

TEKTRONIX

TDS3054C

The Tektronix TDS3054C is a 500 MHz, 4-channel Digital Phosphor Oscilloscope (DPO) belonging to the popular TDS3000C Series. Combining a continuous waveform capture rate of 3,600 wfms/s with a real-time sample rate of 5 GS/s on all channels, it easily exposes elusive transients and signal anomalies. The instrument is designed for portability and ease of use, featuring front-panel USB storage, PC connectivity via Ethernet and USB device ports, and an optional internal lithium-ion battery for up to three hours of cordless operation.

SPECIFICATIONS

General

Interfaces	USB 2.0 Host (Front), USB 2.0 Device (Rear), 10/100Base-T Ethernet (GPIO, RS-232, and VGA available via optional TDS3GV module)
Display	6.5-inch (165.1 mm) active-matrix TFT color LCD, 640 x 480 (VGA) resolution
Supported Languages	English, French, German, Italian, Spanish, Portuguese, Russian, Japanese, Korean, Simplified Chinese, Traditional Chinese
Included Probes	4 x P5050 500 MHz 10X passive probes

Physical

Power Supply	100 to 240 VRMS, 50/60 Hz; 115 VRMS, 400 Hz (75 W maximum)
Operating Temperature	+5 °C to +50 °C °C
Dimensions (W×H×D)	375 × 176 × 149 mm
Weight	3.2 kg

Vertical System

Bandwidth	500 MHz
Analog Channels	4
Calculated Rise Time	700 ps
Vertical Resolution	9 bits (typical)
DC Gain Accuracy	±2%
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ in parallel with 13 pF, or 50 Ω
Vertical Sensitivity Range (1 MΩ)	1 mV/div to 10 V/div
Vertical Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
Maximum Input Voltage (1 MΩ)	150 VRMS CAT I (300 V CAT II with standard 10X probe)
Maximum Input Voltage (50 Ω)	5 VRMS, with peaks ≤ ±30 V
Hardware Bandwidth Limits	20 MHz, 150 MHz
Channel-to-Channel Isolation	≥100:1 at 100 MHz; ≥30:1 at rated bandwidth

Horizontal System

Maximum Sample Rate	5 GS/s Real-time on all channels
Record Length	10,000 points on all channels
Time Base Range	1 ns/div to 10 s/div
Time Base Accuracy	±20 ppm

Acquisition System

Waveform Capture Rate	3,600 wfms/s (Continuous DPO)
Acquisition Modes	Sample, Peak Detect, Averaging, Envelope
Peak Detect Mode	Captures high frequency and random glitches down to 1 ns

Trigger System

Trigger Source	CH1, CH2, CH3, CH4, EXT, EXT/10, AC Line
Trigger Types	Edge, Video, Logic, Pulse (additional available via optional modules)
Trigger Coupling	DC, AC, HF Reject, LF Reject, Noise Reject
Video Trigger Standards	NTSC, PAL, SECAM

Waveform Measurements and Math

Automatic Measurements	25
Math Functions	Add, Subtract, Multiply, Divide
FFT Functions	Standard
Waveform Anomaly Detection	WaveAlert®

Connectivity and Input/Output

Probe Interface	TekProbe® Level II Interface (supports active, differential, and current probes for automatic scaling and units)
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Power Source

Battery Power Options	Optional Internal Battery (TDS3BATC Lithium-ion)
Battery Operating Time	Up to 3 hours

Ordering Information and Options

Application Modules	Advanced Analysis, Limit Testing, Telecommunications Mask Testing, Extended Video, 601 Serial Digital Video
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Measurements

Cursor Measurements	ΔV , ΔT , $1/\Delta T$ (Frequency)
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Display

Display Resolution	640 x 480 pixels (VGA)
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Power

Mains Voltage Range	100 V to 240 V RMS
Power Consumption	75 W maximum

Environmental

Storage Temperature	-40 °C to +71 °C
Operating Altitude	Up to 3,000 m (9,843 ft)
Non-operating Altitude	Up to 15,000 m (49,212 ft)
Random Vibration (Operating)	0.31 GRMS, 5 to 500 Hz
Random Vibration (Non-operating)	2.46 GRMS, 5 to 500 Hz
Shock	50 g, 11 ms, half sine

Interfaces

Network Interface	10/100Base-T Ethernet (RJ-45)
LXI Compliance	LXI Class C

Compliance

Safety Standards	UL61010-1, CAN/CSA C22.2 No. 61010.1, EN61010-1
Electromagnetic Compatibility (EMC)	EN61326-1

TECHNOLOGY

Digital Phosphor Oscilloscope (DPO)

APPLICATIONS

General Purpose Test & Measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.