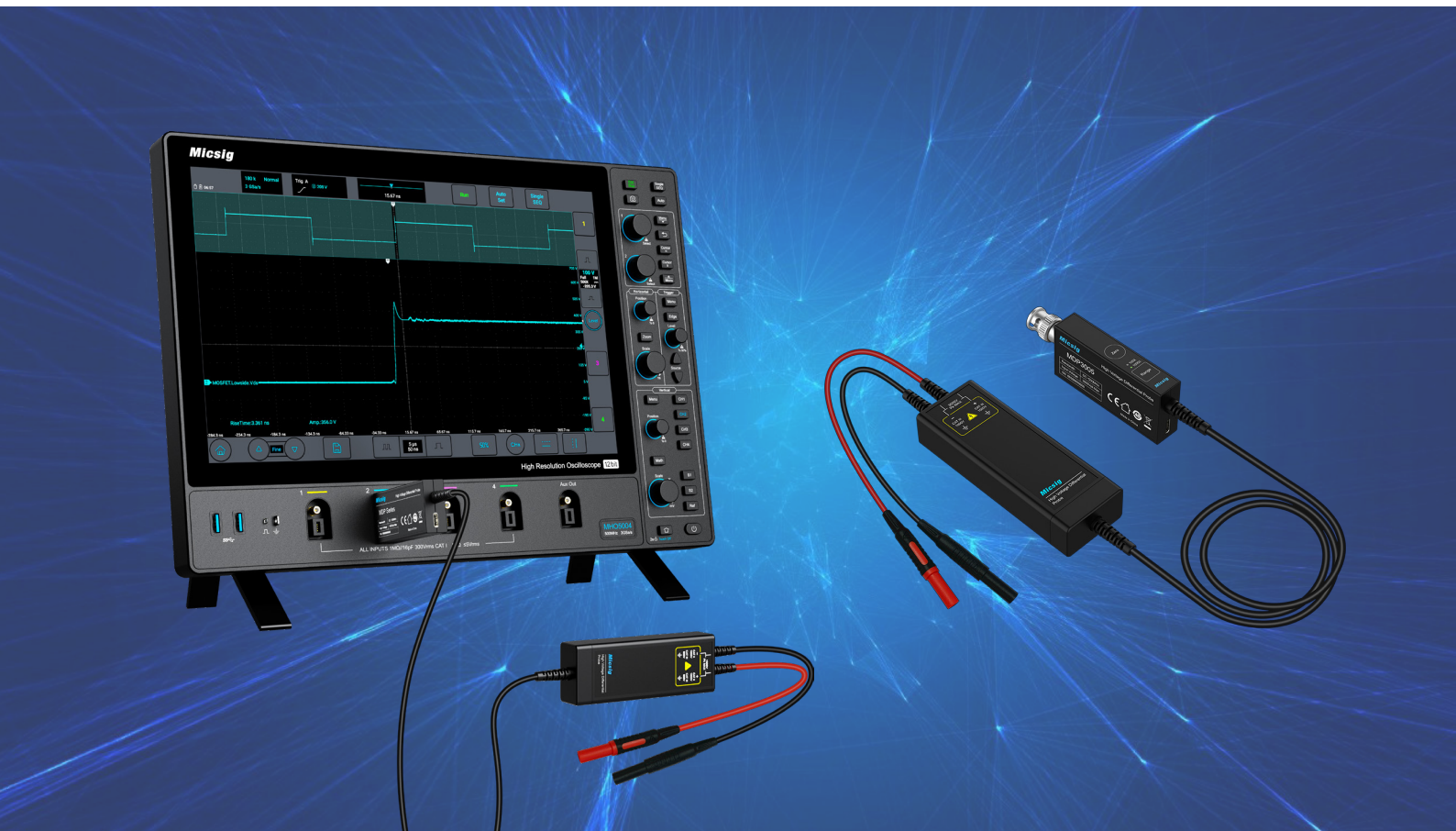


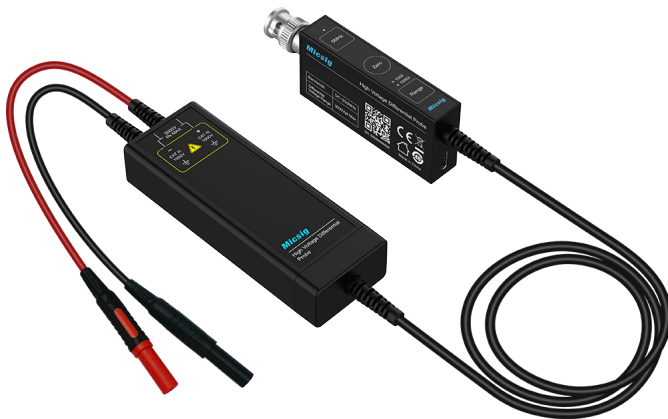
# High Voltage Differential Probe

## MDP Series

- ▶ Bandwidth: 100MHz-500MHz
- ▶ Most compact design
- ▶ Low noise, high CMRR
- ▶ Range: 700Vpk-3000Vpk
- ▶ Support quick Zero setting
- ▶ Standard BNC interface

