

MDO3000 Series vs. Agilent MSO/DSO3000 X-Series

Competitive Fact Sheet

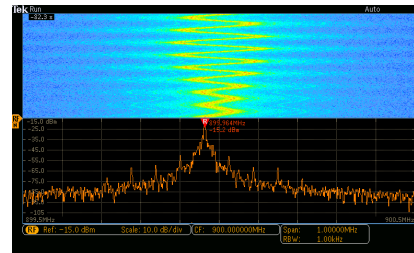
Key Specifications Comparison

	Tektronix MDO3000 Series	Agilent MSO/DSO3000 X-Series
Channels	✓ 2, 4 (+16 digital with MDO3MSO option)	✓ 2, 4 (+16 digital on MSO models)
Bandwidth	✓ 100, 200, 350, 500 MHz and 1GHz, upgradable	✓ 100, 200, 350, 500 MHz and 1GHz, upgradable
Max. Sample Rate (All channels on)	✓ 2.5 GS/s	✗ 2 GS/s (100 MHz - 500 MHz model) 2.5 GS/s (1 GHz model)
Max. Record Length (All channels on)	✓ 10 Mpoints (standard)	✗ 1 Mpoints (standard) 2 Mpoints (optional)
Navigation and Search	✓ Wave Inspector® controls	✗ Limited navigation buttons and multiplexed knobs
Serial Trigger and Analysis	✓ Optional: I ² C, SPI, RS232/422/485/UART, CAN, LIN, FlexRay, MIL-STD-1553, I ² S/LJ/RJ/TDM, USB trigger and decode	✓ Optional: I ² C, SPI, RS232/UART, CAN, LIN, FlexRay, I ² S/LJ/RJ, MIL-STD-1553, USB, ARINC, trigger and decode
Video Triggering and Analysis	✓ Standard	✗ Optional
Integrated Digital Voltmeter	✓ Free with registration	✗ Optional
Advanced Math Measurement	✓ Standard	✗ Optional
Connectivity	✓ Standard: USB Host & Device, LAN, VGA, Optional GPIB	✗ Standard: USB Host & Device, Optional: LAN, VGA, GPIB
Display	✓ 9 inch	✗ 8.5 inch
Warranty	✓ 3 year on scope 1 year on probes	✗ 3 year on scope 90 days on probes

Spectrum Analyzer

Tektronix MDO3000

- ✓ Frequency range of 9 kHz up to scope bandwidth, standard. Upgradable to 3 GHz.
- ✓ Dedicated RF hardware
- ✓ Dedicated front panel controls make spectral analysis easy
- ✓ RF measurements include Channel Power, Adjacent Channel Power Ratio, and Occupied BW
- ✓ Automatic markers identify spectral peaks
- ✓ Spectrogram display shows frequency and amplitude changes



Spectrum signal comparison. (CF 900 MHz; span1 MHz; RBW 1 kHz (MDO3104), 19.1 kHz(X3104A)). MDO3000 also offers automatic markers and spectrogram display.

Agilent MSO/DSO3000 X-Series

- ✗ FFT bandwidth limited to analog channel bandwidth
- ✗ Software based FFT
- ✗ Multiplexed front panel and menu controls for FFT
- ✗ Measurements limited to XY cursors and basic amplitude measurements
- ✗ X@Max(Y) marks only one peak
- ✗ Spectrogram Display not available.



Arbitrary Waveform Generator

Tektronix MDO3000

- ✓ Optional and upgradable
- ✓ Up to 50 MHz function generation
- ✓ Arbitrary waveform generation with 128k waveform memory and 250 MS/s output rate
- ✓ 13 predefined functions

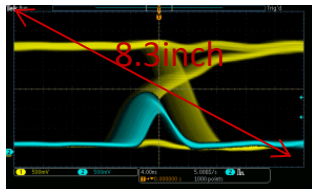
Agilent MSO/DSO3000 X-Series

- ✓ Optional and upgradable
- ✗ Up to 25 MHz function generation
- ✗ Arbitrary waveform generation with 8k waveform memory and 100 MS/s output rate
- ✗ 11 predefined functions

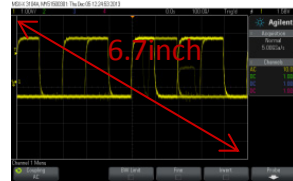
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Screen Size and Waveform Viewing Area



Tektronix MDO3000



Agilent MSO/DSO3000 X-Series

Long Record Length Navigation and Search



Tektronix MDO3000



Agilent MSO/DSO3000 X-Series

- | | |
|--|--|
| <ul style="list-style-type: none"> ✓ 10 Mpoints record length on all channels, standard ✓ Wave Inspector® pan/zoom controls for easy scrolling through long records ✓ Search/Mark controls to automatically find events of interest, and move from event to event ✓ Search on digital features including setup/hold, logic, serial or parallel buses | <ul style="list-style-type: none"> ✗ 2 Mpoints record length, reduced to 1 Mpoints when channels are interleaved, standard ✗ Limited navigation buttons and multiplexed horizontal controls ✗ No automated search for setup/hold and logic/pattern ✗ Limited search capabilities – no setup/hold, logic, or parallel bus |
|--|--|

Low Capacitance Probes

Tektronix MDO3000

- ✓ Included 3.9 pF passive probes minimize effect of the probe on circuit operation
- ✓ 1 GHz models include 1 GHz probes

Agilent MSO/DSO3000 X-Series

- ✗ 11-12 pF passive probes included
- ✗ 1 GHz models include 500 MHz probes

Digital Channels

Tektronix MDO3000

- ✓ Maximum record length 10 Mpoints, even with analog channels on
- ✓ Minimum detectable pulse 2ns
- ✓ Channel-to-channel skew 500 ps typical
- ✓ MagniVu high speed sampling offers timing resolution of 121 ps

Agilent MSO/DSO3000 X-Series

- ✗ Maximum record length 2 Mpoints with no analog channels on, 500 kpoints with analog channels on
- ✗ Minimum detectable pulse 5ns
- ✗ Channel-to-channel skew 2 ns typical
- ✗ Digital channel sample rate of 1 GS/s gives 1 ns timing resolution

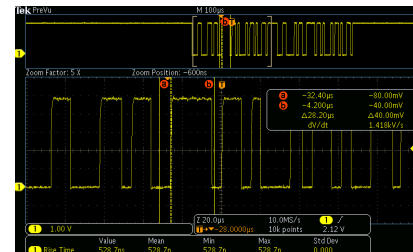
Measurement and Math

Tektronix MDO3000

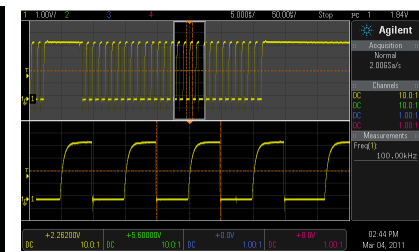
- ✓ Full record length used for measurements, averaging, and math (except FFT – 1 M max)
- ✓ Includes advanced math with arbitrary expressions for custom measurements
- ✓ Waveform histogram quantifies the number of hits per region of the display
- ✓ Gate measurements by full record, screen/zoom, or cursors

Agilent MSO/DSO3000 X-Series

- ✗ Uses only displayed points for measurements and math which can be greatly compressed
- ✗ Standard math limited to 3 operators and 3 functions. Advanced math is optional.
- ✗ No built-in waveform histogram
- ✗ Gate measurements by full record, screen/zoom, but not cursors



Cursor gating within a zoom window to control measurement region.



Measurements limited to screen or zoom window data.