

Passive High-voltage Probes

P5100 • P5120 • P5122 • P6015A Data Sheet



P5120

Features & Benefits

P5100

- DC to 250 MHz
- 1000 V CAT III (2500 V DC + Peak AC)
- 100X with Readout Coding
- UL3111-1, EN61010-1, IEC61010-2-031, CSA1010.1, CSA1010.2.031
- 7 to 30 pF Compensation Range

P5120

- For TPS2000 Series
- DC to 200 MHz
- 1000 V_{RMS} CAT II
- Floatable up to 600 V_{RMS} CAT II or 300 V_{RMS} CAT III
- Preferred Probe for Ripple Measurements
- 20X
- 15 to 25 pF Compensation Range
- UL61010B-2-031, EN61010-2-031, IEC61010-2-031, CSA61010.2.031

P5122

- For TPS2000 Series Only
- DC to 200 MHz
- 1000 V_{RMS} CATII when DC-coupled*1
- Floatable up to 600 V_{RMS} CATIII
- 100X
- IEC61010-031

P6015A

- High Voltage – 20 kV DC / 40 kV Peak (100 ms Pulse Width)
- High Bandwidth – 75 MHz
- Silicone Dielectric
- Optional 1000X Readout Coding
- Wide Compensation Range (7-49 pF)
- Heavy-duty Versatile Ground Lead and Alligator Clip

Applications

- Power Supply Design
- Design Motor Drive
- Electronic Ballast
- Power Semiconductors
- Switch Mode Control
- UPS Systems
- Power Converters

*1 The P5122 probe should not be used for AC-coupled measurements on signals with greater than 300 V DC offset. The P5120 is the recommended probe for measuring ripple on high-voltage DC supplies.



P6015A

P5100 High-voltage Probe

The P5100 is a low input capacitance high-voltage probe (2.5 kV) designed for higher-frequency applications. The probe can be compensated to match plug-ins and oscilloscopes with nominal input capacitances of 7-30 pF. A variety of screw-on accessories provide easy connection to the device under test.

P5120 and P5122 IsolatedChannel™ Applications

In many applications, it is important to be able to isolate the measurement from earth ground and also to isolate the common voltage between channels. The P5120 or P5122, coupled with the TPS2000 Series digital storage oscilloscopes, deliver both the isolation for the measurement from earth ground and full isolation between the channels. The P5120 is the recommended probe for measuring ripple on high-voltage DC supplies. The P5122 probe should not be used for AC-coupled measurements on signals with greater than 300 V DC offset.

P6015A High-voltage Probe

For heavy-duty high-performance measurements of voltages over 2.5 kV, the P6015A is the industry standard. You can measure DC voltages up to 20 kV_{RMS} and pulses up to 40 kV (peak, 100 ms duration). The 75 MHz bandwidth enables you to capture fast, high-voltage signals.

The P6015A uses an environmentally safe silicone compound for a dielectric and never needs refilling. Other features include: A 7-49 pF compensation range, small compensation box that fits on adjacent amplifier inputs, and a readout option for use with most Tektronix digital scopes. With the readout option, displayed voltage amplitude values will be the actual signal value rather than understated by a factor of 1,000.

Note: Using the readout version with other than Tektronix digital scopes may result in an erroneous readout display.

Characteristics

P5100/P5120/P5122/P6015A

Probe	Nominal Length	Attenuation	Bandwidth	Rise Time (Typical)	Loading	Max. Input V DC or RMS	Max. Float V	Comp. Range in pF	Readout
P5100	10 ft.	100X	250 MHz	1.75 ns	10 M Ω / 2.75 pF	2.5 kV (DC + Pk AC) 1000 V CAT III	N/A	7 to 30	Yes
P5120	3 m	20X	200 MHz	2.2 ns	5 M Ω / 11.2 pF	1000 V _{RMS} CAT II	600 V _{RMS} CAT II, 300 V _{RMS} CAT III	15 to 25	No
P5122	1.2 m	100X	200 MHz	2.2 ns	100 M Ω / 4.0 pF	1000 V _{RMS} CAT II	600 V _{RMS} CAT III	10 to 22	No
P6015A	10 ft.	1000X	75 MHz	4.0 ns	100 M Ω / 3 pF	20 kV	N/A	7 to 49	No
P6015A Opt. 1R	10 ft.	1000X	75 MHz	4.0 ns	100 M Ω / 3 pF	20 kV	N/A	7 to 49	Yes

Ordering Information

P5100

100X, 10 ft. High-voltage Probe.

