



DSO1000 Series Digital Storage Oscilloscope Datasheet



Saluki Technology Inc.

The document applies to the digital storage oscilloscopes of the following models:

- DSO1304 Digital Storage Oscilloscope (300MHz bandwidth, 4 channel).
- DSO1302 Digital Storage Oscilloscope (300MHz bandwidth, 2 channel).
- DSO1204 Digital Storage Oscilloscope (200MHz bandwidth, 4 channel).
- DSO1202 Digital Storage Oscilloscope (200MHz bandwidth, 2 channel).
- DSO1104 Digital Storage Oscilloscope (100MHz bandwidth, 4 channel).
- DSO1102 Digital Storage Oscilloscope (100MHz bandwidth, 2 channel).
- DSO1064 Digital Storage Oscilloscope (60MHz bandwidth, 4 channel).
- DSO1082 Digital Storage Oscilloscope (80MHz bandwidth, 2 channel).

Standard Accessories of DSO1000 Digital Storage Oscilloscope

Item	Name	Qty
1	Main Machine	1 Set
2	Power Cord	1 pcs
3	Oscilloscope Probe Kit	2 pcs
4	CD or U disk	1 pcs
5	USB cable	1 pcs

Preface

Thanks for choosing DSO1000 Digital Storage Oscilloscope produced by Saluki Technology Inc.

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Version

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Document Authorization

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Product Quality Assurance

The warranty period of the product is 36 months from the date of delivery.

Product Quality Certificate

The product meets the indicator requirements of the document at the time of delivery. Calibration and measurement are completed by the measuring organization with qualifications specified by the state, and relevant data are provided for reference.

Quality/Environment Management

Research, development, manufacturing and testing of the product comply with the requirements of the quality and environmental management system.

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1 Overview

DSO1000 Digital Storage bandwidth ranges from 60MHz – 300MHz with 2GSa/s sampling rate. It adopts well designed appearance and powerful build-in functions. 30 and more automatic measurement functions are provided to boost efficiency. High quality 7" color LCD screen, provide a clear view of the measurement.

Definitions

Instrument specifications listed in this datasheet applies to all different configurations DSO1000 series oscilloscope unless model numbers are clearly noted.

Specification (Spec.)

Specifications describe the performance of parameters within the warranty of the instrument. Product specifications applies under the following conditions:

- Environmental temperature of 25°C ($\pm 5^\circ\text{C}$) with less than 1°C deviation from the calibration temperature
- Specifications include measurement uncertainties

Data in this document are Spec. unless otherwise noted.

Typical (typ.)

Typical data is not guaranteed by instrument warranty. It describes additional product performance information that 80 percent of the units' exhibit. Typical data only valid at 25°C. Typical performance does not include measurement uncertainty.

Nominal(nom.)

Nominal values indicate expected performance, or describe product performance that is useful in the application of the product, but are not covered by the product warranty.

2 Specifications

2.1 Horizontal

Model No.	DSO1304	DSO1204	DSO1104	DSO1064
	DSO1302	DSO1202	DSO1102	DSO1082
Bandwidth	300MHz	200MHz	100MHz	60MHz/80MHz
Sampling Rate Range	2GSa/s	2GSa/s	2GSa/s	2GSa/s
Memory Depth	64K	64K	64K	64K
SEC/DIV Range	2ns/div - 40s/div		4ns/div - 40s/div	
Sampling Rate and Delay Time Accuracy	$\pm 50\text{ppm}$ in any $\geq 1\text{ms}$ time intervals			
Delta Time Measurement Accuracy (Full Bandwidth)	Single, "Sampling" mode, \pm (sampling interval + 100ppm x readout +0.6ns)			
	Average factor ≥ 16 , \pm (sampling interval + 100ppm x readout +0.4ns)			
	Sampling Interval = SEC/DIV \div 200			

2.2 Vertical

Model No.	DSO1304	DSO1204	DSO1104	DSO1064
	DSO1302	DSO1202	DSO1102	DSO1082
A/D converter	8-bit resolution, each channel sampled simultaneously			
VOLTS/DIV range	2mv/div - 5V/div at input BNC			
Position Range	$\pm 400\text{mv}$ (2mv/div - 20mV/div)			
	$\pm 2\text{V}$ (50mV/div - 200mV/div)			
	$\pm 40\text{V}$ (500mV/div - 2V/div)			
	$\pm 50\text{V}$ (5V/div)			
Optional Analog Bandwidth Limit (Typ.)	20MHz			
Low Frequency Response (-3dB)	$\leq 10\text{Hz}$ at output BNC			
Rise Time	1.2ns	1.8ns	3.5ns	5.8ns/4.3ns

