

TEKTRONIX

DPO4034B

The Tektronix DPO4034B is a 350 MHz, 4-channel digital phosphor oscilloscope from the MSO/DPO4000B Series. Featuring a 2.5 GS/s sampling rate, 20 Mpoints record length on all channels, and a 10.4-inch XGA display, it is designed for debugging complex embedded systems and serial/parallel bus designs with automated search and analysis tools.

SPECIFICATIONS

General

Interfaces	4x USB 2.0 Host (2 front, 2 rear), 1x USB 2.0 Device (rear), 1x LAN (10/100/1000 Mb/s RJ-45), 1x XGA Video Out (DB-15 female), GPIB (via optional TEK-USB-488 adapter)
Display	10.4-inch (264 mm) liquid-crystal TFT color display, 1024 × 768 pixels (XGA)

Physical

Power Supply	100 to 240 V $\pm 10\%$ (50 to 60 Hz), 115 V $\pm 10\%$ (400 Hz); 225 W maximum
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	439 mm × 229 mm × 137 mm (17.3 in. × 9.0 in. × 5.4 in.) mm
Weight	5 kg kg

Vertical System

Analog Bandwidth (-3 dB)	350 MHz
Input Channels	4 Analog
Calculated Rise Time (typical)	1 ns
Hardware Bandwidth Limits	20 MHz or 250 MHz
Input Coupling	AC, DC
Input Impedance	1 M Ω $\pm 1\%$, 50 Ω $\pm 1\%$
Vertical Resolution	8 bits (11 bits with Hi Res)
Maximum Input Voltage (1 M Ω)	300 Vrms CAT II with peaks $\leq \pm 425$ V
Maximum Input Voltage (50 Ω)	5 Vrms with peaks $< \pm 20$ V
Probe Interface	TekVPI® Probe Interface
Vertical Sensitivity Range (1 M Ω)	1 mV/div to 10 V/div
Vertical Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
DC Gain Accuracy	$\pm 1.5\%$ for 5 mV/div and above, $\pm 2.0\%$ for 2 mV/div, $\pm 2.5\%$ for 1 mV/div
Channel Isolation	$\geq 100:1$ at ≤ 100 MHz and $\geq 30:1$ at > 100 MHz up to rated bandwidth

Horizontal System

Maximum Real-Time Sampling Rate	2.5 GS/s
Maximum Record Length	20 Mpoints
Maximum Duration at Highest Sample Rate	8 ms
Time Base Range	1 ns to 1000 s
Channel-to-Channel Deskew Range	±125 ns
Time Base Accuracy	±5 ppm over any ≥1 ms interval
Horizontal Delay Range	-10 divisions to 5000 s

Trigger System

Main Trigger Modes	Auto, Normal, and Single
Trigger Coupling	DC, AC, HF reject (attenuates >50 kHz), LF reject (attenuates <50 kHz), noise reject
Trigger Holdoff Range	20 ns to 8 s
Trigger Level Range (Any Channel)	±8 divisions from center of screen
Trigger Level Range (Line)	Fixed at about 50% of line voltage
Standard Trigger Modes	Edge, Sequence (B-trigger), Pulse Width, Timeout, Runt, Logic, Setup and Hold, Rise/Fall Time, Video
Optional Trigger Modes	Extended Video, I2C, SPI, USB, Ethernet, CAN, LIN, FlexRay, RS-232/422/485/UART, MIL-STD-1553, I2S/LJ/RJ/TDM
Trigger Jitter	< 15 ps RMS (typical)

Acquisition System

Acquisition Modes	Sample, Peak Detect, Averaging, Envelope, Hi Res, Roll
Peak Detect Minimum Pulse Width	3.2 ns
Averaging Factor Range	From 2 to 512 waveforms
Maximum Waveform Capture Rate	>50,000 wfm/s

Waveform Measurements and Analysis

Automatic Measurements	29 automatic measurements
Measurement Tools	Cursors, statistics, reference levels, gating, waveform histogram
Waveform Math	Arithmetic, integrate, differentiate, FFT, advanced algebraic expressions
Optional Analysis Features	Power measurements, limit/mask testing

Display and User Interface

Waveform Display Styles	Vectors, Dots, Variable Persistence, Infinite Persistence
Graticule Options	Full, Grid, Solid, Cross Hair, Frame, IRE, and mV
Display Format	YT and simultaneous XY/YT

Connectivity and Ports

Probe Compensator Output Amplitude	2.5 V
Probe Compensator Output Frequency	1 kHz
Auxiliary Output Vout High	≥2.5 V open circuit, ≥1.0 V 50 Ω to ground
Auxiliary Output Vout Low	≤0.7 V (load ≤4 mA), ≤0.25 V (50 Ω to ground)
External Reference Input	10 MHz ±1%
Security Lock Port	Kensington Lock rear-panel slot
LXI Compliance	LXI Class C, V1.3

Environmental

Non-operating Temperature	-20 to +60 °C
Operating Humidity	High: 40 °C to 50 °C, 10% to 60% RH; Low: 0 °C to 40 °C, 10% to 90% RH
Non-operating Humidity	High: 40 °C to 60 °C, 5% to 55% RH; Low: 0 °C to 40 °C, 5% to 90% RH
Operating Altitude	Up to 3,000 m (9,843 ft)
Non-operating Altitude	Up to 12,192 m (40,000 ft)
Operating Random Vibration	0.31 g RMS, 5 Hz to 500 Hz, 10 min per axis, 3 axes
Non-operating Random Vibration	2.46 g RMS, 5 Hz to 500 Hz, 10 min per axis, 3 axes

Regulatory & Compliance

Safety Standards	UL61010-1, CAN/CSA-C22.2 No. 61010-1, EN61010-1, IEC61010-1
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Standard Probes

Included Standard Probes	Four TPP0500 (500 MHz, 10:1, 3.9 pF) passive voltage probes
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Search and Mark

Search and Mark Features	Automatically search for user-defined events with Wave Inspector; marks all occurrences in the acquisition
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Limit Testing

Limit Testing Source	Any input channel or math waveform
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Analysis

Waveform Histograms	Vertical or horizontal orientation; includes Waveform Count, Hits in Box, Peak Hits, Median, Max, Min, Peak-to-Peak, Mean, Standard Deviation, Sigma 1, Sigma 2, Sigma 3
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Regulatory

Electromagnetic Compatibility	EC Council Directive 2004/108/EC, EN61326-1:2006 Class A; Australia/New Zealand EN61326-1:2006; Russia GOST R
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TECHNOLOGY

Digital Phosphor Oscilloscope (DPO)

APPLICATIONS

Embedded Design, Serial/Parallel Bus Analysis, Power Measurement, Design Validation

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