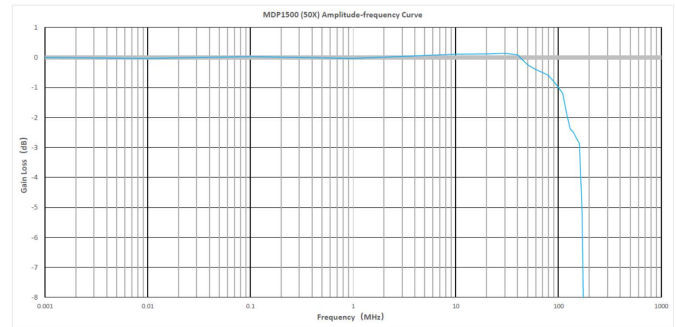


## Product Features



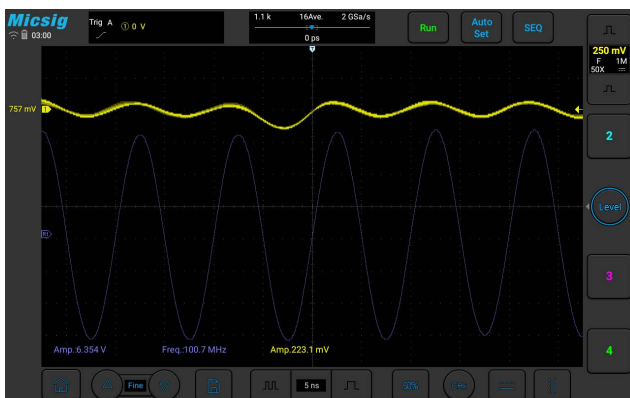
### Excellent amplitude frequency characteristics

The amplitude fluctuation within half bandwidth is less than 0.5dB, achieves excellent bandwidth flatness, maintains high accuracy in high frequency bands.

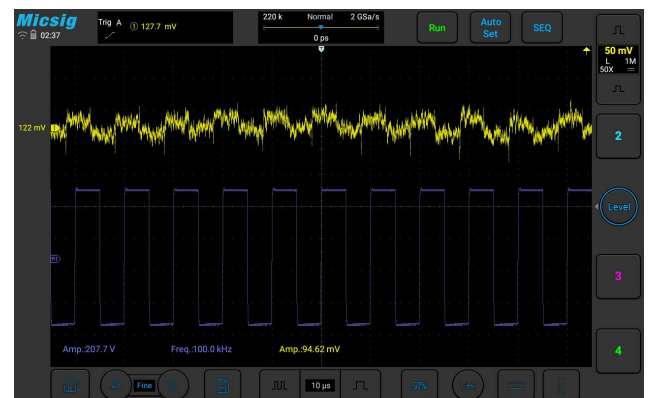


### High Accuracy, High CMRR

MDP series has high input impedance and low input capacitance, minimized load effect, greatly improved the accuracy of the differential signal. High common mode rejection capability, able to meet floating measurements of high common mode voltage at high frequencies.



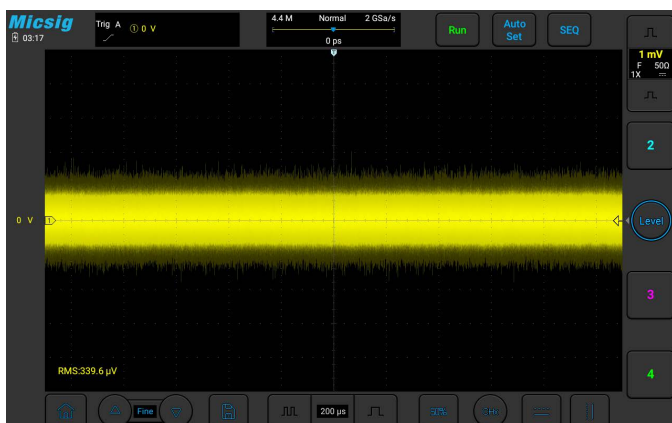
CH1: @ 100MHz, 6.354V, output common mode signal amplitude 223.1mV, CMRR is -29dB



CH1: @ 100kHz, 207.7V, output common mode signal amplitude 94.62mV, CMRR > -70dB

### Low Noise

The extremely low noise floor enhances the sensitivity of measurement and can accurately measure small signal changes.



MDP1503, @ 500X, full bandwidth (300MHz), noise floor: 339.6μVrms

### 5MHz Bandwidth Limit

(\* Available on 100-200MHz bandwidth only)

When measuring FET switching frequency in most switching power supplies, MDP effectively eliminates high-frequency noise.

### BNC Interface

Standard BNC interface, work with any oscilloscope.

### USB Power Supply

Powered directly by type-C cable, easy and convenient.