Model No.	DSO1304	DSO1204	DSO1104	DSO1064
	DSO1302	DSO1202	DSO1102	DSO1082
Vertical Gain Accuracy	± 3% for sample or average acquisition mode, 5V/div to 10mv/div			
	± 4% for sample or average acquisition mode, 5mV/div to 2mv/div			

2.3 Trigger

Model No.	DSO1304	DSO1204	DSO1104	DSO1064
	DSO1302	DSO1202	DSO1102	DSO1082
Trigger Type	Video, Edge, Pulse Width, Slope, Overtime, Alternate Trigger			
Trigger Sensitivity (Edge Trigger Type)	DC(Internal): 1 div from DC to 10MHz, 1.5div from 10MHz to 100MHz, 2div from 100MHz to 300MHz			
	DC(EXT): 200mv from DC to 100MHz, 350mv from 100MHz to 300MHz			
	DC(EXT/5): 1V from DC to 100MHz, 1.75V from 100MHz to 300MHz			
	AC: Attenuates signals below 10Hz			
	HF Reject: Attenuates signals when above 80kHz			
	LF Reject: The same as DC coupling limit when frequency above 150kHz, Attenuates signals when below 150kHz.			
Trigger Level Range	CH1, CH2, CH3, CH4: ±8 div from center of screen			
	EXT: ±1.2V			
	EXT/5: ±6V			
Typical Accuracy for Signals (Rise and fall time ≥20ns)	CH1, CH2, CH3, CH4: ±(0.2div x V/div) (within ±4 divisions from center of screen)			
	EXT: ± (6% of setting +40mv)			
	EXT: ± (6% of setting +20mv)			
Holdoff Range	100ns - 10s			
Set Trigger Level to 50%	For the input signals ≥ 50Hz (Typ.)			

2.4 Acquisition

Normal, Peak Detect	Upon single acquisition on all channels simultaneously
Average	After N acquisitions on all channels simultaneously, N can be set to 4, 8, 16, 32, 64, 128

2.5 Input

Input Coupling	DC, AC or GND
Input Impedance, DC coupled	1MΩ ± 2% for 20pF ± 3pF
Probe Attenuation (Standard pack)	1x, 10x
Supported Probe Attenuation Factor	1x, 10x, 100x, 1000x
Max. Input Voltage	CAT I and CAT II: Installation type: 300VRMS (10X); CAT III: 150VRMS(1x)

2.6 Measurement

Cursors	Manual: The difference between voltage cursors ΔV ; The difference between time cursors ΔT ; Reciprocal of Δt in Hertz ($1/\Delta t$)
	Tracing: The voltage and time at a waveform point
Automatic Measurement	Frequency, Period, Mean, Pk-Pk, Cycli RMS, Minimum, Maximum, Rise time, Fall time, +Pulse width, -Pulse width, Delay 1-2 Rise, Delay 1-2 Fall, +Duty, -Duty, Vbase, Vtop, Vmid, Vamp, Overshoot, Preshoot, Preiod Mean, Preiod RMS, FOVShoot, PRESshoot, BWIDTH, FRF, FFR, LRR, LRF, LFR, LFF
Waveform Signal Process	+, -, X, \div , FFT, Invert

2.7 General

Display	7" 64k color LCD, 800*480 PIXELS, Adjustable (16 gears) with the progress bar
Voltage	100-120VACRMS ($\pm 10\%$) , 45Hz to 440Hz, CAT II
	120-240VACRMS ($\pm 10\%$) , 45Hz to 66Hz, CAT II
Power	<30W
Fuse	2A, T rating, 250V
Size	313mm(L) x 108mm(W) x 142mm(H)
Weight	2.08KG (Without Packing)

3 Compliant

3.1 CE



Complies with the requirements of the **EMC directive 2014/08/EC**.

Test Standards:

- EN 61326-1:2006
- EN 61000-3-2:2006 + A1:2009 + A2:2009
- EN 61000-3-3:2008

3.2 RoHS



Complies with the requirements of the **RoHS directive 2011/65/EU**.

Test Standards:

- EN 50581:2012

3.3 ISO



- Manufacturing

This instrument is manufactured in an ISO-9001 registered facility

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