

SDS1000CM Specifications

File Version _____ V1.1 _____

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CHARACTERISTIC:

- The highest Single real-time sampling rate can be up to 1Gsa/s; Equivalent sampling rate is up to 50GSa/s.
- Memory Depth: 2Mpts
- Trigger types: Edge, Pulse Width, Video, Slope, Alternative
- Unique Digital Filter function and Waveform recorder function
- Support Pass/Fail function.
- Thirty two parameters Auto measure function.
- Save/recall types: Setups, Waveforms, Csv file, Picture.
- Support Multilingual On-line help system
- Waveform Intensity and Grid Brightness can be adjusted.
- Support twelve types Language
- Standard Configuration Port:
 - USB Host: Support USB flash driver save/recall function and update firmware;
 - USB Device: Support PictBridge compatible printer and support PC remote control;
 - RS232;
 - Pass/Fail Output.

Input	
Input Coupling	AC, DC, GND
Input Impedance	DC: $1\text{M}\Omega \pm 2\% \parallel 17\text{pF} \pm 3\text{pF}$ AC: $1.2\text{M}\Omega \pm 2\% \parallel 17\text{pF} \pm 3\text{pF}$, $\leq 100\text{mV/div}$ $1.0\text{M}\Omega \pm 2\% \parallel 17\text{pF} \pm 3\text{pF}$, $> 100\text{mV/div}$
Maximum Input Voltage	$\pm 400\text{V}$ PK-PK CATI
Ch to Ch Isolation (Both channels in same V/div setting)	> 100 : 1 at 70MHZ (SDS1152CM) > 100 : 1 at 50MHZ (SDS1102CM) > 100 : 1 at 30MHZ (SDS1062CM)
Probe attenuator	1X, 10X
Probe attenuator	1X, 10X, 100X, 1000X

Horizontal System	
Real Time Sampling Rate	1CH: 1GS/s 2CH: 500MS/s
Equivalent Sampling Rate	50GSa/s
Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X-Y
Timebase Accuracy	$\pm 100\text{ppm}$ measured over 10ms interval
Time Window	12 Divisions
Horizontal Scan Range	2.5ns/div -50s/div (SDS1152CM) 2.5ns/div -50s/div (SDS1102CM) 5.0 ns/div -50s/div (SDS1062CM)
	Scan: 100ms/div -50s/div (1-2.5-5 sequence)
Vertical System	
Vertical Sensitivity	2Mv-10V/div at input BNC(1-2-5 order)
Channel voltage offset range	2mv-200mv: $\pm 1.6\text{V}$ 206Mv-10V: $\pm 40\text{V}$ in Fixed Gain Ranges and Variable Gain Ranges
Vertical Resolution	8 bit
Channels	2
Analog Bandwidth (at input BNC)	150MHz (SDS1152CM) 100MHz (SDS1102CM) 60MHZ (SDS1062CM)
BW Flatness	DC-10% of rated BW: $\pm 1\text{DB}$ 10%-50% of rated BW: $\pm 2\text{DB}$ 50%-100% of rated BW: $\pm 3\text{DB}$
Lower frequency limit (AC -3dB)	$\leq 10\text{Hz}$ (at input BNC)
Noise: Pk-Pk for 3K record	$\leq 0.6\text{Div}$ for average of 10Pk-Pk readings in fixed gain settings. $\leq 0.7\text{ Div}$ for average of 10 Pk-Pk readings, Variable

	gain settings
SFDR including harmonics	$\geq 40\text{dB}$
DC Gain Accuracy	$< \pm 3.0\%$: 5mv/div to 5V/div in Fixed Gain Ranges $< \pm 4.0\%$: typical for 2mv/div and Variable Gain Ranges
DC Measurement Accuracy: All Gain settings \leq 100mv/div	$\pm [3\%X (\text{reading} + \text{offset}) + 1\% \text{ of } \text{offset} + 0.2\text{div} + 2\text{mv}]$
DC Measurement Accuracy: All Gain settings $>$ 100mv/div	$\pm [3\%X (\text{reading} + \text{offset}) + 1\% \text{ of } \text{offset} + 0.2\text{div} + 100\text{mv}]$
Rise time, Typical (using 500ps pulse)	$< 2.3\text{ns}$ (SDS1152CM) $< 3.5\text{ns}$ (SDS1102CM) $< 5.8\text{ns}$ (SDS1062CM)
Math operation	+, -, *, /, FFT
FFT	Window mode: Hanning, Hamming, Blackman, Rectangular
	Sampling points: 1024
Bandwidth limiter	20MHZ $\pm 40\%$ Typical (Note: BW limited below 20MHZ $\pm 40\%$ when using probe X1)

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

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

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

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

Acquisition System				
Sample Types	Real time, Equivalent time			
Memory Depth	Channel Mode	Sampling Rate	Short Memory	Long Memory
	Single Channel	1Gsa/s	40kpts	No support
	Single Channel	500MSa/s or lower	20kpts	2Mpts
	Double Channels	500MSa/s or lower	20kpts	1Mpts
Sample Mode	Sample, Peak Measure, Average			
Averages	4,16,32,64,128,256			

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

Generic Specification

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

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

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

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