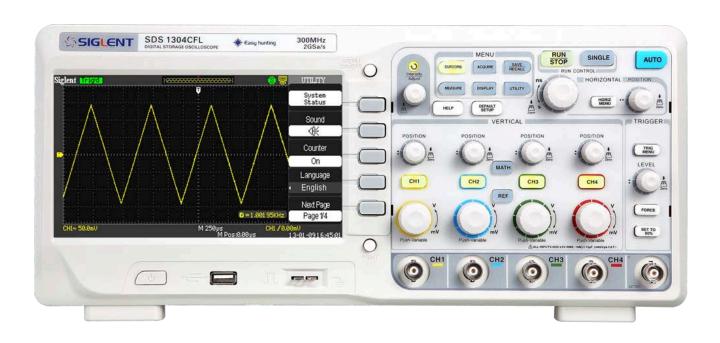


DataSheet

SDS1000CFL Series Digital Oscilloscope







CHARACTERISTIC:

- The volume of the oscilloscope is cabinet and it is portable
- 7" Color TFT LCD display
- 2/4 channels, Bandwidth: 70MHz-300 MHz
- Single real-time sampling rate is:2GSa/s, Equivalent sampling rate is 50GSa/s.
- Memory depth is 24Kpts.
- Trigger types: Edge, Pulse, Video, Slope and Alternative
- Unique Digital Filter function and Waveform recorder function
- Auto measure thirty two parameters and support all measurement function.
- Two/Four groups' reference waveforms and twenty groups' capture waveforms and twenty groups' setups internal save/recall function and USB flash drive save/recall function.
- Cursor types: Manual mode, Track mode and Auto mode.
- Channel waveform and its FFT waveform display on split screen.
- Waveform Intensity and Grid Brightness can be adjusted.
- Menu display in the form of pop-up that in order to convenience users to use it.
- Rich Screen display styles: Classical, Modern, Tradition, Succinct.
- Multiple Language User Interface.
- Support Multilingual online help system
- Standard interface: Double USB Host; USB Device; LAN Port; Pass/Fail Out





Specifications

All specification applies to 10X probe and All the SDS1000CFL Series Digital Storage Oscilloscopes.

To verify that the oscilloscope meets specifications, the oscilloscope must first meet the following conditions:

- The oscilloscope must have been operating continuously for thirty minutes within the specified operating temperature.
- You must perform the Do Self Cal operation, accessible through the Utility menu, if the operating temperature changes by more than 5° C.
- The oscilloscope must be within the factory calibration interval

All specifications are guaranteed unless noted "typical."

Inputs			
Input Coupling	AC, DC, GND		
	1MΩ±2% 18Pf±3Pf,		
Input Impedance	50Ω+/-2%(SDS1304CFL/SDS1302CFL,		
	SDS1204CFL/SDS1202CFL contain this function)		
Maximum input	400V (DC+AC PK-PK, 1MΩ input impedance,		
voltage	X10), CATI		
	>100:1 at 150MHz (SDS1304CFL,SDS1302CFL)		
Ch to Ch Isolation	>100:1 at 100MHz (SDS1204CFL,SDS1202CFL)		
(Both channels in same	>100:1 at 50MHz (SDS1104CFL,SDS1102CFL)		
V/div setting)	>100:1 at 35MHz (SDS1074CFL,SDS1072CFL)		
Probe attenuator	1X,10X		
Probe attenuator	1X,5X,10X,50X,100X ,500X,1000X		
Factors Set	1A,JA,10A,J0A,100A ,J00A,1000A		

Vertical System		
Vertical Sensitivity 2mV/div -5V/div(1-2-5 order)		
Channel voltage offset	2mV-100mV: ±800mV	
range	102mV-5V: ±40V	





