TEKTRONIX

MSO46B

The Tektronix MSO46B is a 4 Series B Mixed Signal Oscilloscope featuring 6 FlexChannel inputs, a 13.3-inch Full HD capacitive touch display, and a highly responsive, modern user interface. Engineered for versatile, multi-channel embedded systems analysis, it combines analog and digital analysis with exceptional vertical resolution and performance.

SPECIFICATIONS

General

Display	13.3-inch (338 mm) liquid-crystal TFT color display, Full HD (1920 x 1080) resolution, capacitive touch

Physical

Power Supply	100 to 240 V AC ±10% (50 to 60 Hz), 115 V AC ±10% (400 Hz); 400 W maximum
Operating Temperature	0 to +50 °C °C
Dimensions (W×H×D)	450 mm x 249 mm x 155 mm mm
Weight	7.3 kg

Vertical System - Analog Channels

Number of Analog Channels	6 FlexChannel inputs
Analog Bandwidth (-3 dB)	200 MHz, 350 MHz, 500 MHz, 1 GHz, or 1.5 GHz (option dependent)
Hardware Bandwidth Limits	20 MHz, 250 MHz (option dependent)
Vertical Resolution	12 bits ADC (up to 16 bits in High Res mode)
Input Sensitivity Range (1 MΩ)	500 µV/div to 10 V/div
Input Sensitivity Range (50 Ω)	1 mV/div to 1 V/div
Maximum Input Voltage (1 MΩ)	300 VRMS CAT II, with peaks ≤ ±425 V
Maximum Input Voltage (50 Ω)	5 VRMS, with peaks ≤ ±20 V
Input Coupling	DC, AC
Input Impedance	50 Ω ± 1%, 1 MΩ ± 1% with 13.0 pF ± 1.5 pF

Vertical System - Digital Channels

Number of Digital Channels	Up to 48 (8 per FlexChannel using TLP058 probes)
Digital Threshold Grouping	Individual threshold per channel
Maximum Input Toggle Rate	500 MHz
Input Impedance (Digital Probe)	100 kΩ || 3.0 pF (with TLP058 probe)

Horizontal System

Timebase Range	200 ps/div to 1,000 s/div
Channel-to-Channel Deskew Range	±125 ns
Waveform Interpolation	Sin(x)/x or Linear
Delay Range	-10 divisions to 5000 s

Acquisition System

Real-time Sample Rate	6.25 GS/s on all channels (analog and digital)
Standard Record Length	31.25 Mpoints
Optional Record Length	62.5 Mpoints (option 4-RL-1)
Maximum Waveform Capture Rate	> 500,000 wfm/s (in FastAcq mode)

Trigger System

Trigger Modes	Auto, Normal, Single
Trigger Coupling	DC, AC, HF Reject, LF Reject, Noise Reject
Trigger Level Range	±5 divisions from center of screen

Waveform Measurements and Analysis

Automatic Measurements	36 standard measurements
Waveform Math Operators	Add, Subtract, Multiply, Divide

Integrated Instruments

Optional Arbitrary/Function Generator (AFG) Waveforms	13 predefined waveforms plus arbitrary
Optional AFG Frequency Range	0.1 Hz to 50 MHz
Optional AFG Sample Rate	250 MS/s
Digital Voltmeter (DVM) Resolution	4-digit AC RMS, DC, and AC+DC voltage
Trigger Frequency Counter Resolution	8-digit

Software, Security and Compliance

Embedded Operating System	Closed Embedded OS (Linux-based)
Recommended Calibration Interval	1 year

Physical Characteristics

VESA Mount Interface	100 mm x 100 mm VESA standard

Power & Electrical

Power Consumption	400 W maximum
Input Voltage Range	100 V to 240 V AC ±10% (50 Hz to 60 Hz), 115 V AC ±10% (400 Hz)

Interfaces & Connectivity

LAN (Ethernet) Port	1x RJ-45, 10/100/1000 Mb/s
External Video Output	1x HDMI (Type A) on rear panel, up to 1920 x 1080 @ 60 Hz
Auxiliary Output	1x BNC on rear panel (Trigger Out, AFG Sync Out, or Probe Compensation)
Security Lock	Kensington-style lock slot

Vertical System

A/D Converter Resolution	12-bit

Digital Voltmeter (DVM)

DVM Measurement Types	AC RMS, DC, AC+DC RMS
DVM Input Channels	Any analog input channel

Arbitrary/Function Generator (AFG)

AFG Sine Wave Frequency Range	0.1 Hz to 50 MHz
AFG Square/Pulse Frequency Range	0.1 Hz to 25 MHz
AFG Ramp/Triangle Frequency Range	0.1 Hz to 500 kHz
AFG Noise Bandwidth	25 MHz
AFG Amplitude Range	10 mVp-p to 2.5 Vp-p (into 50 Ω), 20 mVp-p to 5 Vp-p (into 1 MΩ)

Display

Display Size	13.3 in (33.8 cm)
Display Resolution	1920 × 1080
Display Type	TFT color capacitive touchscreen

Compliance

Safety Certifications	UL 61010-1, CAN/CSA-C22.2 No. 61010-1, EN 61010-1, IEC 61010-1
Electromagnetic Compatibility	EC Council Directive 2014/30/EU, EN 61326-1, EN 61326-2-1

TECHNOLOGY

Mixed Signal Oscilloscope

APPLICATIONS

Embedded Systems Debugging, Power Design and Analysis, Automotive ECU Testing, Multi-Channel Sensor Debugging