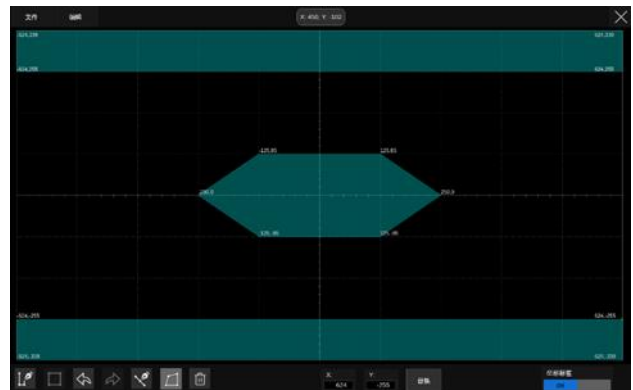


Display the decoded characters through the events list. Bus protocol information can be quickly and intuitively displayed in tabular form. I2C, SPI, UART, CAN, LIN, CAN FD, FlexRay, I2S, MIL-STD-1553B, SENT, Manchester, and ARINC429 are supported

Hardware-based High Speed Mask Test Function

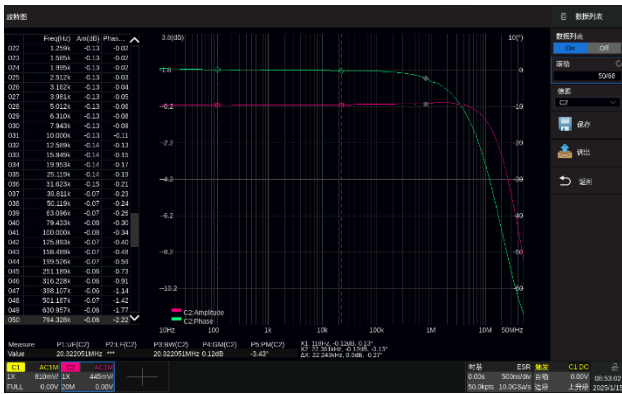


The oscilloscope utilizes a hardware-based Mask Test function, performing up to 80,000 Pass / Fail decisions each second. It is easy to generate user-defined test templates to provide trace mask comparisons, making it suitable for long-term signal monitoring or automated production line testing



Built-in Mask Editor application helps to create custom masks

Bode Plot



The oscilloscope can control the SIGLENT isolated USB AWG module or a stand-alone SIGLENT SDG generator, to scan the amplitude and phase-frequency response of the DUT, and display the data as a Bode Plot. This makes it possible to replace expensive network analyzers in some applications

Power Analysis (Optional)



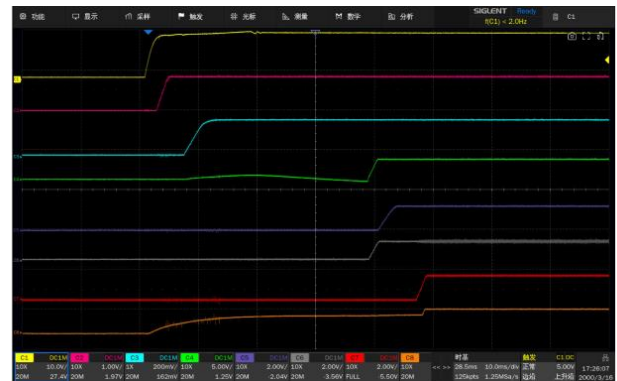
The Power Analysis and TPPA (3-phase Power Analysis) options provides a full suite of power measurements and analysis, which greatly improve the measurement efficiency in switching power supplies and power devices design. Combining the TPPA option with the 6/8 channels oscilloscope, high-voltage differential probes and current probes, we provide a complete solution of 3-phase power analysis

Complete Wide Bandgap Semiconductor Test Solution



The 6/8 channels oscilloscopes and optical isolation probes complete the last piece of the puzzle for wide bandgap semiconductor testing. The rise time of the oscilloscopes reaches the picosecond (ps) level, enabling it to capture the fast waveforms of SiC and GaN, and analyze the transient in voltage and current as well as the switching characteristics. By observing the shape of the signal, overshoot, ringing and other conditions, the integrity of the signal can be analyzed to optimize the circuit design.

Multi-channel timing test, power rail measurement completed in one go



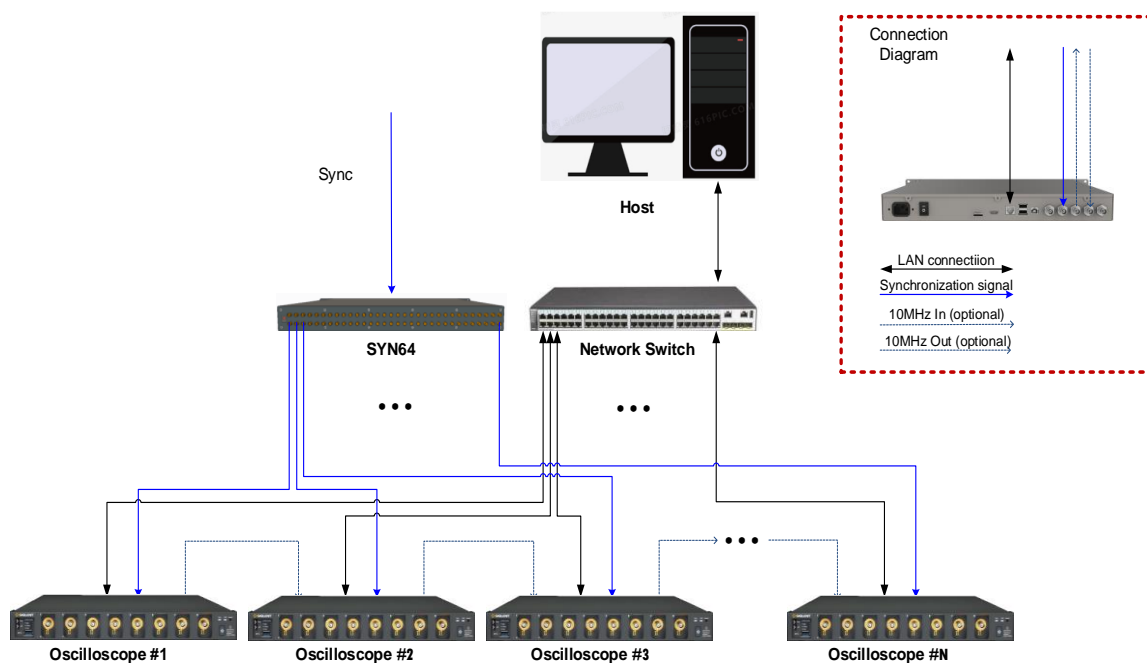
The oscilloscopes can capture the power-on process of up to 8 signals at one time, saving measurement time, improving work efficiency, reducing errors introduced by multiple measurements.

