Tektronix 6 Series B MSO vs. Keysight S-Series

COMPETITIVE FACT SHEET

Oscilloscope Performance Specs

Tektronix 6 Series B MSO	**Keysight** S-Series
✓ 10 GHz & 50 GS/s on two channels 10 GHz & 25 GS/s on four channels	✗ 8 GHz & 20 GS/s on two channels
✓ Up to 64 digital channels (500MHz, 25GS/s)	✗ MSO model - 16 digital channels (400 MHz, 2 GS/s)
✓ 100 GS/s of 12-bit ADCs (4x at 25 GS/s), shared for analog or digital FlexChannels™	✗ 40 GS/s of 10-bit ADCs (2x at 20 GS/s) for analog channels only
✓ **Industry's Only** Std. Closed Embedded OS or optional Windows 10 OS	✗ Windows 7 OS Only
✓ Full HD 1920 x 1080 15.6” Multi-touch capacitive display	✗ XGA 1024 x 768 15” Multi-touch capacitive display

*The **6 Series B MSO** features the same award-winning user interface as the **5 Series MSO***

reddot award product design

GOLDEN MOUSETRAP AWARDS 2018 WINNER

Electronic Products 2017 Product of the Year Award

ELEKTRA 2017 WINNER

Best in Class Noise Performance[1,2]

Bandwidth	Volts / Div	6 Series B MSO	S-Series
1 GHz	1 mV	51.1 µV ✓	90 µV
	10 mV	82.9 µV ✓	110 µV
	100 mV	829 µV ✓	960 µV
4 GHz	1 mV	97.4 µV ✓	153 µV
	10 mV	171 µV ✓	220 µV
	100 mV	1.73 mV ✓	1.6 mV
8 GHz	1 mV	153 µV ✓	260 µV
	10 mV	287 µV ✓	390 µV
	100 mV	2.94 mV ✓	3.10 mV

Channel Bandwidth & Sample Rate

Tektronix 6 Series B MSO	**Keysight** S-Series
✓ Up to 10 GHz on four channels Up to 5 GHz on eight channels	✗ Up to 4 GHz on four channels
✓ 25 GS/s on four channels 12.5 GS/s on eight channels	✗ 10 GS/s on four channels

Vertical Resolution

Tektronix 6 Series B MSO	**Keysight** S-Series
✓ 12-bit Analog-to-Digital Converter (ADC)	✗ 10-bit Analog-to-Digital Converter
✓ 12-bit data used at 12.5 GS/s (up to 8 channels) with High Res	✗ 8-bit data used at 5 GS/s or lower, High Res and Peak Detect modes
✓ ENOB: 8.45 bits (1 GHz), 7.95 bits (2.5 GHz), 7.6 bits (4 GHz), 6.85 bits (8 GHz)	✗ ENOB: 7.8 bits (1 GHz), 7.4 bits (2.5GHz) 7.2 bits (4 GHz), 6.4 bits (8 GHz)

Note 1: Green checks are awarded for lowest noise as a percentage of full scale. Note that full scale is different for the two vendors; Tektronix oscilloscopes display 10 divisions full scale, and Keysight oscilloscopes display 8 divisions.
Note 2: All noise levels are at full bandwidth and represent typical values from both vendors datasheets

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Tektronix

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Key Specifications Comparison

	Tektronix 6 Series B MSO		**Keysight** S-Series	
Max Bandwidth (on two / four / eight channels)	✓	10 GHz / 10 GHz / 5 GHz	×	8 GHz / 4 GHz / N/A
Total Sample Rate in Oscilloscope	✓	100 GS/s of sample rate (4x 25 GS/s ADCs)	×	40 GS/s of sample rate (2x 20 GS/s ADCs)
Analog Sample Rate (on two / four / eight channels)	✓	50 GS/s / 25 GS/s / 12.5 GS/s	×	20 GS/s / 10 GS/s / N/A
Number of Digital Channels	✓	Up to 64 – with FlexChannels probes (8x TLP058)	×	MSO model provides only 16 digital channels
Digital Channel Specifications	✓	25 GS/s on 32 ch. / 12.5 GS/s on 64 ch, 500 MHz	×	2 GS/s, 400 MHz
Number of Math / Bus channels / Measurements	✓	As many as you want! (until memory runs out)	×	16 math / 4 buses / 20 measurements
Automated Search and Mark Functionality	✓	On all Trigger and Decode Bus Events	×	Search on Serial Decode Events (no trigger events)
Optional Arbitrary Function Generator (AFG)	✓	Yes – 50 MHz	×	No AFG option
Optional DVM/ Trigger Freq. Counter	✓	Yes – Free with Registration	×	No DVM / Counter option
Standard Record Length	×	62.5 Mpts on up to eight channels	✓	100 Mpts on four channels
Max Optional Record Length	✓	1 Gpts (optional) on up to eight channels	×	400 Mpts (optional) on four channels
Max Segmented Memory segments	✓	1,000,000 segments	×	65,535 segments
Waveform Capture Rate (non-segmented memory)	✓	>500,000 wfms/second	×	Not Specified*
Effective Number of Bits (ENOB)**	✓	8.45 bits (1 GHz), 7.95 bits (2.5 GHz), 7.6 bits (4GHz), 6.85 bits (8 GHz)	×	7.8 bits (1 GHz), 7.4 bits (2.5GHz) 7.2 bits (4 GHz), 6.4 bits (8 GHz)
DC Gain Accuracy - Warranted	✓	+/- 1.0%	×	+/- 2.0%
Visual Trigger / Zone Trigger	✓	Included Standard – Draw as many as you want!	×	Optional – Only up to 8 zones
Screen Size & Resolution	✓	15.6” Full High Definition 1920 x 1080	×	15” XGA 1024 x 768
Operating System	✓	Std. Closed Embedded OS or optional Windows 10 OS	×	Windows 10 Only
Standard Warranty	✓	1 Year Standard Warranty	✓	1 Year Standard Warranty
Analysis / Compliance Packages	×	Jitter, Power, USB, Automotive, Ethernet, MIPI, DDR3 & LPDDR3, more coming soon	✓	Jitter, Power, USB, PCIe, Automotive, Ethernet, MIPI, DDR, HDMI, eMMC, MHL

* Not specified by Keysight, but maximum rate measured by Tektronix was 600 wfms/sec
** ENOB was tested by Tektronix at 500mV Full Scale and 90% of screen. Keysight is tested at 300mV Full Scale

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