Includes: Cable markers set, crocodile clip, adjustment tool, hooktip (small), hooktip (large), 18 in. ground lead, 6 in. ground lead, instruction manual (070-8151-04).

Recommended Accessories

Probe Tip to BNC Adapter – Order 013-0291-xx.

0.080 in. Diameter Spring Tip – Order 206-0060-xx.

P5120

20X, High-voltage Probe for TPS2000 Series.

Includes: Large retractable hook tip, small retractable hook tip, 6 in. common lead, 18 in. common lead, large crocodile clip, colored cable markers, adjustment tool, instruction manual (071-1463-xx).

P5122

100X, High-voltage Probe for TPS2000 Series.

Includes: Large retractable hook tip, lead with hook tip, lead with crocodile clip, adjustment tool, instruction manual.

Recommended Accessories for P5100, P5120, P5122:

See P5100, P5120, P5122 Probe Accessories.

P6015A

1000X, 10 ft. High-voltage Probe.

Includes: Hook probe tip (206-0463-xx); banana plug tip (134-0016-xx); crocodile clip – plugs onto ground lead (344-0461-xx); ground lead (196-3363-xx); carrying case (016-1147-xx); instruction manual (070-8223-xx).

Opt. 1R – 10 ft. with readout.

Service (P6015 only)

Opt. C3 – Calibration Service 3 Years.

Opt. C5 – Calibration Service 5 Years.

Opt. D1 – Calibration Data Report

Opt. D3 – Calibration Data Report 3 Years (with Opt. C3).

Opt. D5 – Calibration Data Report 5 Years (with Opt. C5).

Opt. R3 – Repair Service 3 Years.

Opt. R5 – Repair Service 5 Years.



Product(s) are manufactured in ISO registered facilities.



Contact Tektronix:

- ASEAN / Australasia** (65) 6356 3900
- Austria** 00800 2255 4835*
- Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777
- Belgium** 00800 2255 4835*
- Brazil** +55 (11) 3759 7600
- Canada** 1 800 833 9200
- Central East Europe, Ukraine, and the Baltics** +41 52 675 3777
- Central Europe & Greece** +41 52 675 3777
- Denmark** +45 80 88 1401
- Finland** +41 52 675 3777
- France** 00800 2255 4835*
- Germany** 00800 2255 4835*
- Hong Kong** 400 820 5835
- India** 000 800 650 1835
- Italy** 00800 2255 4835*
- Japan** 81 (3) 6714 3010
- Luxembourg** +41 52 675 3777
- Mexico, Central/South America & Caribbean** (52) 56 04 50 90
- Middle East, Asia, and North Africa** +41 52 675 3777
- The Netherlands** 00800 2255 4835*
- Norway** 800 16098
- People's Republic of China** 400 820 5835
- Poland** +41 52 675 3777
- Portugal** 80 08 12370
- Republic of Korea** 001 800 8255 2835
- Russia & CIS** +7 (495) 7484900
- South Africa** +41 52 675 3777
- Spain** 00800 2255 4835*
- Sweden** 00800 2255 4835*
- Switzerland** 00800 2255 4835*
- Taiwan** 886 (2) 2722 9622
- United Kingdom & Ireland** 00800 2255 4835*
- USA** 1 800 833 9200

* European toll-free number. If not accessible, call: +41 52 675 3777

Updated 25 May 2010

For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com



Copyright © Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks, or registered trademarks of their respective companies.

24 Jun 2010

56W-10262-4

