

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSO5034A

The Keysight Technologies (formerly Agilent) DSO5034A is a 4-channel, 300 MHz digital storage oscilloscope belonging to the 5000 Series. It features the third-generation MegaZoom III technology, delivering up to 100,000 waveforms per second update rate, 1 Mpts memory depth, and a high-definition XGA display to eliminate the trade-offs of typical bench oscilloscopes.

SPECIFICATIONS

General

Interfaces	USB 2.0 (2 host ports, 1 device port), LAN (10/100Base-TX), GPIB, LXI-C
Display	6.3-inch color TFT LCD, XGA (1024 x 768), 256-level intensity grading

Physical

Power Supply	100 - 240 VAC, 50/60 Hz; 100 - 132 VAC, 400 Hz; 120 VA maximum power consumption
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	354 mm × 188 mm × 174 mm mm
Weight	4.1 kg kg
Security Lock Slot	Kensington lock slot compatible
Optional Rackmount Kit	N2916B

Vertical System - Analog Channels

Analog Bandwidth (-3 dB)	300 MHz
Calculated Rise Time (10% to 90%)	1.17 ns
Number of Input Channels	4
Input Coupling	AC, DC
Input Impedance	1 MΩ ± 1% (~13 pF) or 50 Ω ± 1% (selectable)
Input Sensitivity Range	2 mV/div to 5 V/div (1 MΩ), 2 mV/div to 1 V/div (50 Ω)
Vertical Resolution	8 bits
Maximum Input Voltage (1 MΩ)	CAT I 300 Vrms, CAT II 150 Vrms, ±400 Vpk
Maximum Input Voltage (50 Ω)	5 Vrms
DC Gain Accuracy	±2.0% full scale
Offset Range (2 mV/div to 200 mV/div)	±2 V (1 MΩ or 50 Ω)
Offset Range (>200 mV/div to 5 V/div)	±50 V (1 MΩ)
Offset Range (>200 mV/div to 1 V/div)	±5 V (50 Ω)
Hardware Bandwidth Limits	20 MHz (selectable)

Horizontal System

Timebase Range	1 ns/div to 50 s/div
Timebase Accuracy	±25 ppm
Delay Time Range (Pre-trigger)	Greater of 1 screen width or 250 µs
Delay Time Range (Post-trigger)	1 s to 500 s
Channel-to-Channel Deskew Range	±75 ns

Acquisition System

Maximum Real-Time Sample Rate (Half Channel)	2 GSa/s
Maximum Real-Time Sample Rate (All Channels)	1 GSa/s
Maximum Record Length (Half Channel)	1 Mpts
Maximum Record Length (All Channels)	500 kpts
Waveform Capture Rate	Up to 100,000 waveforms/s
Acquisition Modes	Sample, Peak Detect, Averaging, High Resolution
Peak Detect Resolution	500 ps (Half Channel), 1 ns (All Channels)

Trigger System

Trigger Sources	Ch 1, Ch 2, Ch 3, Ch 4, Line, External
Trigger Modes	Auto, Normal, Single
Trigger Coupling	AC, DC, LF Reject, HF Reject, Noise Reject
Trigger Holdoff Range	60 ns to 10 s
Trigger Sensitivity (DC to 100 MHz)	0.6 div or 3.5 mV
Trigger Sensitivity (100 MHz to Max Bandwidth)	1.0 div or 5 mV
Standard Trigger Types	Edge, Pulse Width, Pattern, TV/Video, Duration, Sequence
Trigger Jitter	15 ps rms
Optional Serial Triggering and Decode	I ² C, SPI (Option LSS); CAN, LIN (Option AMS)
External Trigger Input Impedance	1 MΩ ± 3% 17 pF
Maximum External Trigger Input Voltage	CAT I 300 Vrms, 400 Vpk

Waveform Measurements and Analysis

Automatic Measurements	Peak-to-Peak, Max, Min, Amplitude, Top, Base, Overshoot, Undershoot, Average, RMS, Period, Frequency, Rise Time, Fall Time, +Width, -Width, Duty Cycle
Measurement Statistics	Mean, Min, Max, Standard Deviation, Count
Waveform Math Operators	Add, Subtract, Multiply, FFT
FFT Window Types	Hanning, Flat Top, Rectangular

Display and User Interface

Display Type	Color TFT LCD
Display Size	6.3 inches (160 mm) diagonal
Display Resolution	320 × 240 (QVGA)
Waveform Display Formats	YT, XY
Intensity Levels	256 levels

Connectivity and Interfaces

USB Host Ports	2 ports (1 front, 1 rear)
USB Device Port	1 port (rear)
LAN Interface	10/100Base-TX (RJ-45), LXI Class C
GPIB Interface	IEEE-488 port (rear)
External Trigger Input	BNC (rear)
Auxiliary Output	BNC (Trigger Out or Mask Test Pass/Fail)
Video Output Port	XGA out (15-pin D-sub, rear)

Power Specifications

Power Supply Voltage Range	100 to 240 VAC (auto-ranging)
Power Supply Frequency Range	50/60 Hz (100 - 240 VAC), 400 Hz (100 - 132 VAC)
Power Consumption	120 W maximum

Environmental and Compliance

Operating Temperature Range	0 °C to +50 °C
Storage Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% RH (non-condensing) at 40 °C
Operating Altitude	Up to 4,600 m (15,000 ft)

Frequency Counter

Built-in Frequency Counter Resolution	5 digits
Built-in Frequency Counter Range	10 Hz to 300 MHz

Vertical System

Channel-to-Channel Isolation	≥ 40 dB (DC to 300 MHz)
Dynamic Range	±8 div from center of screen

Accessories

Standard Probes Included	Four 10073C 10:1 passive probes (500 MHz)
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Environmental

Acoustic Noise	30 dBA (ambient < 35 °C)
Vibration Limit	Meets MIL-PRF-28800F Class 3 random vibration

Compliance & Certifications

Safety Compliance	UL 61010-1:2004, CAN/CSA-C22.2 No. 61010-1:2004, EN 61010-1:2001, IEC 61010-1:2001
EMC Compliance	IEC 61326-1:1997+A1:1998+A2:2000 / EN 61326-1:1997+A1:1998+A2:2001

Data Storage

Internal Storage	10 setups and 10 waveforms
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Connectivity

LXI Compliance	LXI class C compliant
Built-in Web Server	Yes, enables remote control/viewing via standard web browser

Acquisition

Averaging Selections	2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536
High-Resolution Mode Resolution	Up to 12 bits of vertical resolution (at timebase $\geq 10 \mu\text{s}/\text{div}$)

Inputs & Outputs

Probe Compensator Output	Frequency $\sim 1.2 \text{ kHz}$, amplitude $\sim 2.5 \text{ Vp-p}$
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TECHNOLOGY

Digital Storage Oscilloscope

APPLICATIONS

Electronic Design, Troubleshooting, and Education

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