# High-Voltage Differential Probe

## DP series


*Image for reference only. Product subject to change.

Shenzhen Micsig Technology Co., Ltd.
Tel: +86-(0)755-88600880 Email: sales@micsig.com Website: www.micsig.com
Add: 6F, Jinhuanyu Building, No. 56, Tiezai Rd, Bao'an District, Shenzhen, Guangdong, China.

# Product Overview

Micsig DP Series High-Voltage Differential Probe offers a bandwidth of 100-300 MHz and a maximum input voltage of 7000 Vpk. With a standard BNC interface, they are compatible with oscilloscopes of most brands.

Features include one-button calibration, overload alarm, range power-off memory, dual voltage ranges, and a high-resistance, low-capacitance design to minimize loading. The probe delivers strong amplitude-frequency performance, and a high common-mode rejection ratio.

Command-based programming enables automated testing. 5 MHz bandwidth-limit function helps suppress high-frequency noise, delivering clearer waveforms.

# Product Features


### Command & Programming Control

The Type-C interface supports data communication, enabling connection to a computer for command control.


### 5MHz Bandwidth Limit

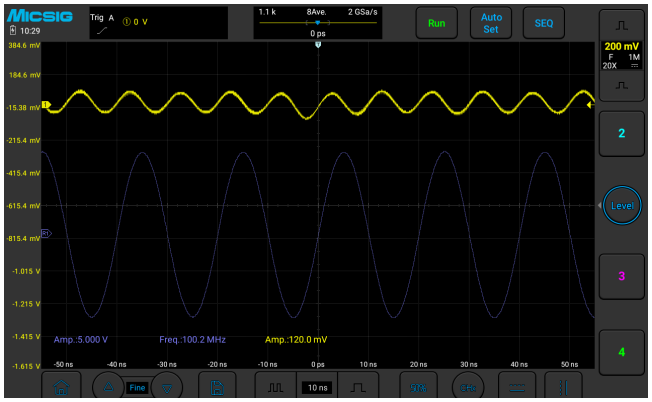
Ideal for measuring switching frequencies of FETs in most power supply applications, effectively filtering out high-frequency noise and interference.

### Dual Range Selection

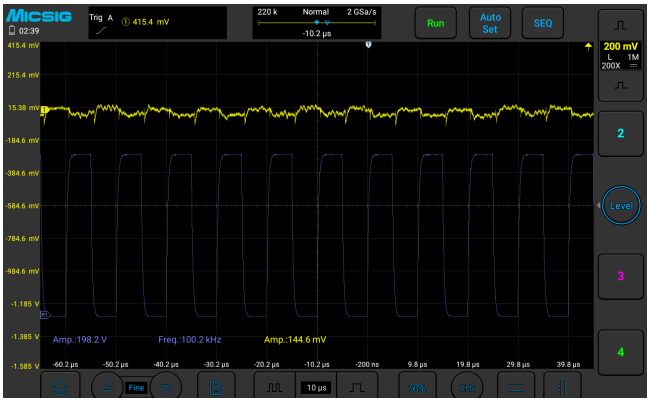
One-button auto zero calibrationand flexible dual-range switching，improving signal-to-noise ratio.

