








SIGLENT Probe



Data Sheet
EN02B



Passive Probe

Model	PB470	PP510	PP215	SP2035
Parameter				
Attenuation Rate	1X/10X	1X/10X	1X/10X	1X/10X
Bandwidth	10X: DC~70 MHz	10X: DC~100 MHz	10X: DC~200 MHz	350 MHz
Input Impedance	1 M Ω /10 M Ω	1 M Ω /10 M Ω	1 M Ω /10 M Ω	1 M Ω /10 M Ω \pm 2%
Input Capacitance	10X: 13 pF~17 pF	10X: 13 pF~17 pF	10X: 13 pF~17 pF	1X: 85 pF~120 pF 10X: 17 pF~20 pF
Compensation Range	10 pF~35 pF	10 pF~35 pF	10 pF~35 pF	10 pF~35 pF
Input Voltage	1X: CAT II 150 V 10X: CAT II 300 V	1X: CAT II 150 V 10X: CAT II 300 V	1X: CAT II 150 V 10X: CAT II 300 V	1X: CAT II 150 V 10X: CAT II 300 V
Operation Temp	-10 $^{\circ}$ C~55 $^{\circ}$ C	-10 $^{\circ}$ C~55 $^{\circ}$ C	-10 $^{\circ}$ C~55 $^{\circ}$ C	-10 $^{\circ}$ C~55 $^{\circ}$ C
Cable Length	130 cm	130 cm	130 cm	130 cm
Weight	55 g	55 g	55 g	About 55 g

Model	SP2035A	SP3050A ^[1]	SP3150A
Parameter			
Attenuation Rate	10X	10X	10X
Bandwidth	350 MHz	500 MHz	500 MHz
Input Impedance	10 M Ω \pm 2%	10 M Ω	10 M Ω
Input Capacitance	12 pF	11 pF	11 pF
Compensation Range	9 pF~25 pF	8 pF~20 pF	8 pF~20 pF
Input Voltage	10X: CAT II 300 V	CAT II 400 V	CAT II 400 V
Operation Temp	-10 $^{\circ}$ C~55 $^{\circ}$ C	0 $^{\circ}$ C~50 $^{\circ}$ C	0 $^{\circ}$ C~50 $^{\circ}$ C
Cable Length	130 cm \pm 2 cm	120 cm	120 cm
Weight	About 55 g	55 g	55 g



Model	SP5050A ^[2]	SP5150A	SP6150A	PB925
Parameter				
Attenuation Rate	10X	10X	10X	10X
Bandwidth	500 MHz	500 MHz	1.5 GHz	250 MHz
Input Impedance	10 M Ω	10 M Ω	500 Ω \pm 10 Ω (Scope resistance 50 Ω)	10 M Ω
Input Capacitance	12 pF	12 pF	1.8 pF	16 pF
Compensation Range	12 pF~22 pF	12 pF~22 pF	/	10 pF~35 pF
Input Voltage	CAT II 300 V	CAT II 300 V	8.5 V	CAT III 600 V CAT II 1000 V
Operation Temp	-10 $^{\circ}$ C~55 $^{\circ}$ C	-10 $^{\circ}$ C~55 $^{\circ}$ C	0~50 $^{\circ}$ C	0 $^{\circ}$ C~50 $^{\circ}$ C
Cable Length	130 cm	130 cm	130 cm	120 cm
Weight	55 g	55 g	About 37 g	55 g

Note:



[1][2] SP3050A/SP3150A, SP5050A/SP5150A are compatible with different oscilloscope models and cannot be used interchangeably, as shown in the table below:

Probe	Oscilloscope Models
SP3050A	<ul style="list-style-type: none"> SDS7000A Series: SDS7404A H12, SDS7304A H12, SDS7204A H12 SDS6000A Series: SDS6104A, SDS6054A SDS5000X Series: All models SDS3000X HD Series: All models SDS2000X Plus Series: SDS2504X Plus, SDS2502X Plus
SP3150A	<ul style="list-style-type: none"> SDS7000A Series: SDS7804AP, SDS7604AP, SDS7804A H12, SDS7604A H12 SDS6000A Series: SDS6204A SDS6000L Series: All models
SP5050A	<ul style="list-style-type: none"> SDS2000X HD Series: All models
SP5150A	<ul style="list-style-type: none"> SDS5000X HD Series: All models SDS5000L Series: All models


