

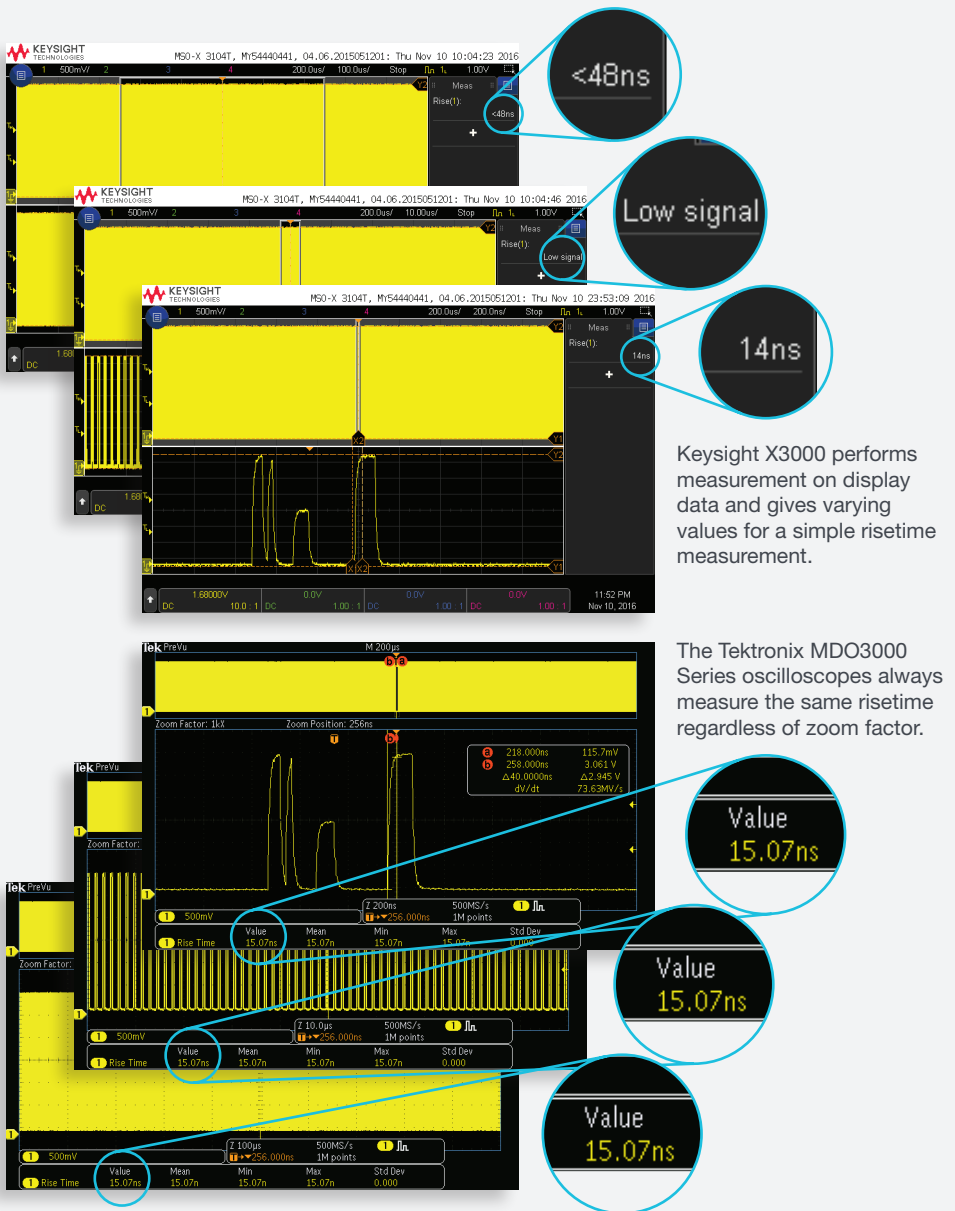
# Never settle for close enough.

Be right, be sure with the MDO3000



Tektronix engineers are passionate about accurate measurements. Trustworthy measurements are at the core of the engineering process and only with accurate measurements can engineers effectively create and optimize products.