Vertical Resolution	8 bit			
Channels	2/4			
	300MHz(SDS1304CFL, SDS1302CFL)			
Analog	200MHz(SDS1204CFL, SDS1202CFL)			
Bandwidth	100MHz(SDS1104CFL, SDS1102CFL)			
	70MHz(SDS1074CFL, SDS1072CFL)			
	300MHz(SDS1304CFL, SDS1302CFL)			
Single-shot	200MHz(SDS1204CFL, SDS1202CFL)			
Bandwidth	100MHz(SDS1104CFL, SDS1102CFL)			
	70MHz(SDS1074CFL, SDS1072CFL)			
	DC -10% of rated BW: +/- 1dB			
BW Flatness at BNC	10% - 50% of rated BW: +/- 2dB			
input	50% - 100% of rated BW: + 2dB/-3dB			
I array for array are limit	2000 10000 0111100 2000 12000			
Lower frequency limit (AC -3dB)	≤10Hz(at input BNC)			
	≤0.6 Div for average of 10 Pk-Pk readings, Fixed			
Noise: Pk-Pk for 3K	gain settings			
record	≤0.7 Div for average of 10 Pk-Pk readings, Variable			
	gain settings			
SFDR including				
harmonics	>=35dB			
(measured with FFT)				
DC Coin A course	<=3.0%: 5mv/div to 5V/div in Fixed Gain Ranges			
DC Gain Accuracy	<±4.0%: 2mv/div Variable Gain Ranges			
DC Measurement				
Accuracy:	$\pm [3\%$ * (reading + offset) +1% *of offset			
All Gain	+0.2div+2mv]			
settings≤100mv/div				
DC Measurement				
Accuracy:	$\pm [3\%$ * (reading + offset) $+1\%$ * of offset			
All Gain settings >	+0.2div+100mv]			
100mv/div				
	<1.2ns (SDS1304CFL, SDS1302CFL)			
Rise time	<1.8ns (SDS1204CFL, SDS1202CFL)			
KISE HIHE	<3.5ns (SDS1104CFL, SDS1102CFL)			
	<5.0ns (SDS1074CFL, SDS1072CFL)			
Overshoot, Typical	<10% with probe or BNC input w/ 50 Ohm feed thru			
(using 500ps pulse)				
	<1ns: SDS1304CFL,SDS1302CFL			
Ch to Ch Skew (both	SDS1204CFL,SDS1202CFL			
channels in same V/div	SDS1104CFL,SDS1102CFL			
setting)	<2ns: SDS1074CFL,SDS1072CFL			
	(Equivalent to 2 minor divisions in smallest t/div)			





Math operation	+, -, *, /, FFT		
	Window mode: Hanning, Hamming, Blackman,		
FFT	Rectangular		
	Sampling points: 1024		
D 1 '1/1 1' '/ 1	20MHz ±40% (Note: BW limited below 20MHz		
Bandwidth limited	when using probe in x1)		

Horizontal System			
Real Time Sampling	Single Channel: 2GSa/s, Double Channels: 1GSa/s		
Rate	(When timebase faster than 25ns/div)		
Equivalent Sampling	The highest equivalent sampling rate of other Models		
Rate	is 50GSa/s		
Measure Display	MAIN, WINDOW, WINDOW ZOOM, ROLL, X-Y		
Modes	WAIN, WINDOW, WINDOW ZOOM, ROLL, A-1		
Timebase Accuracy	±100ppm measured over 1ms interval		
Harizantal Caan Danga	1.0nS/DIV - 50S/DIV		
Horizontal Scan Range	Scan: 100mS/DIV ~50S/DIV (1-2.5-5 sequence)		

Trigger System				
Trigger Types	Edge, Pulse Width, Video, Slope, Alternative			
Trigger Source	CH1,CH2,CH3,CH4,EXT,EXT/5,AC Line			
Trigger Modes	Auto, Normal, Single			
Trigger Coupling	AC, DC, LF rej, HF rej			
	CH1,CH2,CH3,CH4: ±6divisions from center of			
Trigger Level Range	screen			
Trigger Level Kange	EXT: ±1.2V			
	EXT/5: ±6V			
Trigger Dienlegement	Pre-trigger: (Memory depth/ (2*sampling)),			
Trigger Displacement	Delay Trigger: 260DIV			
Trigger Level Accuracy	Internal: $\pm (0.2 \text{ div} \times \text{V/div})$ (within $\pm 4 \text{ divisions}$			
(typical) applicable for	from center of screen)			
the signal of rising and	EXT: $\pm (6\% \text{ of setting} + 40 \text{ mV})$			
falling time ≥20ns	EXT/5: $\pm (6\% \text{ of setting} + 200 \text{ mV})$			
	For fixed gain ranges			
	1 Divisions: DC-10MHz			
	1.5 Divisions: 10MHz - Max BW			
Trigger Sensitivity	EXT: 200mVpp DC-10MHz,			
	300mVpp 10MHz - Max BW			
	EXT/5: 1Vpp DC-10MHz,			
	1.5Vpp 10MHz - Max BW			
	Trigger Modes: $(>, <, =)$ positive Pulse Width,			
Pulse Width Trigger	(>, <, =)Negative Pulse Width			
	Pulse Width Range: 20ns – 10s			





