TEKTRONIX

MSO58

The Tektronix MSO58 is an 8-channel Mixed Signal Oscilloscope from the 5 Series MSO family. It features industry-first FlexChannel technology, where each of its 8 inputs can function as either one analog channel or eight digital logic channels (yielding up to 64 digital channels). It incorporates a 12-bit ADC for high-resolution acquisition, a large 15.6-inch high-definition capacitive multi-touch display, and highly flexible configurations for complex embedded systems and power electronics.

SPECIFICATIONS

General

Display	15.6-inch (396 mm) TFT color, High Definition (1920 x 1080), capacitive multi-touch
Operating System	Closed Embedded Linux (Standard) / Windows 10 (Option 5-WIN)
Internal Storage	Removable Solid State Drive (SSD)
Enhanced Security	Password-protected enable/disable of communication ports and firmware upgrades (Option 5-SEC)

Physical

Power Supply	100 to 240 V ±10% at 50/60 Hz; 115 V ±10% at 400 Hz; 400 W maximum
Operating Temperature	0 to +50 °C
Dimensions (W×H×D)	454 × 309 × 204 mm
Weight	11.4 kg
Rackmount Height	7U (with Option 5-RM)

Vertical System

Input Channels	8 FlexChannel inputs (each configurable as 1 analog or 8 digital channels)
Bandwidth	350 MHz / 500 MHz / 1 GHz / 2 GHz (option dependent)
Vertical Resolution	12-bit ADC (up to 16-bits in High Res mode)
Input Impedance	1 MΩ ± 1%, 50 Ω ± 1%
Input Coupling	AC, DC
Vertical Sensitivity (1 MΩ)	500 µV/div to 10 V/div
Vertical Sensitivity (50 Ω)	1 mV/div to 1 V/div
Maximum Input Voltage (1 MΩ)	300 VRMS, CAT II
Maximum Input Voltage (50 Ω)	5 VRMS, with peaks ≤ ±20 V
Hardware Bandwidth Limits	20 MHz, 250 MHz

Acquisition System

Sample Rate (Real-Time)	6.25 GS/s (all analog and digital channels)
Sample Rate (Interpolated)	500 GS/s
Record Length (Standard)	62.5 Mpoints (all channels)
Maximum Waveform Capture Rate	>500,000 waveforms/s
Acquisition Modes	Sample, Peak Detect, Averaging, Envelope, High Res, FastAcq, FastFrame, Roll mode

Trigger System

Trigger Types (Standard)	Edge, Pulse Width, Runt, Timeout, Window, Logic, Setup & Hold, Rise/Fall Time, Parallel Bus, Sequence

Digital System

Number of Digital Channels	Up to 64 (8 per FlexChannel utilizing optional TLP058 logic probes)

Arbitrary/Function Generator

Sine Frequency Range	50 MHz
Waveforms Supported	Arbitrary, Sine, Square, Pulse, Ramp, Triangle, DC Level, Gaussian, Lorentz, Exponential Rise/Fall, Sin(x)/x, Random Noise, Haversine, Cardiac

Digital Voltmeter and Counter

DVM Resolution	4-digit
DVM Functions	AC RMS, DC, DC+AC RMS
Counter Resolution	8-digit

Waveform Measurements and Math

Cursors	Waveform, V Bars, H Bars, V&H Bars
Automatic Measurements	36
Math Functions	Basic waveform arithmetic, FFT, advanced equation editor
Advanced Jitter Analysis (Optional)	Advanced Jitter and Eye Diagram Analysis

Display System

Display Size	15.6-inch (396 mm)
Display Resolution	1920 x 1080
Display Type	TFT color
Touchscreen Capability	Capacitive (multi-touch)

Connectivity and Interfaces

LAN Port	10/100/1000 Base-T Ethernet (LXI Compliant)

Software

Remote Control Software	e*Scope (web browser interface)

Accessories

Standard Probes	One 10 MΩ passive voltage probe (< 4 pF capacitive loading) per channel

Horizontal System

Timebase Range	200 ps/div to 1,000 s/div
Timebase Accuracy	±2.5 ppm + ±1.0 ppm/year aging

Environmental

Operating Humidity	5% to 90% RH (up to +40 °C), 5% to 55% RH (+40 °C to +50 °C)
Operating Altitude	Up to 3,000 meters (9,842 ft)
Non-operating Altitude	Up to 12,000 meters (39,370 ft)

Inputs & Outputs

Probe Interface	TekVPI
Auxiliary Output	Trigger out / signal output (BNC)

Power

Line Voltage Range	100 to 240 V ±10% (50/60 Hz); 115 V ±10% (400 Hz)
Power Consumption	400 W maximum

Analysis Capabilities

Spectrum View	Independent control of center frequency, span, and RBW per channel
Advanced Power Analysis	Supported (Option 5-PWR)

Arbitrary/Function Generator (Optional)

AFG Output Impedance	50 Ω (Option 5-AFG)

Compliance

LXI Compatibility	LXI Core 2011
Safety Standards	UL 61010-1, CSA C22.2 No. 61010-1, EN 61010-1, IEC 61010-1

TECHNOLOGY

Mixed Signal Oscilloscope

APPLICATIONS

Embedded systems, three-phase power electronics, automotive electronics, power supply design, DC-to-DC power converters

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