SDS200 Series Oscilloscopes Technical Specifications

Unless otherwise specified, the technical specifications applied are for the oscilloscope only, and Probes attenuation set as 10X. Only if the oscilloscope fulfills the following two conditions at first, these specification standards can be reached.

- This instrument should run for at least 30 minutes continuously under the specified operating temperature.
- If change of the operating temperature is up to or exceeds 5℃, do a "Self-calibration" procedure.

All specification standards can be fulfilled, except one(s) marked with the word "Typical".

Performance Characteristics		Instruction	
Bandwidth		SDS210(S)	100 MHz
		SDS215(S)	150 MHz
		SDS220(S)	200 MHz
Channel		2 channels	
Acquisition	Mode	Normal, Peak detect, Averaging	
	Sample rate (real time)	1 GS/s	
Input	Input coupling	DC, AC , Ground	
	Input impedance	1 MΩ±2%, in parallel with 12 pF±5 pF	
	Input coupling	1X，10X，100X，1000X	
	Max. input voltage	400V (DC+AC, PK - PK)	
	Channel –channel isolation	50Hz: 100 : 1 10MHz: 40 : 1	
	Time delay between channel(typical)	150ps	
	Bandwidth limit	20 MHz, full bandwidth	
Horizontal System	Sampling rate range	0.5 S/s～1 GS/s	
	Interpolation	(Sinx)/x	
	Max Record length	20M	
	Scanning speed (S/div)	2 ns/div – 1000 s/div,step by 1 – 2 - 5	
	Sampling rate / relay time accuracy	±100 ppm	
	Interval(△T) accuracy (DC - 100MHz)	Single ： ±(1 interval time+100 ppm×reading+0.6 ns); Average>16 ： ±(1 interval time +100 ppm×reading+0.4 ns)	
Vertical system	Vertical Resolution (A/D)	8 bits (2 channels simultaneously)	
	Sensitivity	2 mV/div～10 V/div	
	Displacement	±1 V (2 mV/div – 100 mV/div) ±60 V (200 mV/div – 10 V/div)	
	Analog bandwidth	SDS210(S)	100 MHz

Performance Characteristics			Instruction	
			SDS215(S)	150 MHz
			SDS220(S)	200 MHz
	Single bandwidth		Full bandwidth	
	Low Frequency (AC coupling, -3 dB)		≥10 Hz(in BNC)	
	Rise time (BNC, Typical)		SDS210(S)	≤ 3.5 ns
			SDS215(S)	≤ 2.4 ns
			SDS220(S)	≤ 1.75 ns
	DC gain accuracy		±3%	
	DC accuracy (average)		Delta Volts between any two averages of ≥16 waveforms acquired with the same scope setup and ambient conditions (△V): ±(3% reading + 0.05 div)	
	Waveform inverted ON/OFF			
Measurement	Cursor		△V, △T, △T&△V between cursors, auto cursor	
	Automatic		Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +PulseWidth, -PulseWidth, +Duty Cycle, -Duty Cycle, Delay A→B 卐, Delay A→B 卍 , Cycle RMS, Cursor RMS, Screen Duty, Phase, +PulseCount, -PulseCount,RiseEdgeCnt, FallEdgeCnt, Area, and Cycle Area.	
	Waveform Math		＋, －, *, / ,FFT	
	Waveform storage		16 waveforms	
	Lissajous figure	Bandwidth	Full bandwidth	
		Phase difference	±3 degrees	
Communication port	USB 2.0 (USB storage）			
Counter	Support			

Trigger:

Performance Characteristics		Instruction
Trigger level range	Internal	±4 div from the screen center
Trigger level Accuracy(typical)	Internal	±0.3 div
Trigger displacement	According to Record length and time base	

Performance Characteristics		Instruction
Trigger Holdoff range	100 ns – 10 s	
50% level setting (typical)	Input signal frequency ≥ 50 Hz	
Edge trigger	slope	Rising, Falling
Video Trigger	Modulation	Support standard NTSC, PAL and SECAM broadcast systems
	Line number range	1-525 (NTSC) and 1-625 (PAL/SECAM)

Waveform Generator(Optional)

Characteristics	Instruction
Waveform	
Standard Waveforms	Sine wave, square wave, ramp wave, pulse wave, arbitrary wave
Arbitrary Waveforms	Sinc, exponential rise, exponential decline,Gaussian more than 160 kinds
Frequency Characteristics	
Sine wave	0.1Hz～25MHz
Square wave	0.1Hz～5MHz
Ramp wave	0.1Hz～1MHz
Pulse wave	0.1Hz～5MHz
Arbitrary wave	0.1Hz～5MHz
Waveform Characteristics	
Sine	
Bandwidth	25MHz
Bandwidth flatness (relative to 1 kHz Sine wave, 1 Vpp，50Ω)	≤10MHz:±0.3dB ≤25MHz:±0.5dB
Square	
Bandwidth	5MHz
Rise/fall time	＜30ns
Overshoot	＜5%
Ramp	
Bandwidth	1MHz
Linearity	< 2% of peak output (typical 1 kHz, 1 Vpp, symmetry 50%)
Symmetry	0% to 100%
Pulse	
Period	200ns to 1Ms
Pulse Width	100ns

Rise/fall time	＞12ns
Overshoot	＜5%
Arbitrary	
Bandwidth	5MHz
Waveform length	8k
Other Characteristics	
Bandwidth	25MHz
Real-time Sample	125MSa/s
Amplitude(50Ω)	0.005Vpp ～ 3Vpp
Dc offset range(High Z)	±(3V – amplitude Vpp/2)
Frequency resolution	0.01%
Channel	1
Length	8k
Vertical resolution	14 bit
Output impedance	50 Ω（typical）

General Technical Specifications

Display

Display Type	7" Colored LCD (Liquid Crystal Display)
Display Resolution	800 (Horizontal) × 480 (Vertical) Pixels
Display Colors	65536 colors, TFT screen

Output of the Probe Compensator

Output Voltage (Typical)	About 5 V, with the Peak-to-Peak voltage ≥1 MΩ.
Frequency (Typical)	Square wave of 1 KHz

Power

Mains Voltage	100 - 240 VACRMS, 50/60 Hz, CAT Ⅱ
Power Consumption	< 16 W
Fuse	2 A, T class, 250 V

Environment

Temperature	Working temperature: 0 ℃ - 40 ℃ Storage temperature: -20 ℃ - 60 ℃
Relative Humidity	≤ 90%
Height	Operating: 3,000 m Non-operating: 15,000 m
Cooling Method	Natural cooling

Mechanical Specifications

Dimension	301 mm× 152 mm×70 mm (L*H*W)
Weight	About 1.1 kg

Interval Period of Adjustment:

One year is recommended for the calibration interval period.

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