Excellent User Interface and User Experience



- 12.1" capacitive touch screen on the SDS5000X HD, supporting multi-touch gestures, can move or scale the waveform traces quickly by finger-touch movements, which greatly improves the operational efficiency
- Built-in WebServer supports remote control on a web page over LAN
- Supports external display, mouse and keyboard

Flexible Multi-channel High-speed Acquisition System with the SDS5000L



- Standard sizes: 1U height
- Multiple units are combined to create a high-speed acquisition system with up to 512 channels by being triggered with low-skew synchronization signals from the 64-channel synchronization distributor SYN64
- The host can access each unit over 1000M LAN. A complete SCPI command set as well as LabVIEW and IVI drivers are provided for easy data acquisition. The LAN port is LXI compliant.
- Sample clocks are synchronized between all units in the test system by cascading the 10 MHz In and 10 MHz Out clocks in a daisy chain

Specifications

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

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

| Acquire (analog) | |
|-----------------------------------|--|
| Sample rate | 5 GSa/s (quarter channel/half channel mode) *1 2.5 GSa/s (full channel mode) |
| Memory depth *2 | 2.5 Gpts/ch (quarter channel mode) 1 Gpts/ch (half channel mode) 500 Mpts/ch (full channel mode) |
| Real time signal processing depth | Measure, math, decode, analysis: 100 Mpts/ch max. |
| Waveform update rate | 160,000 wfm/s, 650,000 wfm/s in sequence mode |
| Intensity grading | 256-level |
| Peak detect | 500 ps |
| Average | 4, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192 |
| Hi-Res | Enhanced bit: 1, 2, 3, 4 bits |
| Sequence | Up to 170,000 segments, interval between triggers = 1.5 μ s min. |
| History | Up to 170,000 frames |
| Interpolation | sinx/x, x |

* 1: Divide C1 – C8 to two groups, C1 - C4 as group 1 and C5 – C8 as group 2.

quarter channel: in both groups at most one channel is turned on

half channel: in one group two channels are turned on and in the other group at most two channels are turned on

full channel: in any group at least three channels are turned on

* 2: In Average and Hi-Res modes, the memory depth is 25 Mpts/ch in full channel mode and 50 Mpts/ch in quarter channel/half channel mode

| Vertical (analog) | SDS5108X HD SDS5106X HD SDS5104X HD SDS5108L | SDS5058X HD SDS5056X HD SDS5054X HD SDS5058L | SDS5038X HD SDS5036X HD SDS5034X HD SDS5038L |
|------------------------------------|--|---|---|
| Channel | 8/6/4 + EXT | | |
| Bandwidth (-3dB) @ 50Ω | 1 GHz | 500 MHz | 350 MHz |
| Rise time@50Ω | 460 ps typical | 610 ps typical | 830 ps typical |
| Bandwidth (-3dB) @ 1 MΩ | 500 MHz | 500 MHz | 350 MHz |
| Resolution | 12-bit | | |
| Bandwidth in Hi-Res mode (typical) | Enhanced bits: 1: 0.25*Sample rate, up to the analog bandwidth 2: 0.115*Sample rate, up to 575 MHz, limited by the analog bandwidth 3: 0.055*Sample rate, up to 275 MHz 4: 0.028*Sample rate, up to 140 MHz | | |
| Noise floor (rms,50Ω,typical) | | | |
| ≤ 5 mV/div | 140 μV | 120 μV | 100 μV |
| ENOB*1 (typical) | 8.2-bit | 8.4-bit | 8.6-bit |
| Range | 8 divisions | | |
| Vertical scale (probe 1X) | 1 MΩ: 0.5 mV/div – 10 V/div. 2 μV/div – 10 V/div in Zoom mode 50 Ω: 0.5 mV/div – 1 V/div. 2 μV/div – 1 V/div in Zoom mode | | |
| DC gain accuracy | 0.5 mV/div ~ 4.95 mV/div: ±1.5% FS 5 mV/div ~ 10 V/div: ±1% FS max. ±0.5% FS typical | | |
| Offset accuracy | ± (1% of the offset setting + 0.5% of full scale + 0.02% of max offset + 1mV) | | |
| Offset range (probe 1X) | 1MΩ: 0.5 mV/div ~ 5 mV/div: ±1.6 V; 5.1 mV/div ~ 10 mV/div: ±4 V; 10.2 mV/div ~ 20 mV/div:±8 V; 20.5 mV/div ~ 100 mV/div: ±16 V; 102 mV/div ~ 200 mV/div: ±80 V; 205 mV/div ~ 1 V/div: ±160 V; 1.02 V/div ~ 10 V/div: ±400 V 50Ω: 0.5 mV/div ~ 5 mV/div: ±1.6 V; 5.1 mV/div ~ 10 mV/div: ±4 V; 10.2 mV/div ~ 20 mV/div:±8 V; 20.5 mV/div ~ 1 V/div: ±10 V | | |
| Bandwidth limit | 20 MHz±20%, 200 MHz±20% | | |
| Low frequency response (AC | 6 Hz (typical) | | |