### Higher Accuracy and 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.



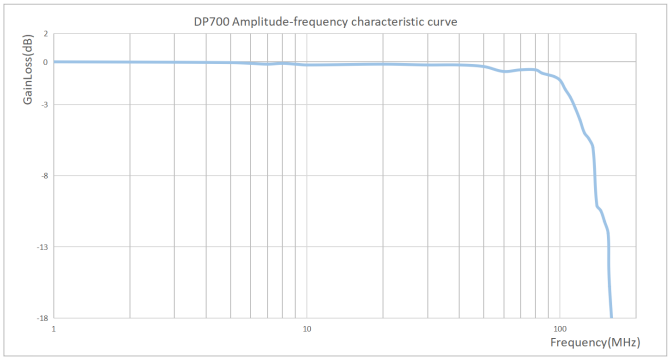

DP700, @100MHz, 5V, output common mode signal amplitude 120mV, CMRR is -32dB

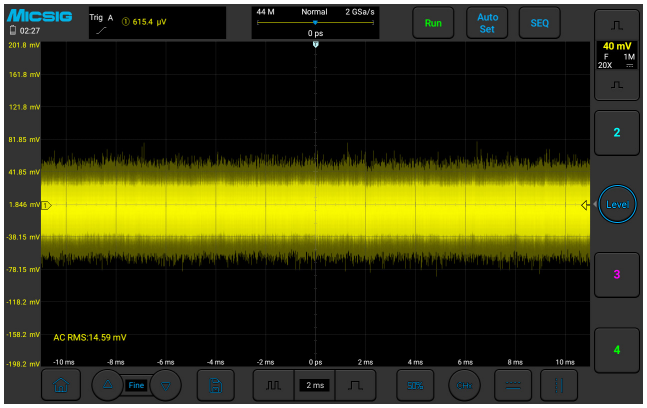



DP700, @100KHz, 198.2V, output common mode signal amplitude 144.6mV, CMRR > -62dB

### Excellent Amplitude Frequency Characteristics

DP series features excellent bandwidth flatness. Within 100 MHz bandwidth, the gain/loss variation is small. It maintains the accuracy of signal test even in high-frequency bandwidth.




### Lower Noise Floor

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

# Specifications

| Model | DP700 | DP1500 | DP3000 | DP7000 |
|---|---|---|---|---|
| **Bandwidth** | 100MHz | | | |
| **Max. input differential voltage (DC+AC PK)** | 70V (20X)<br>700V (200X) | 150V (50X)<br>1500V (500X) | 300V (100X)<br>3000V (1000X) | 700V (100X)<br>7000V (1000X) |
| **Rise time** | ≤ 3.5ns | ≤ 3.5ns | ≤ 3.5ns | ≤ 3.5ns |
| **Noise** | Full bandwidth:<br>20X: ≤ 20mVrms<br>200X: ≤ 90mVrms | Full bandwidth:<br>50X: ≤ 50mVrms<br>500X: ≤ 200mVrms | Full bandwidth:<br>100X: ≤ 100mVrms<br>1000X: ≤ 500mVrms | Full bandwidth:<br>100X: ≤ 200mVrms<br>1000X: ≤ 600mVrms |
| **CMRR** | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB |
| **Delay time** | 6.5ns (20X)<br>3.5ns (200X) | 6.2ns (50X)<br>2.9ns (500X) | 3.7ns (100X)<br>3.2ns (1000X) | 4.2ns(100X)<br>4.1ns(1000X) |
| **Input impedance** | 6MΩ‖ < 1.8pF (differential)<br>3MΩ‖ < 3.6pF<br>(each input to ground) | 13.2MΩ‖ < 1.8pF (differential)<br>6.6MΩ‖ < 3.6pF<br>(each input to ground) | 30MΩ‖ < 0.8pF (differential)<br>15MΩ‖ < 1.6pF pF<br>(each input to ground) | 120MΩ‖ < 0.8pF (differential)<br>60MΩ‖ < 1.6pF<br>(each input to ground) |
| **Output impedance** | 1 MΩ | | | |

