

TEKTRONIX

TDS3052B

The Tektronix TDS3052B is a 500 MHz, 2-channel Digital Phosphor Oscilloscope (DPO) from the popular TDS3000B series. Combining a high 5 GS/s sampling rate with a compact design, built-in LAN and parallel connectivity, and 9-bit vertical resolution, the TDS3052B is engineered for fast, accurate electronic testing, debug, and design analysis.

SPECIFICATIONS

General

Interfaces	LAN (10Base-T Ethernet), Parallel (Centronics), Floppy Drive standard; GPIB, RS-232, and VGA out optional (via TDS3GV module)
Display	6.4 in (162.6 mm) color active-matrix TFT LCD, 640 × 480 pixels (VGA)

Physical

Power Supply	100 to 240 VAC ±10%, 47 to 440 Hz; < 75 W power consumption; optional battery operation
Dimensions (W×H×D)	375 mm × 176 mm × 149 mm mm
Weight	3.2 kg kg
Weight (With Battery)	4.1 kg

Vertical System

Analog Bandwidth	500 MHz
Input Channels	2
Calculated Rise Time	700 ps
Vertical Sensitivity (1 MΩ)	1 mV/div to 10 V/div
Vertical Sensitivity (50 Ω)	1 mV/div to 1 V/div
DC Gain Accuracy	±2%
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ ±1% in parallel with 13 pF ±2 pF, or 50 Ω ±1%
Max Input Voltage (50 Ω)	5 V RMS
Hardware Bandwidth Limits	20 MHz, 150 MHz
Position Range	±5 divisions
Channel-to-Channel Isolation	>= 100:1 at 100 MHz and >= 30:1 at 500 MHz

Horizontal System

Max Sample Rate	5.0 GS/s per channel
Max Record Length	10k points per channel
Timebase Accuracy	±20 ppm

Trigger System

Trigger Modes	Auto, Normal, Single
Trigger Types	Edge, Video, Pulse, Logic
Pulse Triggering - Runt	Trigger on a pulse that crosses one threshold but fails to cross a second
Pulse Triggering - Slew Rate	Trigger on pulse edge rates that are faster or slower than set
Logic Triggering - Pattern	AND, OR, NAND, NOR logic states
Logic Triggering - State	Any logic pattern triggered on a clock edge
Video Triggering	NTSC, PAL, SECAM, custom; any line or individual lines
Trigger Coupling	AC, DC, Noise Reject, HF Reject, LF Reject
Trigger Level Range	± 8 divisions from screen center
External Trigger Input	Standard

Acquisition System

Acquisition Mode - Sample	Acquires sample data
Acquisition Mode - Peak Detect	Captures high-frequency and random glitches down to 1 ns
Acquisition Mode - Envelope	Acquires min/max values over multiple acquisitions
Acquisition Mode - Average	Averages waveforms from 2 to 512
Acquisition Mode - Single Sequence	Single-shot acquisition

I/O & Storage

Built-in Floppy Drive	3.5 in, 1.44 MB
Standard LAN Port	RJ-45, 10Base-T Ethernet
Standard Parallel Port	Centronics-style DB-25
Optional Communication Ports	GPIO, RS-232, VGA out (via TDS3GV)

Features

WaveAlert Anomaly Detection	Compares live waveform with template, actions on violation
QuickMenu	Simplified user interface mode
Multi-language UI	Standard

Environmental

Non-operating Temperature	-40 °C to +71 °C
Operating Altitude	Up to 3,000 m
Non-operating Altitude	Up to 15,000 m

Power

Battery Power Option	Compatible with TDS3BATB rechargeable lithium-ion battery pack
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Signal Processing

FFT Windows	Rectangular, Hanning, Hamming, Blackman-Harris
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Storage

Internal Setup Storage	10 front-panel instrument setups
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Standard Accessories

Included Probes	P6139A 10X passive probes (one per channel)
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Auxiliary Ports

Probe Compensator Output	5.0 V into $\geq 1\text{ M}\Omega$ load at 1 kHz
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Optional Modules

Application Modules	TDS3AAM (Advanced Analysis), TDS3LIM (Limit Testing), TDS3TMT (Telecom Mask Testing), TDS3VID (Extended Video), TDS3SDI (601 Digital Video)
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TECHNOLOGY

Digital Phosphor Oscilloscope (DPO)

APPLICATIONS

Electronic design, debugging, troubleshooting, and manufacturing testing

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