Single-Ended Active Probe

Parameter	Model	SAP1000	SAP2500
			
Bandwidth		1 GHz	2.5 GHz
Input Impedance		1 M Ω	1 M Ω
Input Capacitance		1.2 pF	1.1 pF
Input Dynamic Range		± 8 V	± 8 V
Offset Range		± 12 V	± 12 V
Non-Destruct Voltage		20 V	20 V
Interface		SAPBus	SAPBus
Cable Length		130 cm	130 cm


High-Frequency Differential Active Probe

Parameter	Model	SAP2500D	SAP5000D
			
Bandwidth (probe only)		>2.5 GHz	>5 GHz
Bandwidth (with scope)		2 GHz (SDS6204A)	4 GHz (SDS7404A)
Differential Input Capacitance		1 pF	400 fF
Differential Input Resistance		200 k Ω	20 k Ω
Single-ended Input Resistance		100 k Ω	10 k Ω
Offset Range		± 8 V	± 12 V
Attenuation Ratio (DC)		$\div 10$	$\div 10$
Offset Accuracy		<3%	<3%
DC Gain Accuracy		<3%	<3%
Input Dynamic Range		± 4 V	± 2.5 V
Maximum Input Voltage (non-destructive)		20 V	20 V
Interface		SAPBus	SAPBus
Cable Length		130 cm	130 cm

Power Rail Probe

Parameter	Model	SAP4000P
		
Bandwidth (probe only)		>4 GHz
Low Frequency Input Resistance		50 k Ω
High Frequency Input Resistance		50 Ω
Offset Voltage Range		± 24 V
Attenuation Ratio (DC)		$\div 1.1$
Offset Voltage Accuracy		<3%
DC Gain Accuracy		<3%
Input Dynamic Range		± 600 mV
Noise		1.1 times the oscilloscope noise before connecting the probe
Damage Voltage		35 V
Interface		SAPBus
Cable Length		1 m (main cable)

Active Probe Adapter




Parameter	Model
	<p style="text-align: center;">TPA10</p> <div style="text-align: center;">  </div>
Bandwidth	4 GHz
Power Supplies	+15 V (±2%, 100 mA) -15 V (±2%, 100 mA) +5 V (±2%, 200 mA) -5 V (±2%, 200 mA)
Offset Range	-1.2 V~+1.2 V to probe


Current Probe





Parameter	Model	CP4020	CP4050	CP4070	CP4070A
					
Bandwidth		DC~200 kHz	DC~1 MHz	DC~300 kHz	DC~300 kHz
Rise Time		1.75 μ s	0.35 μ s	1.2 μ s	1.2 μ s
Maximum effective Value of AC		20 Arms	50 Arms	70 Arms	70 Arms
Peak-peak Current Value		60 A	140 A	200 A	200 A
Range ^[1]		3.5 A (50 mV/A) 21 A (5 mV/A)	5A (500 mV/A) 50 A (50 mV/A)	7.07 A (50 mV/A) 70.7 A (5 mV/A)	7.07 A (100 mV/A) 70.7 A (10 mV/A)
Current Transfer Ratio		50 mV/A; 5 mV/A	500 mV/A; 50 mV/A	50 mV/A; 5 mV/A	100 mV/A; 10 mV/A
DC Accuracy		$\pm 2\% \pm 0.4$ A at 50 mV/A (0.4 A-10 A pk-pk range); $\pm 2\% \pm 1$ A at 5 mV/A (1 A-60 A pk-pk range)	$\pm 3\% \pm 20$ mA at 500 mV/A (20 mA-14 A pk-pk range); $\pm 4\% \pm 200$ mA at 50 mV/A (200 mA-100 A pk-pk range); $\pm 15\%$ max at 50 mV/A (100 A -140 A pk-pk range)	$\pm 2\% \pm 0.4$ A at 50 mV/A (0.4 A-10 A pk-pk range); $\pm 2\% \pm 1$ A at 5 mV/A (1 A-200 A pk-pk range)	$\pm 3\% \pm 50$ mA at 100 mV/A (50 mA-10 A pk-pk range); $\pm 4\% \pm 50$ mA at 10 mV/A (500 mA - 40 A pk-pk range); $\pm 15\%$ max at 10 mV/A (40 A-200 A pk-pk range)
Power Supply		9 V Adapter			
Max. rated Voltage to earth		CAT III 600 V CAT II 600 V	CAT III 300 V CAT II 600 V	CAT III 600 V CAT II 600 V	
Conductor Size		12 mm	10.5 mm	12 mm	10.5 mm

