

Search

Product Portfolio

- Oscilloscope Probes
- Logic Analyzer Probes/P6400
- Logic Analyzer Probes/P68/6900
- Optical Products
- Application Software
- Request a Catalog
- Product Finder

Resources

- Application Notes
- Manuals
- Software & Drivers
- Service & Support
- E-Newsletters

What's New

- Promotions
- News
- Events



Tip/Head Styles: SMD, SMD, 2.5 mm, 3.5 mm, and 5 mm.

Product Information

[Introduction](#)

Pricing Information

[Request a Quote](#)

Additional Resources

- [Scopes to Probes Chart](#)
- [Scope Accessories Home](#)
- [Replacement Parts](#)

Probe Specifications

Chart

I. Voltage Probes

Passive Probes

Type	Cable Length	Attenuation	Bandwidth at -3 dB	System Input Resistance	Typical Input C	Max Voltage	Compensation Range	Read Out	ID/Gnd Ref.	Tip/Head Style
1X Passive Probe										
P6101B	2 m	1	15 MHz	1 MΩ	100 pF	300 V _{RMS} CAT I	NA			5 mm (Min.)
10X Passive Probes										
P3010	2 m	10	100 MHz	10 MΩ	13 pF	420 V _{RMS} CAT I	15 to 35 pF	X		5 mm (Min.)
P5050	1.3 m	10	500 MHz	10 MΩ	11.1 pF	300 V _{RMS} CAT II	16 to 22 pF	X		3.5 mm (Comp.)
P5102	3.1 m	10	100 MHz	5 MΩ	11.2 pF	1000 V _{RMS} CAT II	24 to 28 pF			Mono
P6105A	2 m	10	100 MHz	10 MΩ	11 pF	500 V CAT I	15 to 35 pF	X	X	5 mm (Min.)
P6106A	2 m	10	250 MHz	10 MΩ	11 pF	500 V CAT I	15 to 35 pF	X	X	5 mm (Min.)
P6109B	2 m	10	100 MHz	10 MΩ	13 pF	420 V CAT I	15 to 35 pF	X		5 mm (Min.)
P6111B	2 m	10	200 MHz	10 MΩ	14 pF	420 V CAT I	15 to 35 pF	X		5 mm (Min.)
P6112	2 m	10	100 MHz	10 MΩ	13.3 pF	300 V _{RMS} CAT II 420 V _{RMS} CAT I	15 to 35 pF			5 mm (Min.)
P6114B	2 m	10	400 MHz	10 MΩ	14.1 pF	300 V _{RMS} CAT II 420 V _{RMS} CAT I	10 to 35 pF	X		5 mm (Min.)
P6117	2 m	10	200 MHz	10 MΩ	13.3 pF	300 V _{RMS} CAT II 420 V _{RMS} CAT I	15 to 35 pF			5 mm (Min.)
P6131	1.3 m	10	300 MHz	10 MΩ	10.8 pF	300 V _{RMS} CAT I 150 V _{RMS} CAT II	14 to 18 pF	X		2.5 mm (Sub.)
P6133	2 m	10	150 MHz	10 MΩ	12.7 pF	300 V _{RMS} CAT I 150 V _{RMS} CAT II	10 to 25 pF	X		2.5 mm (Sub.)
						300 V _{RMS}				

P6136	1.3 m	10	350 MHz	10 MΩ	10.8 pF	CAT I 150 V _{RMS} CAT II	12 to 18 pF	X		2.5 mm (Sub.)
P6137	1.5 m	10	400 MHz	10 MΩ	10.8 pF	500 V _{pk}	12 to 18 pF	X	X	3.5 mm (Comp.)
P6138A	1.3 m	10	400 MHz	10 MΩ	10 pF	300 V _{RMS} CAT II 420 V _{RMS} CAT I	12 to 18 pF	X		3.5 mm (Comp.)
P6139A	1.3 m	10	500 MHz	10 MΩ	8 pF	300 V _{RMS} CAT II	8 to 12 pF	X		3.5 mm (Comp.)
1X/10X Switchable										
P2220 *1	1.5 m	1/10	6/200 MHz	1/10 MΩ	110/17 pF	300 V _{RMS} CAT II 420 V _{RMS} CAT II 150 V _{RMS} CAT II	15 to 25 pF			5 mm (Min.)
P5120	3 m	20	200 MHz	5 MΩ	11.2 pF	1,000 V _{RMS} CAT II	15 to 25 pF			Mono
100X/1000X High Voltage										
P5100	3.1 m	100	250 MHz	10 MΩ	2.75 pF	1,000 V CAT III 2500 V _{dc + pkac}	7 to 30 pF			Mono
P6015A	3.0 m	1000	75 MHz	100 MΩ	3.0 pF	20,000 V	7 to 49 pF			HVP
P6015A Opt 1R	3.0 m	1000	75 MHz	100 MΩ	3.0 pF	20,000 V	7 to 49 pF	X		HVP
P6015A Opt 25	7.6 m	1000	25 MHz	100 MΩ	3.0 pF	20,000 V	7 to 49 pF			HVP
P6015A Opt 2R	7.6 m	1000	25 MHz	100 MΩ	3.0 pF	20,000 V	7 to 49 pF	X		HVP

