TOTAL POWER SOLUTIONS

High Voltage Differential Probe

DP Series

TPS Company Video on Youtube
https://youtu.be/DTcA-IU2NWA

High Voltage Differential Probe

DP Series

Key Features

- Max. 500 MHz bandwidth
- 360 Mpts memory depth
- 3 GSa/s sampling rate, 4 analog channels
- 14" touch screen, 1920 x 1200 resolution

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

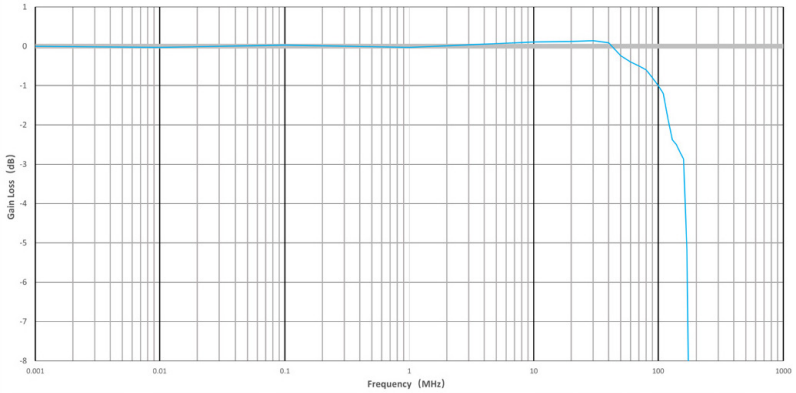
Product Features

Micsig high-voltage differential probe -- DP series covering bandwidth from 100MHz to 500MHz, differential voltage up to 7000Vpk. Based on the leading optical isolation probe technology, the DP series has very low noise, excellent amplitude-frequency characteristics and high CMRR.

With standard BNC interface, the DP series can work with any oscilloscope; probe body is only 2CM thick, protected by metal housing, achieves strong anti-interference ability. One-press auto Zero, dual-range and overload alarm design. High impedance designed, the single-ended impedance of the input end to the signal output BNC interface > 8MΩ, single-ended capacitance < 8pF, meets various safety test requirements. 5MHz bandwidth limit function can effectively filter out high-frequency noise and interference, ideal for switching power supplies, various high-frequency and high-voltage floating or isolated signal tests.

- **Excellent Amplitude Frequency Characteristics**

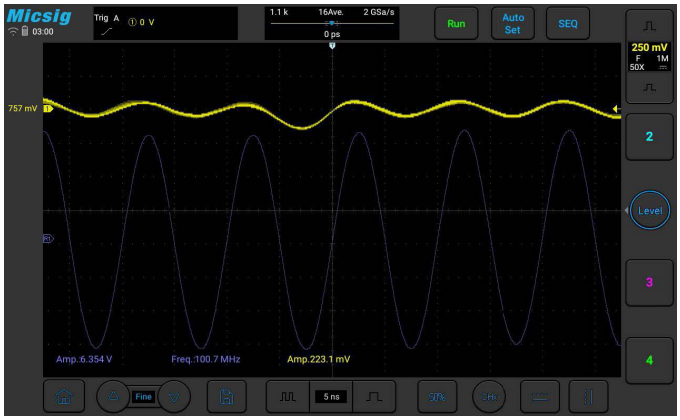
The amplitude fluctuation within half bandwidth is less than 0.5dB, achieves excellent bandwidth flatness, maintains high accuracy in high frequency bands.



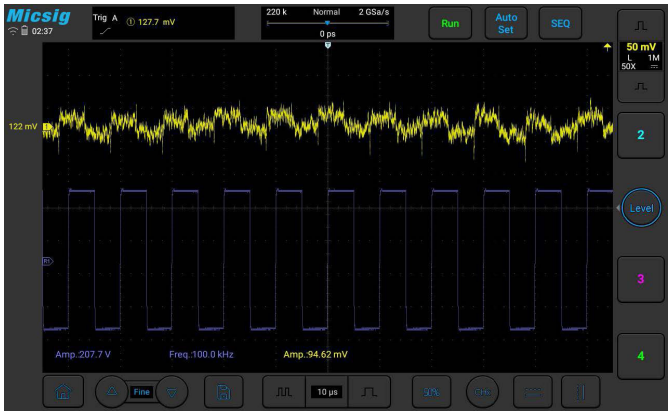
DP1500(50X) Amplitude-frequency characteristic curve

High Accuracy, High CMRR

DP 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.