| Model | DP702 | DP1502 | DP3002 | DP7002 |
|---|---|---|---|---|
| **Bandwidth** | 200MHz | | | |
| **Max. input differential voltage (DC+AC PK)** | 70V (20X)<br>700V (200X) | 150V (50X)<br>1500V (500X) | 300V (100X)<br>3000V (1000X) | 700V (100X)<br>7000V (1000X) |
| **Rise time** | ≤ 2.2ns<br>(typical: 1.8ns) | ≤ 2.2ns<br>(typical: 1.8ns) | ≤ 2.2ns<br>(typical: 1.8ns) | ≤ 2.2ns<br>(typical: 1.8ns) |
| **Noise** | Full bandwidth:<br>20x: ≤ 24mVrms<br>200x: ≤ 82mVrms | Full bandwidth:<br>50x: ≤ 50mVrms<br>500x: ≤ 190mVrms | Full bandwidth:<br>100x: ≤ 185mVrms<br>1000x: ≤ 610mVrms | Full bandwidth:<br>100x: ≤ 210mVrms<br>1000x: ≤ 560mVrms |
| **CMRR** | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB |
| **Delay time** | 4.3ns (20X)<br>1.5ns (200X) | 6.2ns (50X)<br>3.4ns (500X) | 3.1ns (100X)<br>2.8ns (1000X) | 3.8ns (100X)<br>3.7ns (1000X) |
| **Input impedance** | 6MΩ‖ < 1.8pF (differential)<br>3MΩ‖ < 3.6pF<br>(each input to ground) | 13.2MΩ‖ < 1.8pF (differential)<br>6.6MΩ‖ < 3.6pF<br>(each input to ground) | 30MΩ‖ < 0.8pF (differential)<br>15MΩ‖ < 1.6pF<br>(each input to ground) | 120MΩ‖ < 0.8pF (differential)<br>60MΩ‖ < 1.6pF<br>(each input to ground) |
| **Output impedance** | 1 MΩ | | | |

| Model | DP1503 | DP3003 |
|---|---|---|
| **Bandwidth** | 300MHz | |
| **Max. input differential voltage (DC+AC PK)** | 150V (50X)<br>1500V (500X) | 300V (100X)<br>3000V (1000X) |
| **Rise time** | ≤ 1.5ns<br>(typical: 1.2ns) | ≤ 1.5ns<br>(typical: 1.2ns) |
| **Noise** | Full bandwidth:<br>50x: ≤ 180mVrms<br>500x: ≤ 205mVrms | Full bandwidth:<br>100x: ≤ 400mVrms<br>1000x: ≤ 480mVrms |
| **CMRR** | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB | DC : >80dB<br>100kHz: >60dB<br>10MHz: >30dB<br>100MHz: >26dB |
| **Delay time** | 5.2ns (50X)<br>5.1ns (500X) | 5.2ns (100X)<br>4.1ns (1000X) |
| **Input impedance** | 13.2MΩ‖ < 1pF (differential)<br>6.6MΩ‖ < 2pF<br>(each input to ground) | 30MΩ‖ < 0.8pF (differential)<br>15MΩ‖ < 1.6pF<br>(each input to ground) |
| **Output impedance** | 50Ω | |

- Other models are customizable. For more details, please contact us.

| Parameters | |
|---|---|
| Accuracy (Typical) | ±2% (Customizable 1% accuracy) |
| Power supply | DC 5V |
| Overload indication | LED flash, buzzer |
| Dimension | L：13.5cm W：5cm H：2.5cm |
| Input cable length | 31cm |
| Output cable length | 100cm |
| Temperature | Working：0℃ ~ 40 ℃<br>Non-working：-30 ℃ ~ 70 ℃ |
| Humidity | Working：5 ~ 85% RH ( 0℃ ~ 40 ℃ )<br>Non-working：5% ~ 85% RH ( ≤ 40 ℃ )；5% ~ 45% RH (40 ℃ ~70 ℃ ) |

# Standard Accessories

| Model | Standard Accessories |
|---|---|
| High Voltage Differential Probe DP Series | Main unit*1 |
| | Extendable Hook Pliers*1 Pair |
| | Alligator Clips*1 Pair |
| | Input Extension Cables*1 Pair |
| | Power adapter*1 |
| | BNC Output Lin*1 |
| | USB Line*1 |
| | Quick Guide*1 |

| Optional Accessories | |
|---|---|
| Suitcase | Shock-Resistant, Vibration-Resistant, Crush-Resistant, Dustproof, Moisture-Proof |