

## XDS3000 Series 4CH Oscilloscopes Technical Specifications

Model	Vertical Resolution (A/D)	Bandwidth	Rise Time	Horizontal Scale
XDS3064E	8 bits	60 MHz	≤ 5.8 ns	2ns/div-1000s/div, step by 1 – 2 - 5
XDS3064AE	8 bits/12 bits/14 bits			
XDS3104E	8 bits	100 MHz	≤ 3.5 ns	
XDS3104AE	8 bits/12 bits/14 bits			
XDS3104	8 bits	100 MHz	≤ 3.5 ns	1ns/div - 1000s/div, step by 1 – 2 - 5
XDS3104A	8 bits/12 bits/14 bits			
XDS3204E	8 bits	200 MHz	≤ 1.75 ns	
XDS3204AE	8 bits/12 bits/14 bits			

Performance Characteristics	Instruction			
<b>Sample rate (real time)</b>	XDS3064E XDS3104E	Four CH		250 MSa/s
		Dual CH*		500 MSa/s
		Single CH		1 GSa/s
	XDS3064AE XDS3104AE	8 bits mode	Four CH	250 MSa/s
			Dual CH*	500 MSa/s
			Single CH	1 GSa/s
		12 bits mode	Four CH	125 MSa/s
			Dual CH*	250 MSa/s
			Single CH	500 MSa/s
		14 bits mode	Four CH	100 MSa/s
			Dual CH	100 MSa/s
			Single CH	100 MSa/s
	XDS3104 XDS3204E	Four CH		500 MSa/s
		Dual CH*		1 GSa/s
		Single CH		1 GSa/s
	XDS3104A XDS3204AE	8 bits mode	Four CH	500 MSa/s
			Dual CH*	1 GSa/s
			Single CH	1 GSa/s
12 bits mode		Four CH	250 MSa/s	
		Dual CH*	500 MSa/s	
		Single CH	500 MSa/s	
14 bits mode		Four CH	100 MSa/s	
		Dual CH	100 MSa/s	
		Single CH	100 MSa/s	
<b>Waveform capture rate</b>	XDS3064E XDS3064AE XDS3104E XDS3104AE	45,000 wfms/s		
	XDS3104 XDS3104A XDS3204E XDS3204AE	70,000 wfms/s		

<b>Display</b>	8" color LCD, TFT display , 800x600 pixels			
<b>Channel</b>	4			
<b>Max record length</b>	When four channels are turned on, the max record length is 10M; and max 20M for two channels; max 40M for one channel.			
<b>Sampling rate / relay time accuracy</b>	$\pm 2.5$ ppm max (Ta = +25°C)			
<b>Input coupling</b>	DC, AC, Ground			
<b>Input impedance</b>	1M $\Omega$ $\pm$ 2%, in parallel with 15pF $\pm$ 5pF			
<b>Max input voltage</b>	400 V (DC + AC Peak)			
<b>DC gain accuracy</b>	XDS3064E	1 mV	$\pm$ 4%	
	XDS3104E	$\geq 2$ mV	$\pm$ 3%	
	XDS3064AE	8 bits mode	1 mV	$\pm$ 4%
			$\geq 2$ mV	$\pm$ 3%
	XDS3104AE	12 bits mode	1 mV	$\pm$ 3%
			14 bits mode	$\geq 2$ mV
	XDS3104	1 mV		$\pm$ 3%
	XDS3204E	$\geq 2$ mV	$\pm$ 2%	
	XDS3104A	8 bits mode	1 mV	$\pm$ 3%
			$\geq 2$ mV	$\pm$ 2%
XDS3204AE	12 bits mode	1 mV	$\pm$ 3%	
		14 bits mode	$\geq 2$ mV	$\pm$ 2%
<b>Vertical sensitivity</b>	1 mV/div - 10 V/div			
<b>Trigger type</b>	Edge, Video, Pulse, Slope, Runt, Windows, Timeout, Nth Edge, Logic, I2C, SPI, RS232, CAN (optional)			
<b>Decoding Type (optional)</b>	RS232, I2C, SPI, CAN			
<b>Trigger mode</b>	Auto, Normal, Single			
<b>Line/field frequency (Video)</b>	Support standard NTSC, PAL and SECAM			
<b>Automatic measurement</b>	Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A $\rightarrow$ B $\overline{\text{H}}$ , Delay A $\rightarrow$ B $\overline{\text{L}}$ , Cycle RMS, Cursor RMS, Screen Duty, FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase A $\rightarrow$ B $\overline{\text{H}}$ , Phase A $\rightarrow$ B $\overline{\text{L}}$ , +Pulse Count, -Pulse Count, Rise Edge Count, Fall Edge Count, Area, and Cycle Area.			
<b>Waveform math</b>	+, -, *, / ,FFT, FFTrms, Intg, Diff, Sqrt, User Defined Function, digital filter (low pass, high pass, band pass, band reject)			
<b>Waveform storage</b>	100 waveforms			
<b>Communication interface</b>	Standard	USB host, USB device, Trig Out (Pass/Fail), LAN		
	Optional	VGA		
<b>Printer compatibility</b>	PictBridge			
<b>Power supply</b>	100V - 240 VACRMS, 50/60 Hz, CAT II			
<b>Fuse</b>	2 A, T class, 250 V			
<b>Battery (optional)</b>	3.7V, 13200mAh			
<b>Touch screen (optional)</b>	Multi-touch capacitive touch screen			