	Support signal Formats: PAL/SECAM, NTSC	
Video Trigger	Trigger condition: odd field, even field, all lines,	
	line Num	
	(>,<,=) Positive slope, $(>,<,=)$ Negative	
Slope Trigger	slope	
	Time: 20ns-10s	
Alternative Trigger	CH1 trigger type: Edge, Pulse, Video, Slope	
	CH2 trigger type: Edge, Pulse, Video, Slope	
	CH3 trigger type: Edge, Pulse, Video, Slope	
	CH4 trigger type: Edge, Pulse, Video, Slope	

X-Y Mode		
X-pole Input / Y-Pole	(CH1) / (CH2) or (CH3)/(CH4)	
Input		
	XY mode has a breakthrough that trad oscilloscopes	
Sample Frequency	restrict sampling rate at 1MSa/s. Support 25Ksa/s~	
	250Msa/s adjusted.	

Hard Ware Frequency Counter		
Reading resolution	1 Hz	
Accuracy	±0.01%	
Range	DC Couple, 10Hz to MAX Bandwidth	
Signal Types	Satisfying all Trigger signals(Except Pulse width trigger and Video Trigger)	

Control Panel Function		
Auto Set	Auto adjusting the Vertical, Horizontal system and	
	Trigger Position	
Save/Recall	Support 2/4 Group referenced Waveforms, 20	
	Group setups,20 Group captured Waveforms	
	internal Storage/Recall function and USB flash	
	driver storage function.	

Measure System	
Auto Measure (32 Types)	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean,Crms, Vrms, ROVShoot, FOVShoot, RPREShoot, FPREShoot, Rise time, Fall time, Freq, Period,+ Wid,—Wid, +Dut, -Dut, BWid, Phase, FRR, FRF, FFR, FFF, LRR, LRF, LFF,
Cursor Measure	Manual mode, Track mode and Auto mode





Generic Specification

Display System				
Display Mode		Color TFT 7.0in.(177.8mm)diagonal		
		Liqu	Liquid Crystal Display	
Resolution		480	norizontal by 234 vertical pixels	
Display Color		64K	color	
Display Contrast (Typical state)	150:	150:1	
Backlight Intensity	(Typical state)	300nit		
Wave display range		8 x 18 div		
Wave Display Mode	e	Dots, Vector		
Persist		Off, 1 sec, 2 sec, 5 sec, Infinite		
Menu Display		2 sec	e, 5 sec, 10 sec, 20 sec, Infinite	
Screen-Saver		· ·	min,2min,5min,10min,15min,30 1hour,2hour,5hour	
Skin			sical, Modern, Tradition, Succinct	
waveform interpolat	ion	Sin(x	x)/x, Linear	
Color model		Norr	nal , Invert	
Language		Simplified Chinese, Traditional Chinese, English, Arabic, French, German, Russian, Portuguese Spanish, Japanese, Korean, Italian		
Environments				
Temperature	Operating:10℃			
Temperature	Not operating: -			
Cooling	The fan forces i	The fan forces it cold.		
Humidity	Operating: 85%	RH, 40°C, 24 hours		
		ot operating: 85%RH, 65°C, 24 hours		
Height		Operating: 3000m		
	Not operating:	Not operating: 15,266m		
Power Supply				
Input Voltage	100-240 VAC,	100-240 VAC, CAT II, Auto selection		
Frequency Scope	45Hz to 440Hz	45Hz to 440Hz		
Power	50VA Max	50VA Max		
Mechanical				
	length		358mm	
Dimension	Width		156mm	
	Height		118mm	
weight	SDS1004CFL:4.5kg; SDS1002CFL:4.3kg			





Type Selections:

NAME:

SDS1000CFL series Digital Oscilloscope

TYPE:

SDS1072CFL SDS1074CFL 70MHz

SDS1102CFL SDS1104CFL 100MHz

SDS1202CFL SDS1204CFL 200MHz

SDS1302CFL SDS1304CFL 300MHz

Standard Accessories:

- 1:1/10:1 probe (2/4 PCS based on channels)
- Power Cable that fits the standard of destination country
- Qualified Certification.
- Guaranty Card
- CD (including EasyScope computer software system)
- User Manual
- USB Cable