SDS5000X HD/SDS5000L Series Digital Storage Oscilloscope

| | |
|---------------------------|--|
| coupling -3 dB) | |
| Coupling | DC, AC, GND |
| Impedance | 1 MΩ: SDS5000X HD: (1 MΩ ± 2%) (17 pF ± 3 pF), SDS5000L: (1 MΩ ± 2%) (18 pF ± 3 pF) 50 Ω: 50 Ω ± 1% |
| Max. Input voltage | 1 MΩ ≤ 400 Vpk(DC + AC), DC ~ 10 kHz 50 Ω ≤ 5 Vrms, ± 10V Peak |
| SFDR | ≥ 45dBc |
| CH to CH Isolation (@50Ω) | 60 dB |
| Probe Attenuation | 1X, 10X, 100X, custom |

*1: 50 Ω, 50 mV/div, 5 GSa/s, -1dBFS/12 MHz input

| Horizontal | SDS5108X HD SDS5106X HD SDS5104X HD SDS5108L | SDS5058X HD SDS5056X HD SDS5054X HD SDS5058L | SDS5038X HD SDS5036X HD SDS5034X HD SDS5038L |
|--------------------|--|---|---|
| Time scale | 0.2 ns/div – 1000 s/div | 0.5 ns/div – 1000 s/div | 1 ns/div – 1000 s/div |
| Range | 10 divisions | | |
| Display mode | Y-T, X-Y, Roll | | |
| Roll mode | ≥ 50 ms/div | | |
| Skew (C1~C8) | ± 100 ps | | |
| Time base Accuracy | ±2 ppm initial (0~50°C); ±0.5 ppm 1st year aging; ±3 ppm 20-year aging | | |

| Trigger | | | | |
|-----------------------------------|--|---|----------------|---------------|
| Mode | Auto, Normal, Single | | | |
| Level | Internal: ±4.5 div from the center of the screen EXT: ± 0.61 V EXT/5: ± 3.05 V | | | |
| Ext Trigger Channel input voltage | 1 MΩ ≤ 42 Vpk 50 Ω ≤ 5 Vrms | | | |
| Hold off range | By time: 8 ns ~ 30 s (8 ns step) By event: 1 ~ 10 ⁸ | | | |
| Coupling | C1~C8 DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 15 Hz LFRJ: Attenuates the frequency components below 2.4 MHz HFRJ: Attenuates the frequency components above 1.3 MHz Noise RJ: Increases the trigger hysteresis EXT DC: Passes all components of the signal AC: Blocks DC components and attenuates signals below 18 Hz LFRJ: Attenuates the frequency components below 7.5 kHz HFRJ: Attenuates the frequency components above 250 kHz | | | |
| Accuracy (typical) | C1 ~ C8: ±0.2 div EXT: ±0.3 div | | | |
| Sensitivity | C1 ~ C8 | | Noise RJ = OFF | Noise RJ = ON |
| | | > 2 mV/div | 0.52 div | 0.66 div |
| | | ≤ 2 mV/div | 1 div | 1 div |
| | EXT: | 200 mVpp, DC ~ 10 MHz 300 mVpp, 10 MHz ~ bandwidth (300 MHz) | | |
| | EXT/5: | 1 Vpp, DC ~ 10 MHz 1.5 Vpp, 10 MHz ~ bandwidth (300 MHz) | | |
| Jitter | C1 ~ C8: < 10 ps RMS (typical) for ≥ 300 MHz frequency, ≥ 6 divisions peak to peak amplitude for vertical gain settings from 2.5 mV/div to 10 V/div EXT: < 200 ps rms | | | |
| Displacement | Pre-Trigger: 0 ~ 100% memory Delay-Trigger: 0 ~ 10,000 div | | | |

| | |
|----------------------------|---|
| Zone | Up to 2 zones Source: C1~C8 Property: Intersect, Not Intersect |
| Edge Trigger | |
| Source | C1~C8/EXT/(EXT/5)/AC Line/D0~D15 |
| Slope | Rising, Falling, Rising & Falling |
| Slope Trigger | |
| Source | C1~C8 |
| Slope | Rising, Falling |
| Limit range | <, >, in range, out of range |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Pulse Width Trigger | |
| Source | C1~C8/D0~D15 |
| Polarity | +wid, -wid |
| Limit range | <, >, in range, out of range |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Video Trigger | |
| Source | C1~C8 |
| Standard | NTSC, PAL, 720p/50, 720p/60, 1080p/50, 1080p/60, 1080i/50, 1080i/60, Custom |
| Synchronization | Any, Select |
| Trigger Condition | Line, Field |
| Window Trigger | |
| Source | C1~C8 |
| Window type | Absolute, Relative |
| Interval Trigger | |
| Source | C1~C8/D0~D15 |
| Slope | Rising, Falling |
| Limit range | <, >, in range, out of range |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Dropout Trigger | |
| Source | C1~C8/D0~D15 |
| Timeout type | Edge, State |
| Slope | Rising, Falling |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Runt Trigger | |
| Source | C1~C8 |
| Polarity | Positive, Negative |
| Limit range | <, >, in range, out of range |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Pattern Trigger | |
| Source | C1~C8/D0~D15 |
| Pattern Setting | Don't Care, Low, High |
| Logic | AND, OR, NAND, NOR |
| Limit range | <, >, in range, out of range |
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Qualified Trigger | |
| Type | State, State with Delay, Edge, Edge with Delay |
| Qualified Source | C1~C8/D0~D15 |
| Edge Trigger Source | C1~C8/D0~D15 |
| Nth Edge Trigger | |
| Source | C1~C8/D0~D15 |
| Slope | Rising, Falling |
| Idle time | 8 ns ~ 20 s, Resolution = 1 ns |
| Edge Number | 1 ~ 65535 |
| Delay Trigger | |
| Source A | C1~C8/D0~D15 |
| Source B | C1~C8/D0~D15 |
| Slope | Rising, Falling |
| Limit range | <, >, in range, out of range |