We designed the MDO3000 Series Oscilloscopes with this simple, but important goal – to make the best measurements in the industry. The Keysight 3000T X-Series includes some compromises that impact measurements.



Keysight X3000 performs measurement on display data and gives varying values for a simple risetime measurement.

The Tektronix MDO3000 Series oscilloscopes always measure the same risetime regardless of zoom factor.

## Consistent, Meaningful Measurements

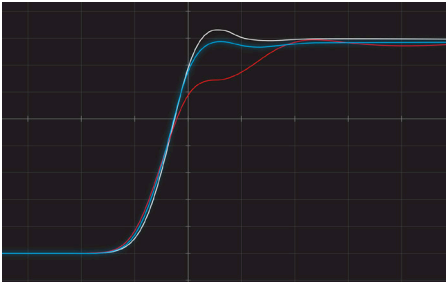
MDO3000 Series measurements are taken on actual acquisition data, providing as much data to the measurement algorithms as possible. The Keysight X3000 uses the lower-resolution display data, which can produce measurements that are inaccurate and change with zoom settings. Misinterpreting the Keysight measurements could lead you to draw the wrong conclusion, thus impacting overall design quality and integrity.

Example rise time measurement:

Zoom	Tek	Keysight
1x	15.07ns	<93ns
2x	15.07ns	<48ns
20x	15.07ns	low signal
100x	15.07ns	14ns
1000x	15.07ns	15.0ns

SEE BACK FOR MORE DETAILS

**Tektronix**



An edge loaded by Keysight N2843A probe (red) versus Tektronix TPP1000 probe (blue).

## Probe Loading Degrades Your Measurements

Our engineers have worked hard to minimize the impact. Tektronix TPP-Series probes have less than 4 pF of capacitive loading and they're included with every MDO3000. The probes included with the Keysight 3000T X-Series have 11 to 12 pF of loading. Excessive loading can result in inaccurate measurements and even change circuit behavior.

And why buy a 1 GHz scope if you are going to filter the signal with a 500 MHz probe? Probes that match the bandwidth of the scope enable full utilization of the scope. All Tektronix MDO3000 Series oscilloscopes include probes that are at least the bandwidth of the oscilloscope. The Keysight 1GHz 3000T X-Series oscilloscope includes 500MHz probes.

## 15 Guaranteed Specs! 3X more than Keysight

Tektronix Mixed Domain Oscilloscopes deliver unrivaled accuracy right out of the box, with 15 guaranteed specifications. Other oscilloscopes like the Keysight X3000 can only promise five specifications. Every Mixed Domain Oscilloscope undergoes a series of verification procedures before it even leaves the factory, and we stand behind them until your instrument is due for calibration.

Specification	Tektronix MDO3000 Series	Keysight DSO3104T
<b>Oscilloscope &amp; Acquisition System</b>		
Bandwidth	Guaranteed ✓	Guaranteed ✓
Sample Rate	Guaranteed ✓	Typical
Waveform Acquisition Rate	Guaranteed ✓	Typical
<b>System Digital Channels</b>		
Maximum Sample Rate	Guaranteed ✓	Typical
Threshold Accuracy	Guaranteed ✓	Guaranteed ✓
<b>System Analog Channels</b>		
Channel-to-Channel Deskew Range	Guaranteed ✓	Typical
DC Balance	Guaranteed ✓	Not Specified
DC Gain Accuracy	Guaranteed ✓	Guaranteed ✓
DC Measurement Accuracy	Guaranteed ✓	Typical*
Input Impedance	Guaranteed ✓	Typical
Input Sensitivity Range	Guaranteed ✓	Typical
Maximum Input Voltage	Guaranteed ✓	Typical
Offset Accuracy	Guaranteed ✓	Typical
Time Base Accuracy	Guaranteed ✓	Guaranteed ✓
Vertical Resolution	Guaranteed ✓	Typical

\* Measurement is typical for single-cursor measurements, and only guaranteed for dual cursors.