\* For XDS3064(A)E and XDS3104(A)E, Max Sample rate (real time) for Dual CH should meet either following condition:

- CH1&CH2 on, CH3&CH4 off;
- CH1&CH2 off, CH3&CH4 on.

\* For XDS3104(A) and XDS3204(A)E, Max Sample rate (real time) for Dual CH should meet the following condition:

CH1 and CH2 can not be turned on simultaneously, CH3 and CH4 can not be turned on simultaneously.

- CH1&CH3 on, the others off;
- CH1&CH4 on, the others off;
- CH2&CH3 on, the others off;
- CH2&CH4 on, the others off.

### Waveform Generator

(Dual channels AG is optional to XDS3064E / XDS3104E;  
single channel AG is optional to XDS3104(A) / XDS3204(A)E.)

<b>Max frequency output</b>	25 MHz
<b>Sample rate</b>	125 MSa/s
<b>Channel</b>	1 or 2
<b>Vertical resolution</b>	14 bits
<b>Amplitude range</b>	2 mVpp - 6 Vpp
<b>Waveform length</b>	8K
<b>Standard waveforms</b>	Sine, Square, Ramp, and Pulse
<b>Arbitrary waveforms</b>	Exponential Rise, Exponential Fall, Sin(x)/x, Step Wave, Noise, and others, total 46 built-in waveforms, and user-defined arbitrary waveform

### Multimeter (Optional)

<b>Full scale reading</b>	3¾ digits (Max 4000 count)
<b>Diode</b>	0 V - 1 V
<b>Input impedance</b>	10 MΩ
<b>On/off measurement</b>	<50(±30)Ω beeping
<b>Capacitance</b>	51.2nF - 100uF: ±(3%±3 digits)
<b>Voltage</b>	DCV: 400mV, 4V, 40V, 400V, 1000V: ±(1%±1digit) Max. input: DC 1000V ACV: 400mV, 4V, 40V, 400V: ±(1%±3digit) 750V: ±(1.5%±3digit) Frequency: 40Hz - 400Hz, Max. input: AC 750V (virtual value)
<b>Current</b>	DCA: 40mA, 400mA: ±(1.5%±1 digit) 4A, 10A: ±(3%±3digit) ACA: 40mA: ±(1.5%±3digit) 400mA: ±(2%±1digit) 4A, 10A: ±(3%±3digit)
<b>Impedance</b>	400Ω: ±(1%±3digit) 4KΩ~4MΩ: ±(1%±1digit) 40MΩ: ±(1.5%±3digit)

### Mechanical Specifications

<b>Dimension</b>	340 mm × 177 mm × 90 mm (L*H*W)
<b>Weight</b>	Approx. 2.6 kg (without accessories)

V1.5



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