| | |
|-----------------------------|---|
| Time range | 2 ns ~ 20 s, Resolution = 1 ns |
| Serial Trigger | |
| Source | C1~C8/D0~D15 |
| Protocol | Standard: I ² C, SPI, UART, CAN, LIN Optional: CAN FD, FlexRay, I ² S, MIL-STD-1553B, SENT, ARINC429 |
| I ² C | Type: Start, Stop, Restart, No Ack, EEPROM, Address & Data, Data Length |
| SPI | Type: Data |
| UART | Type: Start, Stop, Data, Parity Error |
| CAN | Type: All, Remote, ID, ID+Data, Error |
| LIN | Type: Break, Frame ID, ID+Data, Error |
| CAN FD (Optional) | Type: Start, Remote, ID, ID+Data, Error |
| FlexRay (Optional) | Type: TSS, Frame, Symbol, Errors |
| I ² S (Optional) | Type: Data, Mute, Clip, Glitch, Rising Edge, Falling Edge |
| MIL-STD-1553B (Optional) | Type: Transfer, Word, Error, Timing |
| SENT (Optional) | Type: Start, Slow channel, Fast channel, Error |
| ARINC429 (Optional) | Type: Word Start, Word End, Label, Label+Data, Error, Any Bit, Any Bit of 0, Any Bit of 1 |

| | |
|----------------------------------|--|
| Serial Decoder | |
| Decoders | 2 |
| Threshold | -4.1 ~ 4.1 div |
| List | 1 ~ 7 lines |
| Decoder type | Full duplex |
| I²C | |
| Source | C1~C8/D0~D15 |
| Signal | SCL, SDA |
| Address | 7-bit, 10-bit |
| SPI | |
| Source | C1~C8/D0~D15 |
| Signal | CLK, MISO, MOSI, CS |
| Edge Select | Rising, Falling |
| Chip select | Active high, Active low, Clock timeout |
| Bit Order | LSB, MSB |
| UART | |
| Source | C1~C8/D0~D15 |
| Signal | RX, TX |
| Data Width | 5-bit, 6-bit, 7-bit, 8-bit |
| Parity Check | None, Odd, Even, Mark, Space |
| Stop Bit | 1-bit, 1.5-bit, 2-bit |
| Idle Level | Low, High |
| Bit Order | LSB, MSB |
| CAN | |
| Source | C1~C8/D0~D15 |
| LIN | |
| LIN Version | Ver 1.3, Ver 2.0 |
| Source | C1~C8/D0~D15 |
| Baud Rate | 600 bps, 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, Custom |
| CAN FD (Optional) | |
| Source | C1~C8/D0~D15 |
| Nominal Baud Rate | 10 kbps, 25 kbps, 50 kbps, 100 kbps, 250 kbps, 1 Mbps, Custom |
| Data Baud Rate | 500 kbps, 1 Mbps, 2 Mbps, 5 Mbps, 8 Mbps, 10 Mbps, Custom |
| FlexRay (Optional) | |
| Source | C1~C8/D0~D15 |
| Baud Rate | 2.5 Mbps, 5 Mbps, 10 Mbps, Custom |
| I²S (Optional) | |
| Source | C1~C8/D0~D15 |
| Signal | BCLK, WS, DATA |
| Audio Variant | Audio-I2S, Audio-LJ, Audio-RJ |
| Start Bits | 0~31 |

| | |
|---------------------------------|--------------------------------------|
| Data Bits | 1~32 |
| MIL-STD-1553B (Optional) | |
| Source | C1~C8 |
| SENT (Optional) | |
| Source | C1~C8/D0~D15 |
| Manchester (Optional) | |
| Source | C1~C8 |
| Baud Rate | 500 bps~5 Mbps |
| ARINC429 (Optional) | |
| Source | C1~C8 |
| Baud Rate | 12.5 kbps~100 kbps, tolerance 1%~20% |
| Word format | L/SDI/D/SSM, L/D/SSM, L/D |

