



# R&S®RT-ZHD HIGH VOLTAGE DIFF. PROBE FAMILY

## versus Keysight DP0001A



The R&S®RT-ZHD family outperforms the Keysight DP0001A probe with low noise and exceptional high linearity, enabling precise high voltage measurements

To achieve the maximum power efficiency and power densities in switched-mode power supplies, switching loss has to be minimized. This requires the use of modern, fast-switching semiconductors. The R&S®RT-ZHD high voltage differential probes offer a bandwidth of up to 200 MHz and an excellent common mode rejection ratio (CMRR) over a broad frequency range, making them ideal for measurements on fast-switching power electronics. Extraordinarily low added noise results in high-quality measurements.

Your benefit	Features
2000 V offset capability with maximum vertical sensitivity	Due to their integrated offset circuit, the R&S®RT-ZHD probes offer an offset voltage range that is independent of the vertical setting of the oscilloscope and the attenuation factor of the probe. The smallest ripple voltages can be measured on large DC link voltages without compromising sensitivity.
Excellent functions	Automatic range adjustment, overrange signaling, integrated DC voltmeter
Accurate results	Accurate, low inherent noise, high bandwidth and slew rate, high linearity, very low drift, high CMRR

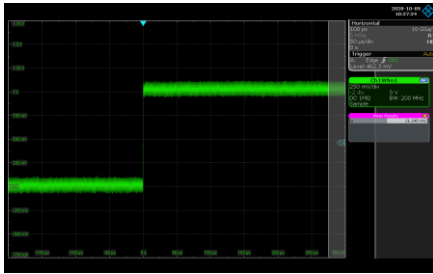
Parameter	R&S®RT-ZHD07	R&S®RT-ZHD15	R&S®RT-ZHD16	R&S®RT-ZHD60	Keysight DP0001A
<b>Specifications</b>					
Input voltage	750 V	1500 V		6000 V	200 V, 400 V, 1000 V, 2000 V (depending on attenuation setting)
Bandwidth	200 MHz	100 MHz	200 MHz	100 MHz	300 MHz to 400 MHz (bandwidth limits input voltage)
Interface	Rohde & Schwarz probe interface				AutoProbe
Input to ground	300 V CAT III	1000 V CAT III			1000 V CAT III
Attenuation	25:1 250:1	50:1 500:1		100:1 1000:1	50:1, 100:1 250:1, 500:1
Noise (mV (RMS))	12 mV	20 mV	25 mV	70 mV	180 mV (50:1, 100:1) 280 mV (250:1) 300 mV (500:1)
DC accuracy	0.5 %				0.7 %
Drift	very low				-
<b>Common mode rejection ratio (CMRR)</b>					
DC to 60 Hz	> 80 dB (meas.)				> 80 dB
to 1 MHz	60 dB (meas.)				60 dB
to 5 MHz	55 dB (meas.)				50 dB
to 100 MHz	30 dB (meas.)				32 dB
<b>Additional functionality</b>					
Additional offset compensation	±1000 V	±2000 V			-
DC voltmeter	integrated				-
R&S®ProbeMeter measurement error	< 0.1 %			< 0.12 %	-



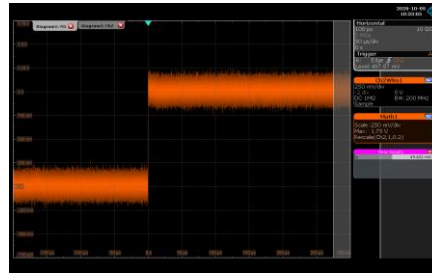
For more information, visit

[www.rohde-schwarz.com/product/high-voltage-probes](http://www.rohde-schwarz.com/product/high-voltage-probes)

## Noise performance

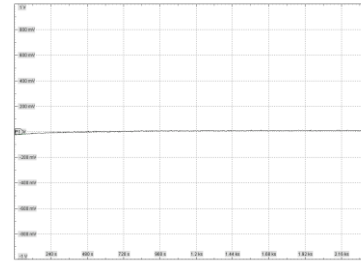


The R&S®RT-ZHD features a low-noise design. Extraordinarily low added noise results in high-quality measurements.

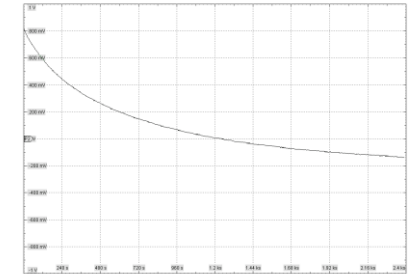


The Keysight DP0001A probe has up to 12 times more noise than the R&S®RT-ZHD. High noise reduces the accuracy of measurements and makes it difficult to see small details and trigger on them.

## Zero error comparison



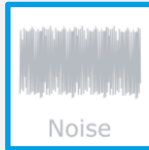
The R&S®RT-ZHD probes stand out with small zero error, which ensures minimal variation in measurements and increases confidence in your results.



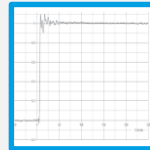
The Keysight DP0001A exhibit very low linearity and high zero error. This means a very high susceptibility to errors, the degree of which increases dramatically with time.

## Advantages of the R&S®RT-ZHD over the Keysight DP0001A

High measurement accuracy



Minimal noise



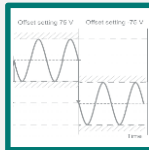
Very high linearity and very small zero error



Very high temperature stability

Best in class

Versatile range of applications



Very high DC offset range (e.g.  $\pm 2000$  V with 25 mV/div)



Precise voltage measurements (0.1 % with R&S®ProbeMeter)



Measurements in CAT III conditions

Unique feature

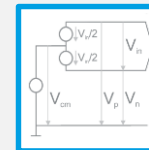
Easy operation



Control the oscilloscope via the probe



DC common mode voltage always readable (R&S®ProbeMeter)



Automatic divider setting and overvoltage display