Quick Guide

High Voltage Differential Probe DP series

1、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.

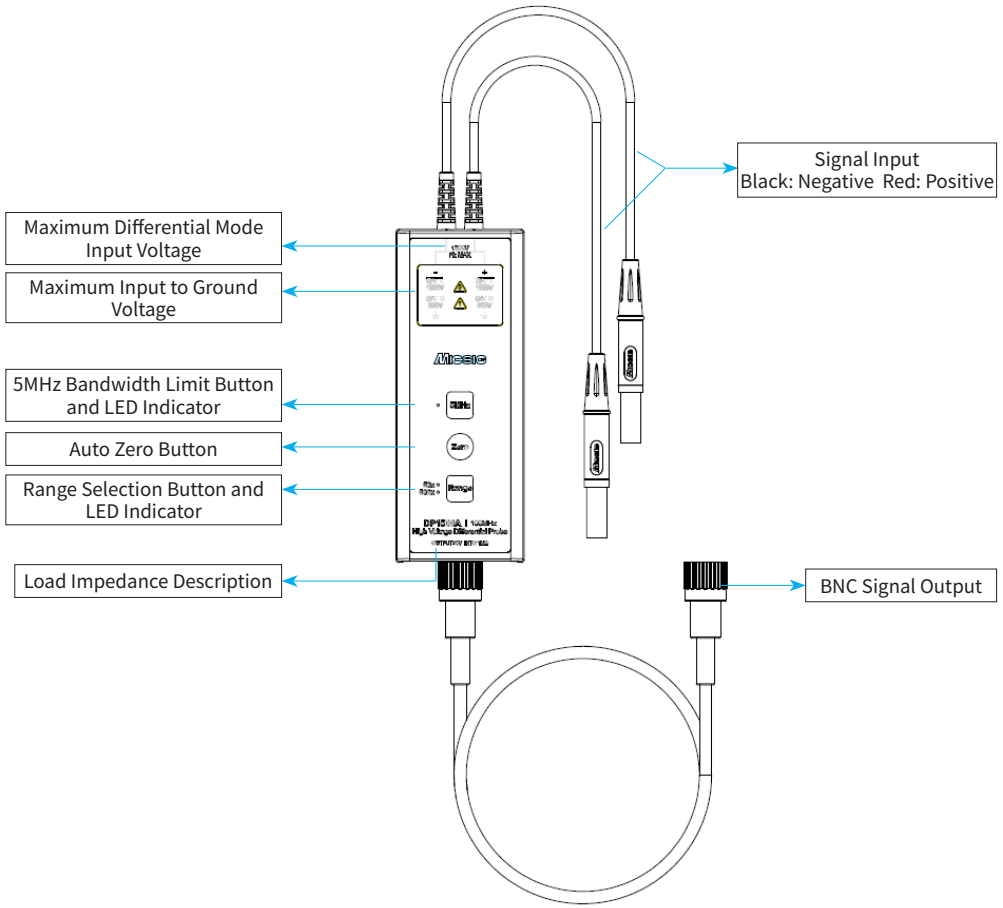
Command-based programming enables automated testing. 5 MHz bandwidth-limit function helps suppress high-frequency noise, delivering clearer waveforms.