Measurement

Automatic Measurement

| | |
|-------------------------------|---|
| Source | C1~C8, D0~D15, Z1~Z8, F1~F8, M1~M4, History |
| Mode | Simple, Advanced |
| Range | Screen Gated: inside screen, definable with separate Gate cursors |
| Custom Threshold | Upper, Middle, Lower |
| No. of Measurements | Display 12 measurements at the same time (Display mode = M2) |
| Vertical Parameters | Max, Min, Pk-Pk, Top, Base, Amplitude, Mean, Cycle Mean, Stdev, Cycle Stdev, RMS, Cycle RMS, Median, Cycle Median, FOV, FPPE, ROV, RPRE, Level@Trigger, UpperLower |
| Horizontal Parameters | Period, Frequency, Time@max, Time@min, +Width, -Width, 10-90%Rise time, 90-10%Fall time, Rise time, Fall time, +Burst Width, -Burst Width, +Duty Cycle, -Duty Cycle, Delay, Time@Middle, Cycle-Cycle jitter |
| Miscellaneous Parameters | +Area@DC, -Area@DC, Area@DC, Absolute Area@DC, +Area@AC, -Area@AC, Area@AC, Absolute Area@AC, Cycles, Rising Edges, Falling Edges, Edges, Positive pulses, Negative pulses, Positive Slope, Negative Slope |
| Delay Parameters | Phase, FRFR, FRFF, FFFR, FFFF, FRLR, FRLF, FFLR, FFLF, Skew, tsu@R, tsu@F, th@R, th@F, Δ time1~4 |
| Statistics | Current, Mean, Min, Max, Sdev, Count; Histogram, Trend, Track |
| Statistics Count | Unlimited, 1~1024 |
| Statistics Count in one frame | Up to 100,000 |
| Cursors | |
| Source | C1~C8, Z1~Z8, D0~D15, F1~F8, M1~M4, Histogram |
| Type | Manual : Time X1, X2, (X1-X2), (1/ Δ T); Vertical Y1, Y2, (Y1-Y2) Track: Time X1, X2, (X1-X2) Measure: indicates the measurement on specific parameter |

Math

| | |
|-----------|---|
| Trace | F1~F8 |
| Source | C1~C8, F1~F8, M1~M4 |
| Operation | FFT, +, -, x, \div , \int dt, d/dt, $\sqrt{\quad}$, Identity, Negation, x , Sign, e ^x , 10 ^x , ln, lg, Interpolation, Max hold, Min hold, Delay, Envelope, ERES, Average, Filter, Formula Editor |
| FFT | Operators: FFT Magnitude, FFT Phase Length: 8 Mpts, 4 Mpts, 2 Mpts, 1 Mpts, 512 kpts, 256 kpts, 128 kpts, 64 kpts, 32 kpts, 16 kpts, 8 kpts, 4 kpts, 2 kpts Window: Rectangular, Blackman, Hanning, Hamming, Flattop, Gaussian, Blackman-Harris Mode: Normal, Max hold, Average Tools: Peaks, Markers |

Analysis

Search

| | |
|------------------|------------------------------------|
| Source | C1~C8, History |
| Mode | Edge, Slope, Pulse, Interval, Runt |
| Copy setting | Copy from trigger, Copy to trigger |
| Navigate | |
| Type | Search event, Time, History frame |
| Mask Test | |
| Source | C1~C8, Z1~Z8 |

SDS5000X HD/SDS5000L Series Digital Storage Oscilloscope

| | |
|--|---|
| Mask creating | Auto (Create mask), Customized (Mask Editor) |
| Mask test speed | Up to 28,000 frames/s |
| DVM | |
| Source | C1~C8 |
| Mode | DC mean, DC RMS, AC RMS, Peak-peak, Amplitude |
| Plot | Bar, Histogram, Trend |
| Gate | 20 ms |
| Bode Plot | |
| Source | C1~C8 |
| Supported signal sources | SAG1021I (Connection: USB), SDG series waveform generators (Connection: USB, LAN) |
| Sweep type | Simple, Vari-level |
| Frequency | Mode: Linear, Logarithmic Range: 10 Hz ~ 120 MHz |
| Measure | Upper cutoff frequency, Lower cutoff frequency, Bandwidth, Gain margin, Phase margin |
| Power Analysis (optional) | |
| Measure | Power quality, Current Harmonics, Inrush current, Switching loss, Slew rate, Modulation, Output ripple, Turn on/turn off, Transient response, PSRR, Efficiency, SOA |
| TPPA (3-phase Power Analysis, optional) | |
| Measure | Power quality, Harmonics, Ripple, Efficiency |
| Chart | Track, Trend, Phasor diagram |
| Double Pusle Test | |
| Measure | Switching parameter analysis, Switching timing analysis, Dialog recovery analysis, Capacitance analysis |
| Histogram | |
| Source | C1~C8 |
| Type | Horizontal, Vertical, Both |
| Counter | |
| Source | C1~C8 |
| Frequency resolution | 7 digits |
| Totalizer | Counter on edges, supports Gate and Trigger |

Digital Channels (Only for SDS5000X HD)

| | |
|-----------------------------|--|
| Max. Sampling Rate | 1.25 GSa/s |
| Memory Depth | 250 Mpts/ch |
| Min. Detectable Pulse Width | 3.3 ns |
| Level Group | D0~D7, D8~D15 |
| Level Range | -10 V~10 V |
| Logic Type | TTL, CMOS, LVCMOS3.3, LVCMOS2.5, Custom |
| Skew | D0~D15: ± 1 sampling interval Digital to Analog: $\pm (1 \text{ sampling interval} + 1 \text{ ns})$ |