Note:





[1] Specifications are AC Arms range



Model	CP6030	CP6030A	CP6150	CP6500
Parameter				
Bandwidth	DC~50 MHz	DC~100 MHz	DC~12 MHz	DC~5 MHz
Rise Time	≤7 ns	≤3.5 ns	≤29 ns	≤70 ns
Maximum effective Value of AC	30 Arms	30 Arms	150 Arms	500 Arms
Peak Value	50 A	50 A	300 A	750 A
Range	5 A (1X)/30 A (10X)	5 A (1X)/30 A (10X)	30 A (10X)/150 A (100X)	75 A (10X)/500 A (100X)
Overload Value	5 A (≥5 A) 30 A (≥50 A)	5 A (≥5 A) 30 A (≥50 A)	30 A (≥30 A) 150 A (≥300 A)	75 A (≥75 A) 500 A (≥750 A)
Current Transfer Ratio	5 A (1 V/A) 30 A (0.1V/A)	5 A (1 V/A) 30 A (0.1 V/A)	30 A (0.1 V/A) 150 A (0.01 V/A)	75 A (0.1 V/A) 500 A (0.01 V/A)
Measurement Resolution	5 A (1 mA) 30 A (10 mA)	5 A (1 mA) 30 A (10 mA)	30 A (10 mA) 150 A (100 mA)	75 A (10 mA) 500 A (100 mA)
DC Accuracy	5 A (±1%±1 mA) 30 A (±1%±10 mA)	5 A (±1%±1 mA) 30 A (±1%±10 mA)	30 A (±1%±10 mA) 150 A (±1%±100 mA)	75 A (±1%±10 mA) 500 A (±1%±100 mA)
Maximum rated Voltage to earth	300 V		CAT III 300 V CAT II 600 V	
Conductor Diameter Maximum	5 mm		20 mm	
Cable Length	1 m		1.5 m	
Power Supply	12 V/1 A Adapter			
BNC Length	100 cm			
Weight	255 g		555 g	525 g

Parameter	Model	CPL5100
		
Test Condition	23 °C, 60% RH, cable under test get through the test center, load resistance 1 MΩ	
Range Level	L	H
Current Range	50 mA~10 A Peak	1 A~100 A Peak
Current Transfer Ratio	0.1 V/A	0.01 V/A
Typical DC Precision	3%±50 mA	500 mA~40 A Peak: 4%±50 mA 40 A~100 A Peak: ±15% Maximum
Bandwidth (-3dB)	DC~600 kHz	
Phase Shift	DC~65 Hz: <1.5°	DC~65 Hz: <1°
Rise Time	≤583 ns	
Maximum Operation Current	10 A	100 A
Maximum Operation Voltage	600 V	
Maximum Floating Voltage	600 V	
Operating Voltage RMS	CATII 600 V CATIII 300 V	
Common Mode Voltage RMS	CATII 600 V CATIII 300 V	
Low Power Indication	When battery voltage is lower than 6.5 V, battery indicator will turn red and alert	
Power Supply	12 V/1.2 A Adapter	
Overload Indication	When the current under test surpasses the range, the buzzer will buzz	
Length of the Cable Connecting Current Clamp and Output Box	1 m	
Length of Double Terminal BNC Cable	1 m	

