

KEYSIGHT TECHNOLOGIES (AGILENT HP)

DSA90254A

The Keysight (Agilent) DSA90254A is a 2.5 GHz high-performance Digital Signal Analyzer (oscilloscope) representing the flagship capabilities of the Infiniium 90000A series. Designed for high-speed digital design and compliance testing, this model features 4 analog channels and delivers an industry-leading real-time sampling rate of 40 GSa/s simultaneously across all four channels. The DSA package comes standard with 50 Mpts of memory per channel, EZJit Plus jitter analysis software, and serial data analysis capabilities, making it a robust platform for demanding serial data standard validation.

SPECIFICATIONS

General

Interfaces	LAN (Gigabit Ethernet), GPIB, USB 2.0 (Host/Device), LXI Class C, DVI, VGA
Display	12.1-inch color XGA TFT-LCD with touch screen

Physical

Power Supply	100 - 240 VAC, 50/60 Hz, maximum 800 W
Operating Temperature	5 °C to +40 °C °C
Dimensions (W×H×D)	432 mm x 283 mm x 505 mm mm
Weight	20.4 kg
Form Factor	Benchtop
Rackmount Kit Option	Yes

Vertical System

Analog Bandwidth	2.5 GHz
Calculated Rise Time (10% to 90%)	160 ps
Number of Input Channels	4
Input Impedance	50 Ω
Input Coupling	DC
Vertical Resolution	8 bits (up to 12 bits with High Resolution mode)
Input Sensitivity Range	1 mV/div to 1 V/div
Maximum Input Voltage	5 V rms
DC Gain Accuracy	±2% of full scale
Calculated Rise Time (20% to 80%)	111 ps
Probe Interface	AutoProbe

Horizontal System

Main Timebase Range	5 ps/div to 20 s/div
Timebase Accuracy	±0.1 ppm
Intrinsic Jitter Floor	150 fs rms

Acquisition System

Maximum Real-Time Sample Rate	40 GSa/s on 2 channels, 20 GSa/s on 4 channels
Standard Memory Depth	50 Mpts per channel
Maximum Memory Depth Option	1 Gpts per channel

Trigger System

Trigger Sources	Channels 1-4, Auxiliary, Line
Trigger Modes	Edge, Glitch, Width, Transition, Runt, Timeout, Pattern, State, Window, Setup/Hold, Sequence
Trigger Coupling	DC, AC, LF Reject, HF Reject
Auxiliary Trigger Input Impedance	50 Ω
Trigger Level Range	±4 divisions from center screen

Measurements & Analysis

Automatic Measurements	Over 60 automatic measurements
Waveform Math	Operators: Add, Subtract, Multiply, Divide, FFT, Integrate, Differentiate, Square Root, Absolute, Common Log, Natural Log, Exponential
Jitter Analysis	EZJit and EZJit Plus (included standard on DSA models)

Host Computer System

Storage Drive	≥250 GB removable hard disk drive or solid state drive
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Display & User Interface

Display Size and Type	12.1-inch color TFT-LCD
Display Resolution	1024 x 768 (XGA)
Waveform Display Formats	Single, Dual, Quad, Octal, XY

Connectivity & Interface Ports

USB Ports (Host)	2 x USB 2.0 front panel, 4 x USB 2.0 rear panel
USB Ports (Device)	1 x USB 2.0 rear panel
Reference Clock Input	10 MHz (BNC)
Reference Clock Output	10 MHz (BNC)
External Video Output	1 x DVI, 1 x VGA

Power & Environmental

Non-Operating Temperature Range	-40 °C to +70 °C
Operating Humidity	Up to 95% relative humidity at +40 °C
Operating Altitude	Up to 3,000 meters (10,000 feet)
Calibration Interval	1 year

Compliance

Safety Certifications	CAN/CSA-C22.2, UL 61010-1, EN 61010-1
EMC Compliance	IEC 61326-1, EN 61326-1, CISPR 11 Group 1 Class A

Interfaces

GPIO Interface	IEEE 488.2
PCI Express Slot	PCI Express x4 (external, for data transfer)
LAN Interface	10/100/1000Base-T Ethernet (RJ-45)
LXI Compliance	LXI Class C
Audio Connections	Microphone in, Line in, Line out

Power Requirements

AC Input Voltage	100 to 240 VAC (±10%)
AC Input Frequency	47 to 63 Hz
Maximum Power Consumption	800 W

Environmental

Vibration - Operating	Random vibration 0.21 g (rms), 5 to 500 Hz, 10 min/axis
Vibration - Non-operating	Random vibration 2.09 g (rms), 5 to 500 Hz, 10 min/axis
Operating Shock	3 g (half-sine, 11 ms pulse)
Non-Operating Shock	30 g (half-sine, 11 ms pulse)

Inputs & Outputs

Input Connector	3.5 mm (m)
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Performance

Timebase Aging	±0.1 ppm/year
Noise Floor (10 mV/div)	0.171 mV (typical)
Noise Floor (50 mV/div)	0.613 mV (typical)
Noise Floor (100 mV/div)	1.15 mV (typical)

TECHNOLOGY

Digital Signal Analyzer (Oscilloscope)

APPLICATIONS

High-speed digital design, compliance testing, jitter analysis, serial bus decoding