Waveform Generator (Optional)

| | |
|--------------------------|--|
| Channels | 1 |
| Max. Output Frequency | 50 MHz |
| Sampling Rate | 125 MSa/s |
| Frequency Resolution | 1 μ Hz |
| Frequency Accuracy | ± 50 ppm |
| Vertical Resolution | 14 bit |
| Amplitude Range | -1.5 V ~ +1.5 V (into 50 Ω) -3 V ~ +3 V (into High-Z) |
| Waveforms | Sine, Square, Ramp, Pulse, DC, Noise, 45 Arbitrary |
| Output Impedance | 50 $\Omega \pm 2\%$ |
| Protection | Over voltage protection, Current limit |
| Isolated voltage | ± 42 Vpk |
| Sine | |
| Frequency | 1 μ Hz ~ 50 MHz |
| Offset accuracy (10 kHz) | $\pm (1\% \text{ offset setting value} + 3 \text{ mVpp})$ |
| Amplitude flatness | ± 0.3 dB, compare to 10 kHz, 2.5 Vpp into 50 Ω |
| SFDR | DC ~ 1 MHz -60 dBc 1 MHz ~ 5 MHz -55 dBc |

| | |
|----------------------|---|
| | 5 MHz ~ 25 MHz -50 dBc |
| Harmonic distortion | DC ~ 5 MHz -50 dBc 5 MHz ~ 25 MHz -45 dBc |
| Square/Pulse | |
| Frequency | 1 μ Hz ~ 10 MHz |
| Duty cycle | 1% ~ 99% |
| Edge | < 24 ns (10% ~ 90%) |
| Overshoot | < 3% (typical, 1 kHz, 1 Vpp) |
| Pulse width | > 50 ns |
| Jitter (cycle-cycle) | < 500 ps + 10 ppm |
| Ramp | |
| Frequency | 1 μ Hz ~ 300 kHz |
| Linearity | < 0.1% of Pk-Pk (typical, 1 kHz, 1 Vpp, 50% symmetry) |
| Channels | 0% ~ 100% |
| DC | |
| Offset range | ± 1.5 V (into 50 Ω) ± 3 V (into Hi-Z) |
| Accuracy | $\pm(\text{setting value} *1\% + 3 \text{ mV})$ |
| Noise | |
| Bandwidth (-3 dB) | >50 MHz |
| Arb | |
| Frequency | 1 μ Hz ~ 5 MHz |
| Waveform memory | 16 kpts |
| Sample rate | 125 MSa/s |
| Wave import | From EasyWaveX, from U-disk, directly from waveform data of analog channels |

I/O (SDS5000X HD)

| | |
|-------|---|
| Front | 2x USB 3.0 Host, Calibration signal for passive probe: 1 kHz, 3 V Square |
| Rear | USB 2.0 Host, USB 2.0 Device (USBTMC) , 1000M LAN, External trigger in, EXT: ≤ 1.5 Vrms, EXT/5: ≤ 7.5 Vrms, Aux out: TRIG OUT(3.3 V LVCMOS), PASS/FAIL OUT(3.3 V TTL), 10 MHz In, 10 MHz Out HDMI video output |

I/O (SDS5000L)

| | |
|-------|---|
| Front | USB 3.0 Host, Calibration signal for passive probe: 1 kHz, 3 V Square |
| Rear | USB 2.0 Host, USB 2.0 Device (USBTMC) , 1000M LAN, External trigger in, EXT: ≤ 1.5 Vrms, EXT/5: ≤ 7.5 Vrms, Aux out: TRIG OUT(3.3 V LVCMOS), PASS/FAIL OUT(3.3 V TTL), 10 MHz In, 10 MHz Out HDMI video output |

Display (Only for SDS5000X HD)

| | |
|--------------|--|
| Display Type | 12.1" TFT LCD with capacitive touch screen |
| Resolution | 1280×800 |

Display Setting

| | |
|----------------------|---|
| Range | 8 x 10 grid |
| Multiple-window | 1x1, 2x1, 4x1, 1x2, 2x2, 4x2, 3x3 |
| Display Type | Dot, Vector |
| Persistence Time | OFF, 0.1 s, 0.2 s, 0.5 s, 1 s, 5 s, 10 s, 30 s, infinite |
| Color Display | Normal, Color; Supports customer trace color |
| Language | Simplified Chinese, Traditional Chinese, English, French, Japanese, German, Spanish, Russian, Italian, Portuguese |
| Built-in Help System | Simplified Chinese, English |

| Environmental | | | |
|-------------------------------|--|------------------------------|---|
| Temperature | Operating: 0 °C ~ 50 °C Non-operating: -30 °C ~ 70 °C | | |
| Humidity | Operating: 5% ~ 90%RH, 30°C, degraded to 50%RH at 50 °C Non-operating: 5% ~ 95% | | |
| Altitude | Operating: ≤ 3,000 m, 25 °C Non-operating: ≤15,000 m | | |
| Electromagnetic Compatibility | Meets EMC directive (2014/30/EU), meets or exceeds IEC 61326-1:2012/EN61326-1:2013 (Basic) | | |
| | Conducted disturbance | CISPR 11/EN 55011 | CLASS A group 1 150 kHz-30 MHz |
| | Radiated disturbance | CISPR 11/EN 55011 | CLASS A group 1 30 MHz-1 GHz |
| | Electrostatic discharge (ESD) | IEC 61000-4-2/EN 61000-4-2 | 4.0 kV (Contact), 8.0 kV (Air) |
| | Radio-frequency electromagnetic field Immunity | IEC 61000-4-3/EN 61000-4-3 | 10 V/m (80 MHz to 1 GHz); 3 V/m (1.4 GHz to 2 GHz); 1 V/m (2.0 GHz to 2.7GHz) |
| | Electrical fast transients (EFT) | IEC 61000-4-4/EN 61000-4-4 | 2kV (Input AC Power Ports) |
| | Surges | IEC 61000-4-5/EN 61000-4-5 | 1kV (Line to line) 2kV (Line to ground) |
| | Radio-frequency continuous conducted Immunity | IEC 61000-4-6/EN 61000-4-6 | 3 V, 0.15-80MHz |
| | Voltage dips and interruptions | IEC 61000-4-11/EN 61000-4-11 | Voltage Dips: 0% UT during 1 cycle; 40% UT during 10/12 cycles; 70% UT during 25/30 cycles Voltage interruptions: 0% UT during 250/300 cycles |
| Safety | UL 61010-1:2012/R: 2018-11; CAN/CSA-C22.2 No. 61010-1:2012/A1:2018-11. UL 61010-2-030:2018; CAN/CSA-C22.2 No. 61010-2-030:2018. | | |
| RoHS | EU 2015/863 | | |