Parameter \ Model	SCP5030	SCP5030A	SCP5150	SCP5500
				
Bandwidth	DC~50 MHz	DC~100 MHz	DC~12 MHz	DC~2 MHz
Rise Time	≤7 ns	≤3.5 ns	≤29 ns	≤175 ns
Maximum Effective Value of AC	30 Arms	30 Arms	150 Arms	500 Arms
Peak Value	50 A	50 A	300 A	750 A
Range	5 A (1X)/30 A(10X)	5 A (1X)/30 A (10X)	30 A (10X)/150 A (100X)	75 A (10X)/500 A (100X)
Overload Value	5 A (≥5 A) 30 A (≥50 A)	5 A (≥5 A) 30 A (≥50 A)	30 A (≥30 A) 150 A (≥300 A)	75 A (≥75 A) 500 A (≥750 A)
Current Transfer Ratio	5 A (1 V/A) 30 A (0.1 V/A)	5 A (1 V/A) 30 A (0.1 V/A)	30 A (0.1 V/A) 150 A (0.01 V/A)	75 A (0.1 V/A) 500 A (0.01 V/A)
Measurement Resolution	5 A (1 mA) 30 A (10 mA)	5 A (1 mA) 30 A (10 mA)	30 A (10 mA) 150 A (100 mA)	75 A (10 mA) 500 A (100 mA)
DC Accuracy	5 A (±1% ±1 mA) 30 A (±1% ±10 mA)	5 A (±1% ±1 mA) 30 A (±1% ±10 mA)	30 A (±1% ±10 mA) 150 A (±1% ±100 mA)	75 A (±1% ±10 mA) 500 A (±1% ±100 mA)
Maximum Rated Voltage to Earth	300 V		CAT III 300V CAT II 600V	
Conductor Diameter Maximum	5 mm		20 mm	
Power Supply	Directly powered by the oscilloscope through SAPBus			
Weight	270 g		475 g	

High-Voltage Differential Active Probe


Parameter		Model	DPB5150	DPB5150A	DPB5700	DPB5700A
						
Bandwidth (-3dB)			DC~70 MHz	DC~100 MHz	DC~70 MHz	DC~100 MHz
Rise Time			≤5 ns	≤3.5 ns	≤5 ns	≤3.5 ns
DC Accuracy			±2%	±2%	±2%	±2%
Attenuation Ratio			50X/500X		100X/1000X	
Maximum Differential Test Voltage (DC + Peak AC)			50X: ±150 V 500X: ±1500 V		100X: ±700 V 1000X: ±7000 V	
Maximum Input Voltage to Earth			CAT III 600V CAT II 1000V		CAT III 1000V CAT II 1500 V	
Common Mode Voltage (DC + Peak AC)			±1500 V		±7000 V	
Input Impedance	Single-ended to Ground		5 MΩ	5 MΩ	20 MΩ	20 MΩ
	Two Inputs		10 MΩ	10 MΩ	40 MΩ	40 MΩ
Input Capacitance	Single-ended to Ground		<4 pF	<4 pF	<5 pF	<5 pF
	Two Inputs		<2 pF	<2 pF	<2.5 pF	<2.5 pF
CMRR	DC		>80 dB	>80 dB	>80 dB	>80 dB
	100 kHz		>60 dB	>60 dB	>60 dB	>60 dB
	1 MHz		>50 dB	>50 dB	>50 dB	>50 dB
Noise (Vrms)			50X: <50 mV	500X: <300 mV	100X: <220 mV	1000X: <1.2 V
Delay	Probe		50X: 9 ns 500X: 7.5 ns	50X: 8.5 ns 500X: 7.5 ns	100X: 9.3 ns 1000X: 7.2 ns	100X: 8.9 ns 1000X: 6.6 ns
		BNC line (1 m)	5 ns		5 ns	
Bandwidth Limit			≥-3 dB@5 MHz			
Differential Overvoltage Detection Level			50X: ≥150 V 500X: ≥1500 V		100X: ≥700 V 1000X: ≥7000 V	
Overload Indicator (red light)			Yes			
Overload Alarm			Yes (Can shut up manually)			
Automatic Save			Yes			
Offset Setting Function			Yes (Set in test mode)			
Terminate Load			1 MΩ			
Power Supply			USB 5 V/1 A Adapter			
Probe Body Dimensions			195*58*25 mm			
Probe Body Weight			248 g		256 g	