m = meters, V = volts, MHz = Megahertz, Mono. = Monolithic, HVP = high voltage probe, pF = picofarads, mm = millimeters.

*1 P2220 when used with TPS2000 Series may be floatable to <30 V_{RMS}. For TDS1000/2000 Series and all other ground-referenced oscilloscopes, no floating allowed.

Low Capacitance 50 Ω Probes

Type	Length	Attenuation	Bandwidth at -3 dB	System Input Resistance	Typical Input C	Max Voltage RMS	Instrument Input	Read Out	ID/Gnd Ref.	Tip/Head Style
P6150	1 m	10	9 GHz	500 Ω	<0.15 pF	12.5 V _{RMS} *1	50 Ω			4 mm
		1	3 GHz	50 Ω	N/A		50 Ω			
P6158	1.2 m	20	3 GHz	1 kΩ	1.5 pF	22 V _{RMS}	50 Ω	X		3.5 mm (Comp.)
P8018	1 m	1	20 GHz	50 Ω	N/A	5 V _{RMS}	50 Ω			1.8 mm Pitch (Sig to Gnd)

Active Probes

Type	Cable Length	Attenuation	Bandwidth at -3 dB	System Input Resistance	Typical Input C	Max Voltage RMS	Linear Range	DC Offset Range	Interface Style	Tip/Head Style
P6205	1.5 m	10	750 MHz	1 MΩ	<2 pF	±40 V	±10 V	N/A	TEKPROBE®	5 mm (Min.)
P6241	1.3 m	10	4 GHz	40 kΩ	<0.8 pF	±30 V	±4.0 V	±10 V	TEKPROBE	SMD Active
P6243	1.3 m	10	1 GHz	1 MΩ	≤1 pF	±15 V	±8.0 V	N/A	TEKPROBE	SMD Active
P6245	1.3 m	10	1.5 GHz	1 MΩ	≤1 pF	±15 V	±8.0 V	±10 V	TEKPROBE	SMD Active
P6249	1.4 m	5x	4 GHz	20 kΩ	≤1 pF	±30 V	±2.0 V	±5 V	TEKPROBE	SMD Active
P7225	1.3 m	10	2.5 GHz	40 kΩ	≤0.8 pF	±30 V	±4.0 V	±10 V	TekConnect®	SMD Active
P7240	1.4 m	5x	4 GHz	20 kΩ	≤1 pF	±30 V	±2.0 V	±5 V	TekConnect	SMD Active
P7260	1.12 m	5	6 GHz	20 kΩ	<0.5 pF	±30 V	±0.75 V	±5 V	TekConnect	SMD Active
		25					±3.0 V	±5 V		

Differential Probes

Type	Cable Length	Attenuation	Bandwidth at -3 dB	Differential Input Resistance	Differential Input C	Max Voltage RMS	Differential Input Voltage	Common Mode Input Voltage	Typical CMRR	Interface Style
ADA400A		X 100 X 10 X 1 X 0.1	1 MHz	1 MΩ	55 pF	N/A	±10 V ±10 V ±40 V ±40 V	0.01V 1 V 10 V 80 V	>80 dB @ 10 kHz	TEKPROBE
P5200 *7	1.8 m	50 500	25 MHz	4 MΩ	7 pF	N/A	1300 V _{RMS}	1000 V _{RMS} CAT II	>50 dB @ 1 MHz	BNC*7
P5205	1.8 m	50 500	100 MHz	4 MΩ	7 pF	N/A	1300 V _{RMS}	1000 V _{RMS} CAT II	>50 dB @ 1 MHz	TEKPROBE
P5210	1.8 m	100 1000	50 MHz	8 MΩ	7 pF	N/A	4400 V _{RMS}	2200 V _{RMS} CAT II	>50 dB @ 1 MHz	TEKPROBE
P6246	1.2 m	1 10	400 MHz	200 kΩ	<1 pF	±25 V	±850 mV ±8.5 V	±7 V	>60 dB @ 1 MHz	TEKPROBE
P6247	1.2 m	1 10	1 GHz	200 kΩ	<1 pF	±25 V	±850 mV ±8.5 V	±7 V	>60 dB @ 1 MHz	TEKPROBE
P6248	1.2 m	1 10	1.5 GHz	200 kΩ	<1 pF	±25 V	±850 mV ±8.5 V	±7 V	>60 dB @ 1 MHz	TEKPROBE
P6330	1.3 m	5	3.5 GHz	100 kΩ	<0.3 pF	±15 V	±2 V	+5 V to -4 V	>60 dB @ 1 MHz	TEKPROBE
P7330	1.3 m	5	3.5 GHz	100 kΩ	<0.3 pF	±15 V	±2 V	+5 V to -4 V	>60 dB @ 1 MHz	TekConnect
P7350	1.3 m	6.25	5 GHz	100 kΩ	<0.3 pF	±15 V	±2.5 V	+6.25 V to -5 V	>45 dB @ 1 MHz	TekConnect