## Specifications

Model	MDP700	MDP701	MDP702	MDP1500	MDP1501	MDP1502	MDP3000	MDP3001	MDP3002
<b>Bandwidth</b>	100MHz	150MHz	200MHz	100MHz	150MHz	200MHz	100MHz	150MHz	200MHz
<b>Max. input differential voltage (DC+AC PK)</b>	70V (20X) 700V (200X)			150V (50X) 1500V (500X)			300V (100X) 3000V (1000X)		
<b>Noise</b>	<b>Full bandwidth:</b> 20X: $\leq 22\text{mVrms}$ 200X: $\leq 80\text{mVrms}$  <b>5MHz bandwidth limit:</b> 20X: $\leq 8\text{mVrms}$ 200X: $\leq 70\text{mVrms}$			<b>Full bandwidth:</b> 50X: $\leq 45\text{mVrms}$ 500X: $\leq 200\text{mVrms}$  <b>5MHz bandwidth limit:</b> 50X: $\leq 20\text{mVrms}$ 500X: $\leq 175\text{mVrms}$			<b>Full bandwidth:</b> 100X: $\leq 90\text{mVrms}$ 1000X: $\leq 400\text{mVrms}$  <b>5MHz bandwidth limit:</b> 100X: $\leq 40\text{mVrms}$ 1000X: $\leq 350\text{mVrms}$		
<b>CMRR</b>	DC: $>-80\text{dB}$ 100kHz: $>-60\text{dB}$ 10MHz: $>-30\text{dB}$ 100MHz: $>-26\text{dB}$			DC: $>-80\text{dB}$ 100kHz: $>-60\text{dB}$ 10MHz: $>-30\text{dB}$ 100MHz: $>-26\text{dB}$			DC: $>-80\text{dB}$ 100kHz: $>-60\text{dB}$ 10MHz: $>-30\text{dB}$ 100MHz: $>-26\text{dB}$		
<b>Delay time</b>	11.99ns at 20X 12.27ns at 200X			11.99ns at 50X 12.27ns at 500X			11.99ns at 100X 12.27ns at 1000X		
<b>Input impedance</b>	16M $\Omega$ / 1.5pF (differential) 8M $\Omega$ / 3pF (each input to ground)			16M $\Omega$ / 1.5pF (differential) 8M $\Omega$ / 3pF (each input to ground)			20M $\Omega$ / 1.5pF (differential) 10M $\Omega$ / 3pF (each input to ground)		
<b>Output impedance</b>	1M $\Omega$			1M $\Omega$			1M $\Omega$		

Model	MDP703	MDP704	MDP705	MDP1503	MDP1504	MDP1505	MDP3003	MDP3004	MDP3005
<b>Bandwidth</b>	300MHz	400MHz	500MHz	300MHz	400MHz	500MHz	300MHz	400MHz	500MHz
<b>Max. input differential voltage (DC+AC PK)</b>	70V (20X) 700V (200X)			150V (50X) 1500V (500X)			300V (100X) 3000V (1000X)		
<b>Noise</b>	20X: $\leq 80\text{mVrms}$ 200X: $\leq 100\text{mVrms}$			50X: $\leq 200\text{mVrms}$ 500X: $\leq 250\text{mVrms}$			100X: $\leq 400\text{mVrms}$ 1000X: $\leq 500\text{mVrms}$		
<b>CMRR</b>	DC: $>-80\text{dB}$ 100kHz: $>-70\text{dB}$ 20MHz: $>-40\text{dB}$ 120MHz: $>-26\text{dB}$			DC: $>-80\text{dB}$ 100kHz: $>-70\text{dB}$ 20MHz: $>-40\text{dB}$ 120MHz: $>-26\text{dB}$			DC: $>-80\text{dB}$ 100kHz: $>-70\text{dB}$ 20MHz: $>-40\text{dB}$ 120MHz: $>-26\text{dB}$		
<b>Delay time</b>	8.44ns at 20X 7.9ns at 200X			8.44ns at 50X 7.9ns at 500X			8.44ns at 100X 7.9ns at 1000X		
<b>Input impedance</b>	16M $\Omega$ / 0.5pF (differential) 8M $\Omega$ / 1pF (each input to ground)			16M $\Omega$ / 0.5pF (differential) 8M $\Omega$ / 1pF (each input to ground)			20M $\Omega$ / 0.5pF (differential) 10M $\Omega$ / 1pF (each input to ground)		
<b>Output impedance</b>	50 $\Omega$			50 $\Omega$			50 $\Omega$		

## Parameters

Accuracy	±2%
Output voltage	≤ 3V
Power	2W
Power supply	USB Type-C
Overload indication	LED flash, buzzer
Size	control module: L: 91mm W: 33mm H: 15mm Signal box: L: 100mm W: 36mm H: 20mm
Input cable length	8cm
Output cable length	120cm
Temperature	Working: 0°C ~ 40 °C Non-working: -30 °C ~ 70 °C
Humidity	Working: 5 ~ 85% RH ( 0°C ~ 40 °C) Non-working: 5% ~ 85% RH ( ≤ 40 °C ) ; 5% ~ 45% RH ( 40 °C ~70 °C)

## Applications

- Floating measurements
- Motor drive design
- Inverter, UPS
- Electronic ballast design
- High voltage isolation measurements
- Welding, electroplating power supply
- Switching power supply design
- Induction heating, induction cooker
- Third generation semiconductor test
- Power conversion and related design
- Frequency conversion home appliances
- CRT display design

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