2. Characteristcs

Model	DP700	DP702	DP703	DP1500	DP1502	DP1503	DP3000	DP3002	DP3003	DP7000	DP7002	DP7003
Bandwidth	100MHz	200MHz	300MHz	100MHz	200MHz	300MHz	100MHz	200MHz	300MHz	100MHz	200MHz	300MHz
Rise time	⩽ 3.5ns	⩽ 1.8ns	⩽ 1.13ns	⩽ 3.5ns	⩽ 1.8ns	⩽ 1.13ns	⩽ 3.5ns	⩽ 1.8ns	⩽ 1.13ns	⩽ 3.5ns	⩽ 1.8ns	⩽ 1.13ns
Attenuation	20X / 200X			50X / 500X			100X / 1000X			100X / 1000X		
Max. input Differential Voltage (DC+AC PK)	70V（20X） 700V（200X）			150V（50X） 1500V（500X）			300V（100X） 3000V（1000X）			700V（100X） 7000V（1000X）		
Max. Voltage to ground	CAT I 600V CAT II 450V			CAT II 1000V CAT III 600V			CAT II 1000V			7000V		
Noise	Full Bandwidth: 20X: ⩽ 20mVrms 200X: ⩽ 90mVrms			Full Bandwidth: 50X: ⩽ 50mVrms 500X: ⩽ 200mVrms			Full Bandwidth: 100X: ⩽ 100mVrms 1000X: ⩽ 500mVrms			Full Bandwidth: 100X: ⩽ 200mVrms 1000X: ⩽ 600mVrms		
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	11.7ns(20X) 11.7ns(200X)			12.5ns(50X) 12.1ns(500X)			11.7ns(100X) 11.5ns(1000X)			12.5ns(100X) 12.5ns(1000X)		
Input impedance	6MΩ/1.67pF (differential) 3MΩ/3.3pF (each input to ground)			13.2 MΩ/1.67pF (differential) 6.6MΩ/3.3pF (each input to ground)			30MΩ/0.78 pF (differential) 15MΩ/1.57pF (each input to ground)			120MΩ/0.78pF (differential) 60MΩ/1.57pF (each input to ground)		
Output voltage	⩽ 3.5V			⩽ 3V			⩽ 3V			⩽ 3V		
Accuracy	±2% (Customizable 1% accuracy)											
Power supply	DC 5V											
Overrange	LED flashes, Buzzer beeps											
Dimensions	L*W*H: 13.5 *5*2.5 /cm											
Cable length	Approx. 31 cm (Input); Approx. 100cm (Output)											
Temperature	Operating: 0°C ~ 40 °C Non-operating: -30 °C ~ 70 °C											
Humidity	Operating: 5 ~ 85% RH (0°C ~ 40 °C) Non-operating: 5% ~ 85% RH (⩽ 40 °C) ; 5% ~ 45% RH (40 °C ~70 °C)											
Implementation standard	Q/MKX001-2023											
LVD standard	EN 61010-1:2010; EN IEC 61010-2-030:2021; EN 61010-031:2015+A1:2021+A11:2021											
EMC standard	EN IEC 61326-1:2021; EN IEC 61326-2-1:2021; EN61000-3-2:2019+A1:2021; EN61000-3-3:2013+A1:2019+A2:2021											

3. Appearance

The main body of the DP series high-voltage differential probe (intergrated version) is as follows:



4. Precautions

1) The bandwidth of the oscilloscope should be no less than the bandwidth of the probe.
2) Calibrate the probe before use:
Short-circuit the input ends, power on, press “Zero” button, after hearing a “Di” sound, then calibration succeeds; Otherwise, if you hear “Di Di Di”, the calibration fails, then you need to calibrate again;
3) Recommend to use after 10 mins warm-up to get more accurate result.
4) When the range LED indicator flashes and beeps rapidly, it indicates Overvoltage warning, please switch the probe to higher range or stop testing.

5. Operation Steps

1) Power the probe: Power the probe with standard adapter;
2) Connect to oscilloscope: Connect the BNC end of the probe to oscilloscope channel (make sure the oscilloscope is grounded);
3) Select Range: Select appropriate voltage range according to the signal;
4) Connect the DUT: Use clips or hooks to connect the DUT.For reducing interference, twist the red and black input leads into a pair prior. If an over-voltage alarm occurs, disconnect the power supply and the circuit immediately;
5) Set on the oscilloscope: Set the oscilloscope input impedance. Adjust the channel attenuation ratio.

*Note: Try not to use extension leads when measuring, it could bring more noise. If must use the extension leads, please twist the leads together to reduce noise, and the input frequency should not exceed 5MHz, if not, the test result may not be accutate.

6. Warranty

1) Micsig warrants the main body of this differential probe for 1 year.
During the warranty period, Micsig will be responsible for free maintenance for any failure caused by the quality of the product under normal use.
2) Under the following circumstances, Micsig will refuse to provide maintenance services or charge a fee:
a. No packaging or anti-counterfeiting label.
b. Anti-counterfeit label has been altered or blurred beyond recognition.
c. Unauthorized disassembly, such as: changing wires, dismantling internal components, etc.
d. No sales voucher or the content of sales voucher does not match the product.

7. Safety Precautions

1) Non-professionals do not open the product casing;
2) Do not use while case is open;
3) Do not touch any bare metal while testing;
4) Disconnect the power supply and circuit immediately when over range;
5) Do not use in flammable and explosive environments;

MICSIG 麦科信 **Shenzhen Micsig Technology Co., Ltd.**
TEL: +86-(0)755-88600880 Email: sales@micsig.com Web: www.micsig.com
Address: 6F, Jinhuanyu Building, No. 56, Tiezai Rd, Bao'an District, Shenzhen, Guangdong, China.