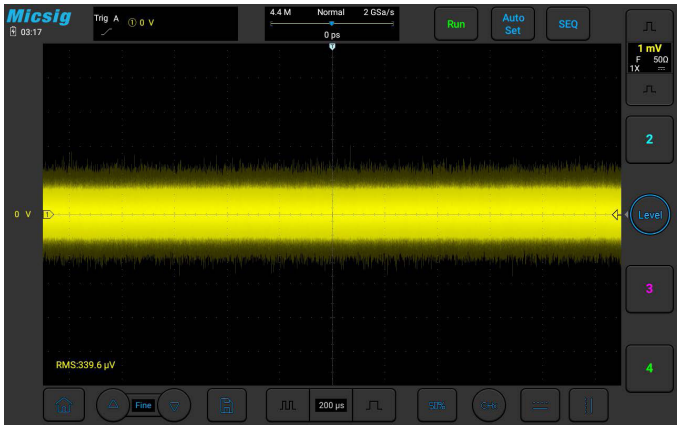
CH1: @ 100MHz, 6.354V, output common mode signal amplitude 223.1mV, CMRR is -29dB



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.



DP1503, @ 500X, full bandwidth (300MHz) , noise floor: 339.6µVrms

- **5MHz Bandwidth Limit**

(*Available on 100-200MHz bandwidth only, except DP7000)

When measuring FET switching frequency in most switching power supplies, it could 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.

*DP7000 powered by its standard adapter.

Specifications

Model	DP700	DP701	DP702	DP1500	DP1501	DP1502	DP3000	DP3001	DP3002	DP7000
Bandwidth	100MHz	150MHz	200MHz	100MHz	150MHz	200MHz	100MHz	150MHz	200MHz	100MHz
Max. Input Differential Voltage(DC+AC PK)	70V(20X) 700V(200X)			150V(50X) 1500V(500X)			300V(100X) 3000V(1000X)			700V(100X) 7000V(1000X)
Noise	Full bandwidth: 20X:≤22mVrms 200X:≤80mVrms 5MHz bandwidth limit: 20X:≤8mVrms 200X:≤70mVrms			Full bandwidth: 50X:≤45mVrms 500X:≤200mVrms 5MHz bandwidth limit: 50X:≤20mVrms 500X:≤175mVrms			Full bandwidth: 100X:≤90mVrms 1000X:≤400mVrms 5MHz bandwidth limit: 100X:≤40mVrms 1000X:≤350mVrms			Full bandwidth: 100X:≤90mVrms 1000X:400mVrms
CMRR	DC:>-80dB 100kHz: >-60dB 10MHz: >-30dB 100MHz: >-26dB			DC:>-80dB 100kHz: >-60dB 10MHz: >-30dB 100MHz: >-26dB			DC:>-80dB 100kHz: >-60dB 10MHz: >-30dB 100MHz: >-26dB			DC: >-80dB 100kHz: >-60dB 10MHz: >-30dB 100MHz: >-26dB
Delay Time	11.99ns at 20X 12.27ns at 200X			11.99ns at 50X 12.27ns at 500X			11.99ns at 100X 12.27ns at 1000X			11.2ns(100X) 10.65ns(1000X)
Input Impedance	16MΩ/1.5pF(differential) 8MΩ/3pF(each input to ground)			16MΩ/1.5pF(differential) 8MΩ/3pF(each input to ground)			20MΩ/1.5pF(differential) 10MΩ/3pF(each input to ground)			60MΩ/0.78pF(differential) 30MΩ/1.6pF(each input to ground)
Output Impedance	1MΩ			1MΩ			1MΩ			1MΩ

* The previous model DP10007 has been upgraded to DP700.
* The previous model DP10013 has been upgraded to DP1500.
* The previous model DP20003 has been upgraded to DP3000.

Note: These models have not only been upgraded in performance (see parameter table), but also in appearance, which has been newly designed and made more compact and exquisite. When placing orders, please handle them according to the new model numbers.

Model	DP703	DP704	DP705	DP1503	DP1504	DP1505	DP3003	DP3004	DP3005
Bandwidth	300MHz	400MHz	500MHz	300MHz	400MHz	500MHz	300MHz	400MHz	500MHz
Max. Input Differential Voltage(DC+AC PK)	70V(20X) 700V(200X)			150V(50X) 1500V(500X)			300V(100X) 3000V(1000X)		
Noise	20X:≤80mVrms 200X:≤100mVrms			50X:≤200mVrms 500X:≤250mVrms			100X:≤400mVrms 1000X:≤500mVrms		
CMRR	DC:>-80dB 100kHz:>-70dB 20MHz:>-40dB 120MHz: >-26dB			DC:>-80dB 100kHz:>-70dB 20MHz:>-40dB 120MHz: >-26dB			DC:>-80dB 100kHz:>-70dB 20MHz:>-40dB 120MHz: >-26dB		
Delay Time	8.44ns at 20X 7.9ns at 200X			8.44ns at 50X 7.9ns at 500X			8.44ns at 100X 7.9ns at 1000X		
Input Impedance	16MΩ/ 0.5pF (differential) 8MΩ/1pF(each input to ground)			16MΩ/0.5pF (differential) 8MΩ/1pF(each input to ground)			20MΩ/0.5pF (differential) 10MΩ/1pF(each input to ground)		
Output Impedance	50Ω			50Ω			50Ω		

Parameters	
Accuracy	±2%
Power Supply	DC 5V
Overload Indication	LED flash, buzzer
Dimension	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)