| Power Supply | |
|---------------------------|--|
| Input Voltage & Frequency | 100 ~ 240 Vrms 50/60Hz |
| Power consumption | 200 W max., 123 W typical, 4 W typical in standby mode |

| Mechanical (SDS5000X HD) | |
|--------------------------|---|
| Dimensions | Width × Height × Depth = 379mm×288mm×159mm |
| Weight | Net Weight 5.5 kg, Gross Weight 7.1 kg |
| Mechanical (SDS5000L) | |
| Dimensions | Width × Height × Depth = 395mm×43.15mm×413.85mm |
| Weight | Net Weight 6.2 kg, Gross Weight 10.7 kg |

Ordering Information

| Model | Description |
|----------------------------|---|
| SDS5108X HD | 8-ch, 1 GHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5058X HD | 8-ch, 500 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5038X HD | 8-ch, 350 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5106X HD | 6-ch, 1 GHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5056X HD | 6-ch, 500 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5036X HD | 6-ch, 350 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5104X HD | 4-ch, 1 GHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5054X HD | 4-ch, 500 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5034X HD | 4-ch, 350 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, 12.1" capacitive touch screen |
| SDS5108L | 8-ch, 1 GHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, low profile, 1u height |
| SDS5058L | 8-ch, 500 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, low profile, 1u height |
| SDS5038L | 8-ch, 350 MHz, 5 GSa/s, 12-bit, 2.5 Gpts/ch memory depth, low profile, 1u height |
| Standard Accessories | Quantity |
| USB cable | 1 |
| Quick start | 1 |
| Passive probe | 1/channel, 500 MHz |
| Certificate of calibration | 1 |
| Wireless mouse | 1 |
| Power cord | 1 |
| Optional Accessories | Description |
| SPL2016 | 16-channel logic probe: input impedance 100 k Ω 18 pF, input range ± 20 V, min. input swing 800 mVpp, max. data rate 300 Mbps (with leadset), 100 Mbps (without leadset) |
| DF2001A | Power Analysis deskew fixture |
| STB3 | STB3 demo signal source |
| USB-GPIB | USB-GPIB adapter |
| SAG1021I | 50 MHz isolated USB function/arbitrary waveform generator |
| SP6150A | High-speed passive probe: 1.5 GHz, 10X, input impedance 1.8 pF 500 Ω |
| SAP2500D | High-speed differential probe: 2.5 GHz, 10X, differential input impedance 1 pF 200 k Ω , input range ± 4 V, offset range ± 8 V, SAPBus interface |
| SAP2500 | High-speed active probe: 2.5 GHz, 10X, input impedance 1.1 pF 1 M Ω , input range ± 8 V, offset range ± 12 V, SAPBus interface |
| SAP1000 | High-speed active probe: 1 GHz, 10X, input impedance 1.2 pF 1 M Ω , input range ± 8 V, offset range ± 12 V, SAPBus interface |
| HPB4010 | High voltage passive probe: DC-40MHz, 1000X, input impedance 3.0 pF 100 M Ω , Max. input differential voltage DC: 0~10 kVDC, AC: ≤ 7 kVrms (Sinewave) , 20 kVp-p (Pulse) |
| SDP6150A | High voltage differential probe: 100 MHz, 50X/500X, Max. Differential Test Voltage (DC + Peak AC) ± 1500 V, CATIII 600 V/CATII 1000 V, DC 5 V Power supply |
| SDP6150D | High voltage differential probe: 400 MHz, 100X/1000X, Max. Differential Test Voltage (DC + Peak AC) ± 1500 V, CATIII 600 V/CATII 1000 V, DC 5 V Power supply |
| SAP1000H | High voltage differential probe: 1 GHz, 5X/50X, Differential Input Impedance 1 pF 200 k Ω , Input range (DC + Peak AC) ± 42 V, offset range ± 42 V, SAPBus interface |
| DPB1300 | High voltage differential probe: 50 MHz, 50X/500X, Max. Differential Test Voltage (DC + Peak AC) ± 1300 V, CATIII 600 V/CATII 1000 V, DC 12 V Power supply |
| DPB5150 | High voltage differential probe: 70 MHz, 50X/500X, Max. Differential Test Voltage (DC + Peak AC) ± 1500 V, CATIII 600 V/CATII 1000 V, USB 5 V Power supply |
| DPB5150A | High voltage differential probe: 100 MHz, 50X/500X, Max. Differential Test Voltage (DC + Peak AC) ± 1500 V, CATIII 600 V/CATII 1000 V, USB 5 V Power supply |
| DPB5700 | High voltage differential probe: 70 MHz, 100X/1000X, Max. Differential Test Voltage (DC + Peak AC) ± 7000 V, CATIII 1000V, USB 5 V Power supply |
| DPB5700A | High voltage differential probe: 100 MHz, 100X/1000X, Max. Differential Test Voltage (DC + Peak AC) ± 7000 V, CATIII 1000V, USB 5 V Power supply |
| SCP5030 | Current probe: DC-50 MHz, 1 V/A and 0.1 V/A, Max. current 30 Arms/50 Apk, 300V, SAPBus interface |