P7350SMA	1.2 m	6.25	5 GHz	100 Ω	NA	±15 V	±2.5 V	+6.25 V to -5 V	>55 dB @ 1 MHz	TekConnect
P7380	.96 m	2.5 12.5	8 GHz (Typical)	100 Ω	NA	±5 V	0.625 V _{p-p} 3.0 V _{p-p}	±2.5 V	>35 dB @ 1 GHz	TekConnect
P7380	1.2 m	5 25	8 GHz (Typical)	100 kΩ	Loading Zmin >300 Ω	±15 V	±6.25 V ±2 V	+4 V to -3.0 V	>35 dB @ 1 GHz	TekConnect
P7313	1.2 m	5 25	>12.5 GHz (Typical)	100 kΩ	Loading Zmin >250 Ω out to 12.5 GHz	±15 V	±6.25 V ±2 V	+4 V to -3.0 V	>35 dB @ 1 GHz	TekConnect

II. Current Probes

	Bandwidth Hz to MHz	Peak Pulse	Max AC _{p-p}	Derate Below	Derate Above	Max DC	Amp-S Product	Current/Div Display Range	Rise Time	Insertion Impedance @ 1 MHz	Max Barewire Voltage	Max Conductor Diameter	Cable Length
TCP300 and TCP400 Series Products For TEKPROBE, TekConnect and Standard 50 Ω / 1 MΩ BNC Oscilloscope Systems													
TCP312 w/TCPA300	DC to 100	50 A	60 A	N/A	50 kHz	5 A - 1A/V 30 A - 10A/V	50 A* ⁶ μS - 1A/V 500 A* ⁶ μS - 10A/V	1A/V 10A/V	≤3.5 ns	0.08 Ω	Insulated Wire Only	3.8 mm (0.15 in.)	1.5 m
TCP312	0.5 to 20	20 kA* ⁶ ₂	2 kA* ⁶ ₃	50 Hz	1.2 kHz	20A	0.5A*1S	20A/V 10kA/V	<17.5 ns	2.5 mΩ	3 kV	38 mm (1.5 in.)	1.5 m
TCP305 w/TCPA300	DC to 50	50A	100A	N/A	2 kHz	25A - 5A/V 50A - 10A/V	500A* ⁶ μS - 5A/V NA - 10A/V	5A/V 10A/V	≤7 ns	0.035 Ω	Insulated Wire Only	3.8 mm (0.15 in.)	1.5 m
TCP305 using CT4	0.5 to 20	20 kA* ⁶ ₂	2 kA* ⁶ ₃	50 Hz	1.2 kHz	20A	5A* ⁶ S typ	100A/V 10kA/V	<17.5 ns	1.1 mΩ	3 kV	38 mm (1.5 in.)	1.5 m
TCP303 w/TCPA300	DC to 15	150A	424A	N/A	1 kHz	25 - 5A/V 150 - 50A/V	3,000A* ⁶ μS - 5A/V 15,000A* ⁶ μS - 50A/V	5A/V 50A/V	≤23 ns	0.01 Ω	600V RMS CAT I & II 300V RMS CAT III	21 mm x 25 mm (0.83 x 1.0 in.)	2 m
TCP404XL w/TCPA400	DC to 2	750A	1414A	N/A	1.8 kHz	750A* ⁶ ₅ - 1A/mV 500A - 1A/mV	NA - 1A/mV	1A/mV	≤175 ns	0.1 mΩ	600V RMS CAT I & II 300V RMS CAT III	21 mm x 25 mm (0.83 x 1.0 in.)	8 m
Direct Connect Current Probes													
TCP202	DC to 50	50 A	40 A	N/A	20 kHz	15 A	500x10 ⁻⁶	* ⁵	≤7.0 ns	0.07 Ω	300 V CAT I	0.15 in.	2.2 m
TCP202 w/CT4	0.5 to 20	20 kA* ³	2 kA* ⁴	50 Hz	1.2 kHz	15 A	0.1	* ⁵	≤17.5 ns	30 mΩ	3 kV	1.5 in.	2.2 m
AM5030 Amplifier Current Probes (for AM5030S Systems)													

