

Passive High-voltage Probes

P5100 • P5102 • P5120 • P6015A Data Sheet



P5120

Features & Benefits

P5100

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

P5102

- DC to 100 MHz
- 1,000 V_{RMS} CAT II
- Floatable up to 600 V_{RMS} CAT II or 300 V_{RMS} CAT III
- 10x
- For THS700 Series
- UL3111-1, EN61010-1, IEC61010-2-031, CSA1010.1, CSA1010.2.031

P5120

- DC to 200 MHz
- 1,000 V_{RMS} CAT II
- Floatable up to 600 V_{RMS} CAT II or 300 V_{RMS} CAT III
- 20x
- 15 to 25 pF Compensation Range
- For TPS2000 Series
- UL61010B-2-031, EN61010-2-031, IEC61010-2-031, CSA61010.2.031

P6015A

- High Voltage - 20 kVDC / 40 kV Peak (100 ms Pulse Width)
- High Bandwidth - 75 MHz
- Silicone Dielectric
- Optional 1,000x 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

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.

P5102 and P5120 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 P5102, paired with the THS700 Series handheld digital storage oscilloscopes, and the P5120, 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 100 MHz P5102 is designed to give you isolated channel performance for up to 1,000 V_{RMS} CAT II when used with the THS700 Series oscilloscopes. The 200 MHz P5120 passive high-voltage probe, for use with the TPS2000 Series oscilloscopes, is designed to give you up to 1,000 V_{RMS} CAT II of isolated channel performance. A variety of screw-on adapters are available for easy connection to the device under test.

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 (pk, 100 ms duration). The 75 MHz bandwidth enables you to capture fast, high-voltage signals.



P6015A

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/P5102/P5120/P6015A

Probe	Nominal Length	Attenuation	Bandwidth	Rise Time (typical)	Loading	Max. Input VDC 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) 1,000 V CAT III	N/A	7 to 30	Yes
P5102	2 m	10x	100 MHz	3.5 ns	5 M Ω / 11.2 pF	1,000 V _{RMS} CAT II	600 V _{RMS} CAT II	24 to 28	No
P5120	3 m	20x	200 MHz	2.2 ns	5 M Ω / 11.2 pF	1,000 V _{RMS} CAT II	600 V _{RMS} CAT II, 300 V _{RMS} CAT III	15 to 25	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
P6015A Opt. 25	25 ft.	1000x	25 MHz	14 ns	100 M Ω / 4 pF	20 kV	N/A	7 to 49	No
P6015A Opt. 2R	25 ft.	1000x	25 MHz	14 ns	100 M Ω / 4 pF	20 kV	N/A	7 to 49	Yes

Ordering Information

P5100

100x, 10 ft. High-voltage Probe.

Includes: Cable markers set, 1 ea. crocodile clip, 1 ea. adjustment tool, 1 ea. hooktip (small), 1 ea. hooktip (large), 1 ea. 18 in. ground lead, 1 ea. 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.

P5102

10x, High-voltage Probe for THS700 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 (070-9294-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).

Recommended Accessories for P5100, P5102, P5120:

See P5100, P5102, P5120 Probe Accessories.

P6015A

1,000x, 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.

Opt. 25 – 25 ft. without readout.

Opt. 2R – 25 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** +41 52 675 3777
- Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777
- Belgium** 07 81 60166
- Brazil** +55 (11) 40669400
- Canada** 1 (800) 661-5625
- 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** +33 (0) 1 69 86 81 81
- Germany** +49 (221) 94 77 400
- Hong Kong** (852) 2585-6688
- India** (91) 80-42922600
- Italy** +39 (02) 25086 1
- Japan** 81 (3) 6714-3010
- Luxembourg** +44 (0) 1344 392400
- Mexico, Central/South America & Caribbean** 52 (55) 54247900
- Middle East, Asia, and North Africa** +41 52 675 3777
- The Netherlands** 090 02 021797
- Norway** 800 16098
- People's Republic of China** 86 (10) 6235 1230
- Poland** +41 52 675 3777
- Portugal** 80 08 12370
- Republic of Korea** 82 (2) 6917-5000
- Russia & CIS** +7 (495) 7484900
- South Africa** +27 11 206 8360
- Spain** (+34) 901 988 054
- Sweden** 020 08 80371
- Switzerland** +41 52 675 3777
- Taiwan** 886 (2) 2722-9622
- United Kingdom & Ireland** +44 (0) 1344 392400
- USA** 1 (800) 426-2200

For other areas contact Tektronix, Inc at: 1 (503) 627-7111

Updated 30 October 2008

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.

03 Jun 2009

56W-10262-2

