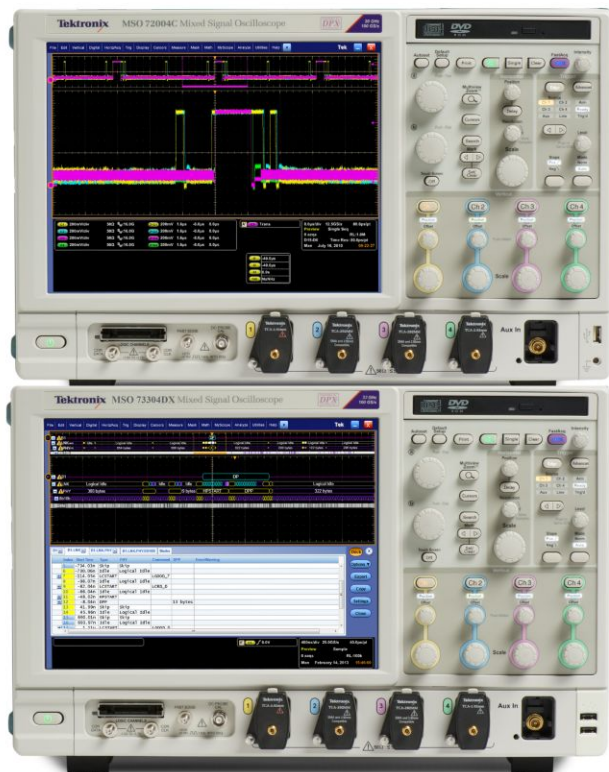


Digital and Mixed Signal Oscilloscopes

MSO/DPO70000 Series Datasheet



Engineers rely on an oscilloscope throughout their design cycle, from prototype turn-on to production testing. The MSO/DPO70000 Series oscilloscopes' unique capabilities combined with exceptional signal acquisition performance and analysis accelerate your measurement tasks.

Key performance specifications

- Up to 33 GHz analog bandwidth and rise time as fast as 9 ps. Enables measurement on the latest high-speed serial standards
- True 33 GHz Real-time Analog Bandwidth on 2 Channels with 33 GHz models
- Industry-leading sample rate and timing resolution
 - 100 GS/s on 2 Channels (33, 25, 23, 20, 16, and 12.5 GHz models)

- Four-channel Simultaneous Performance
 - Up to 23 GHz Bandwidth
 - Up to 50 GS/s Real-time Sample Rate
 - Up to 500 Megasample Record Length with MultiView Zoom™ for quick navigation
 - Fastest Waveform Capture Rate with >300,000 wfms/s maximum per channel
- 16 Logic Channels with 80 ps Timing Resolution for Debug of digital and analog signals (MSO70000 Series only)
- Unique iCapture® capability enables viewing analog characteristics of digital channels with single probe connection
- 6.25 Gb/s Real-time Serial Trigger – Assures triggering on the first instance of a specified NRZ or 8b/10b pattern to allow isolation of pattern-dependent effects
- Application Support for High-speed Serial Industry Standards, wideband RF, Power supplies, and memory – Enables standard-specific certification, measurement automation, and ease of use

Key features

- Superior signal integrity and excellent signal-to-noise ratio – observe the truest representation of your waveform
- Pinpoint® triggering – minimize time spent trying to acquire problem signals for efficient troubleshooting and shortened debug time
- Visual Trigger – precisely qualify triggers and find unique events in complex waveforms
- Search and Mark – provides waveform or serial bus pattern matching and software triggers for signals of interest
- Automated Serial Analysis options for PCI Express, 8b/10b encoded serial data, I²C, SPI, CAN, LIN, FlexRay, RS-232/422/485/UART, USB 2.0, HSIC, MIL-STD-1553B, and MIP1® C-PHY, D-PHY and M-PHY
- P7700, P7600, and P7500 TriMode™ probing system – perfectly matched signal connectivity, with calibration to probe tip
- P6780, P6750, and P6717A high-performance 17-channel logic probes with bandwidths up to 2.5 GHz for connections to today's fast digital signals (MSO70000 Series only)

Connectivity

- USB 2.0 host port on both the front panel and rear panel for quick and easy data storage, printing, and connecting a USB keyboard
- Integrated 10/100 Ethernet port for network connection and Video Out port to export the oscilloscope display to a monitor or projector

Quick selection guide

Model	Analog Bandwidth	Analog Sample Rate – 2/4 Channels	Standard Memory – Analog + Digital	Analog Channels	Logic Channels
DPO70404C	4 GHz	25 GS/s	31 MS	4	—
MSO70404C	4 GHz	25 GS/s	62 MS	4	16
DPO70604C	6 GHz	25 GS/s	31 MS	4	—
MSO70604C	6 GHz	25 GS/s	62 MS	4	16
DPO70804C	8 GHz	25 GS/s	31 MS	4	—
MSO70804C	8 GHz	25 GS/s	62 MS	4	16
DPO71254C	12.5 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO71254C	12.5 GHz	100 GS/s / 50 GS/s	62 MS	4	16
DPO71604C	16 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO71604C	16 GHz	100 GS/s / 50 GS/s	62 MS	4	16
DPO72004C	20 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO72004C	20 GHz	100 GS/s / 50 GS/s	62 MS	4	16
DPO72304DX	23 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO72304DX	23 GHz	100 GS/s / 50 GS/s	62 MS	4	16
DPO72504DX	25 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO72504DX	25 GHz	100 GS/s / 50 GS/s	62 MS	4	16
DPO73304DX	33 GHz	100 GS/s / 50 GS/s	31 MS	4	—
MSO73304DX	33 GHz	100 GS/s / 50 GS/s	62 MS	4	16

Application support

- High-speed serial industry standards compliance
- SignalVu® RF and vector signal analysis
- DDR memory bus analysis

Applications

- Design verification including signal integrity, jitter, and timing analysis
- Design characterization for high-speed, sophisticated designs
- Certification testing of serial data streams for industry standards
- Memory bus analysis and debug
- Prototype turn-on and power supply verification
- Research and investigation of transient phenomena
- Production testing of complex systems
- Spectral analysis of transient or wide-bandwidth RF signals

System turn-on and verification

From the time a design is first powered up through the initial operational checks, the MSO/DPO70000 Series provide the features you need.

Uncompromised four-channel acquisition

With very low noise and up to 50 GS/s sample rate on all four channels the DPO70000 Series ensures that signal integrity checks and timing analysis can be done without worrying about noise and jitter in the scope distorting the measurements. Single-shot bandwidths up to 23 GHz on all four channels ensure that you'll capture your signals of interest without worrying about undersampling when using more than 1 or 2 channels.

For applications requiring the lowest internal noise and jitter, 100 GS/s performance further reduces noise and jitter and provides additional measurement headroom.