A6312	DC to 100	50 A	40 A	N/A	20 kHz	20 A	100x10 ⁻⁶	1 mA to 5 A*2	≤3.5 ns	0.1 Ω	300 V CAT I	0.15 in.	2 m
A6312 w/CT4	0.5 to 20	20 kA*3	2 kA*4	50 Hz	1.2 kHz	20 A	0.1	20 mA to 5 kA*2	≤17.5 ns	30 mΩ	3 kV	1.5 in.	2 m
A6302	DC to 50	50 A	40 A	N/A	20 kHz	20 A	100x10 ⁻⁶	1 mA to 5 A*2	≤7.0 ns	0.1 Ω	300 V CAT I	0.15 in.	2 m
A6302 w/CT4	0.5 to 20	20 kA*3	2 kA*4	50 Hz	1.2 kHz	20 A	0.1	20 mA to 5 kA*2	≤17.5 ns	30 mΩ	3 kV	1.5 in.	2 m
A6302XL	DC to 17	50 A	40 A	N/A	20 kHz	20 A	100x10 ⁻⁶	1 mA to 5 A*1	≤20 ns	0.1 Ω	300 V CAT I	0.15 in.	8 m
A6302XL w/CT4	0.5 to 13	20 kA*3	2 kA*4	50 Hz	1.2 kHz	20 A	0.1	20 mA to 5 kA*2	≤20 ns	30 mΩ	3 kV	1.5 in.	8 m
A6303	DC to 15	500 A	200 A	N/A	20 kHz	100 A	10,000x10 ⁻⁶	5 mA to 50 A*2	≤23 ns	0.02 Ω	600 V CAT II	0.83 in.	2 m
A6303XL	DC to 10	500 A	200 A	N/A	1.8 kHz	100 A	10,000x10 ⁻⁶	5 mA to 50 A*2	≤35 ns	0.02 Ω	600 V CAT II	0.83 in.	8 m
A6304XL	DC to 2	700 A	700 A	N/A	1.8 kHz	500 A	0.4	500 mA to 200 A*2	≤175 ns	0.2 Ω	600 V CAT II	0.83 in.	8 m
Other Current Probe Solutions													
P6021	120 to 60	250 A	15 A	300 Hz	0.5 MHz	0.5A	500x10 ⁻⁶	20 mA or 100 mA*2	≤5.8 ns	0.03 Ω	600 V	0.15 in.	1.5 m
P6021 w/CT4	120 to 20	20 kA*3	2 kA*4	300 Hz	1.2 MHz	20 A	0.5	400 mA or 100 A*2	≤17.5 ns	0.03 Ω	3 kV	1.5 in.	1.5 m
P6022	935 to 120	100 A	6 A	3 kHz	10 MHz	0.2 A	9x10 ⁻⁶	10 mA or 100 mA*2	≤2.2 ns	0.03 Ω	600 V	0.10 in.	2.75 m
CT1	25 K to 1000	12 A	1.4 A			0.3 A	1x10 ⁻⁶	2 mA*2 (5 mV/mA)	≤0.35 ns	1 Ω	175 V _{RMS} CAT I	0.070 in.	1.07 m
CT2	1.2 K to 200	36 A	7 A			0.3 A	50x10 ⁻⁶	10 mA*2 (1mV/mA)	≤0.5 ns	0.1 Ω	175 V _{RMS} CAT I	0.052 in.	1.07 m
CT6	250 K to 2000	6 A	0.7 A			0.2 A	0.25x10 ⁻⁶	2 mA (5mV/mA)	<200 ps	1.1 Ω	30 V _{RMS}	0.032 in.	1 m

*2 Scope set at 10 mV/Div.

*3 Based on voltage breakdown.

*4 Based on thermal heating limits in CT4.

*5 Depends on instrument used.

*6 Derated w/ duty cycle and frequency.

*7 **WARNING:** For safe operation, do not use the P5200 High Voltage Differential Probe with oscilloscopes that have floating inputs (isolated inputs), such as the Tektronix TPS2000 series oscilloscopes and THS700 series oscilloscopes. The P5200 High Voltage Differential Probe requires an oscilloscope or other measurement instrument with grounded inputs.

[▲ back to top](#)

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[► Introduction](#)

[Request a Quote](#)

[Scopes to Probes Chart](#)
[Scope Accessories Home](#)
[Replacement Parts](#)



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Page



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