SDS5000X HD/SDS5000L Series Digital Storage Oscilloscope

| | |
|------------------------------|--|
| SCP5030A | Current probe: DC-100 MHz, 1 V/A and 0.1 V/A, Max. current 30 Arms/50 Apk, 300V, SAPBus interface |
| SCP5150 | Current probe: DC-12 MHz, 0.1 V/A and 0.01 V/A, Max. current 150 Arms/300 Apk, CAT III 300 V/CAT II 600 V, SAPBus interface |
| SCP5500 | Current probe: DC-2 MHz, 0.1 V/A and 0.01 V/A, Max. current 500 Arms/750 Apk, CAT III 300 V/CAT II 600 V, SAPBus interface |
| CPL5100 | Current probe: DC-600 kHz, 0.1 V/A and 0.01 V/A, current range 50 mA~100 A pk, DC 12 V Power supply |
| CP4020 | Current probe: DC-200 kHz, 50 mV/A and 5 mV/A, Max. current 20 Arms/60 Ap-p, CAT III 600 V/CAT II 600 V, DC 9 V Power supply |
| CP4050 | Current probe: DC-1 MHz, 500 mV/A and 50 mV/A, Max. current 50 Arms/140 Ap-p, CAT III 300 V/CAT II 600 V, DC 9 V Power supply |
| CP4070 | Current probe: DC-300 kHz, 50 mV/A and 5 mV/A, Max. current 70 Arms/200 Ap-p, CAT III 600 V/CAT II 600 V, DC 9 V Power supply |
| CP4070A | Current probe: DC-300 kHz, 100 mV/A and 10 mV/A, Max. current 70 Arms/200 Ap-p, CAT III 600 V/CAT II 600 V, DC 9 V Power supply |
| CP6030 | Current probe: DC-50 MHz, 1 V/A and 0.1 V/A, Max. current 30 Arms/50 Apk, 300V, DC 12 V Power supply |
| CP6030A | Current probe: DC-100 MHz, 1 V/A and 0.1 V/A, Max. current 30 Arms/50 Apk, 300V, DC 12 V Power supply |
| CP6150 | Current probe: DC-12 MHz, 0.1 V/A and 0.01 V/A, Max. current 150 Arms/300 Apk, CAT III 300 V/CAT II 600 V, DC 12 V Power supply |
| CP6500 | Current probe: DC-5 MHz, 0.1 V/A and 0.01 V/A, Max. current 500 Arms/750 Apk, CAT III 300 V/CAT II 600 V, DC 12 V Power supply |
| SAP4000P | Power rail probe: DC - 4 GHz, 1.1X, input impedance 50 k Ω @low frequency, 50 Ω @high frequency, input range +/- 600 mV, offset range +/- 24 V, SAPBus interface |
| ODP6050B | Optical isolated probe: 500 MHz, 50X, Max. Differential Test Voltage (DC + Peak AC) +/-25 V, Isolated Voltage +/-60 kV, DC 5 V adapter or 7.4 V battery Power supply |
| ODP6100B | Optical isolated probe: 1 GHz, 50X, Max. Differential Test Voltage (DC + Peak AC) +/-25 V, Isolated Voltage +/-60 kV, DC 5 V adapter or 7.4 V battery Power supply |
| BAG-S2 | Bag |
| Options (SDS5000X HD) | Description |
| SDS5000HD-PA | Power Analysis (software) |
| SDS5000HD-PA3 | 3-Phase Power Analysis (software) |
| SDS5000HD-I2S | I ² S trigger & decode (software) |
| SDS5000HD-1553B | MIL-STD-1553B trigger & decode (software) |
| SDS5000HD-FlexRay | FlexRay trigger & decode (software) |
| SDS5000HD-CANFD | CAN FD trigger & decode (software) |
| SDS5000HD-SENT | SENT trigger & decode (software) |
| SDS5000HD-Manch | Manchester decode (software) |
| SDS5000HD-ARINC | ARINC429 trigger & decode (software) |
| SDS5000HD-8BW3T5 | 8-ch, 350 MHz to 500 MHz bandwidth upgrade (software) |
| SDS5000HD-8BW3TA | 8-ch, 350 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000HD-8BW5TA | 8-ch, 500 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000HD-6BW3T5 | 6-ch, 350 MHz to 500 MHz bandwidth upgrade (software) |
| SDS5000HD-6BW3TA | 6-ch, 350 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000HD-6BW5TA | 6-ch, 500 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000HD-4BW3T5 | 4-ch, 350 MHz to 500 MHz bandwidth upgrade (software) |
| SDS5000HD-4BW3TA | 4-ch, 350 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000HD-4BW5TA | 4-ch, 500 MHz to 1 GHz bandwidth upgrade (software) |
| Options (SDS5000L) | Description |
| SDS5000L-PA | Power Analysis (software) |
| SDS5000L-PA3 | 3-Phase Power Analysis (software) |
| SDS5000L-I2S | I ² S trigger & decode (software) |
| SDS5000L-1553B | MIL-STD-1553B trigger & decode (software) |
| SDS5000L-FlexRay | FlexRay trigger & decode (software) |
| SDS5000L-CANFD | CAN FD trigger & decode (software) |
| SDS5000L-SENT | SENT trigger & decode (software) |
| SDS5000L-Manch | Manchester decode (software) |
| SDS5000L-ARINC | ARINC429 trigger & decode (software) |
| SDS5000L-8BW3T5 | 350 MHz to 500 MHz bandwidth upgrade (software) |
| SDS5000L-8BW3TA | 350 MHz to 1 GHz bandwidth upgrade (software) |
| SDS5000L-8BW5TA | 500 MHz to 1 GHz bandwidth upgrade (software) |

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, isolated handheld oscilloscopes, function/arbitrary waveform generators, RF/MW signal generators, spectrum analyzers, vector network analyzers, digital multimeters, DC power supplies, electronic loads and other general purpose test instrumentation. Since its first oscilloscope 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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