Parameter		Model	DPB1300	DPB4080
				
Bandwidth (-3dB)			50 MHz	50 MHz
Rise Time			≤7 ns	≤7 ns
DC Accuracy			±2%	±1%
Attenuation Ratio			50X/500X	10X/100X
Maximum Differential Test Voltage (DC + Peak AC)			50X: ±130 V 500X: ±1300 V	10X: ±80 V 100X: ±800 V
Maximum Input Voltage to Earth			CATIII 600V CATII 1000V	5 kVrms
Common Mode Voltage (DC + Peak AC)			±1300 V	±800 V
Input Impedance	Single-ended to Ground		5 MΩ	2 MΩ
	Two Inputs		10 MΩ	4 MΩ
Input Capacitance	Single-ended to Ground		<4 pF	<2.5 pF
	Two Inputs		<2 pF	<1.3 pF
CMRR			DC >80 dB	60 Hz >80 dB
			100 kHz >60 dB	100 Hz >60 dB
			1 MHz >50 dB	100 kHz >50 dB
Noise (Vrms)			50X: <50 mV 500X: <300 mV	/
Propagation Delay			Probe: ≈10 ns BNC Line (1 m): ≈5 ns	/
Bandwidth Limit			Null	
Differential Overvoltage Detection Level			50X: ≥140 V 500X: 1400 V	/
Overload Indicator (red light)			Yes	Null
Terminate Load			≥100 kΩ	1 MΩ
Power Supply			DC 12 V/1.2 A Adapter	6 V DC Power
Probe Body Dimensions			145*58*24 mm	165*69*26 mm
Probe Body Weight			165 g	500 g



High Voltage Probe

Parameter		Model	HPB4010
			
Bandwidth (-3dB)			DC~40 MHz
Rise Time			≤8.8 ns
Maximum Measurement Voltage			DC: 0~10 kV DC AC: ≤20 kV peak to peak (pulse) AC: ≤7 kV rms (sine wave)
Single / Noise			DC ≥60 dB (1 kHz), ≥50 dB (1 MHz)
Attenuation Ratio			1:1000
Input Impedance			100 MΩ ±5%
Input Capacitance			3.0 pF ±0.5 pF
Compensation Range			5 pF~50 pF
Cable length			2.0 meter (±0.2 m)
Temperature Coefficient			≤200 ppm/°C
Accuracy	DC		±3% (DC to 10 kV)
	AC		±3% (1 kHz/1 kV/1 kHz RMS) -3 dB: 0~40 MHz
Operating Temperature			0~50 °C
Storage Temperature			-20~+70 °C
Weight / Volume			250 g/Φ75×340 mm


Optical Isolated Voltage Probe

Parameter		Model	ODP6050B	ODP6100B
				
Bandwidth (-3 dB)			500 MHz	1 GHz
Rise Time			≤0.7 ns	≤0.4 ns
Terminal Load			50 Ω	50 Ω
Output Voltage Range			±0.5 V	±0.5 V
Typical Values of Host Noise (Vrms)			1.5 mV	1.5 mV
DC Accuracy			≤ ±1%	
Isolation Voltage (DC + Peak AC)			±60 kV	
Host Delay			About 14 ns	
CMRR Typical Values (Using attenuators)		ODP6050B/ODP6100B 50X Attenuator	DC-10 MHz: 160 dB	
			10 MHz-100 MHz: 110 dB	
			100 MHz-300 MHz: 100 dB	
			300 MHz-500 MHz: 90 dB	
			500 MHz-800 MHz: 80 dB	
Power Supply			Front end: battery powered, with a working time of approximately 8 hours and a standby time of approximately 30 days	
			Rear end: USB 5 V/2 A	
Auto Calibration			Yes	
Probe Dimensions	Front-end E/O Transmitter		About 102*45*33 mm	
	Rear-end O/E Receiver		About 106*49*23 mm	
Attenuator Length			About 200 mm	
Optical Fiber Length			About 2 m	
Probe Weight			About 400 g	

Logic Probe

Parameter	Model	SPL2016	SLA1016
			
Input Channels		16	16
Input Impedance		100 k Ω 18 pF	100 k Ω 8 pF
Maximum Input Voltage		\pm 50 V Peak	\pm 20 V Peak
Input Dynamic Range		\pm 20 V	\pm 10 V
User defined threshold range		-10 V~10 V (10 mV steps)	-8 V~8 V (10 mV steps)
Threshold Selections		TTL (1.5 V) CMOS (2.5 V) 3.3 V_LVCMOS (1.65 V) 2.5 V_LVCMOS (1.25 V)	TTL (1.5 V) CMOS (2.5 V) 3.3 V_LVCMOS (1.65 V) 2.5 V_LVCMOS (1.25 V)
Threshold Accuracy		\pm (3% of threshold setting +200 mV)	\pm (3% of threshold setting +150mV)
Threshold Groupings		Group 2: D15-D8	Group 2: D15-D8
		Group 1: D7-D0	Group 1: D7-D0
Minimum Input Voltage Swing		800 mVpp	800 mVpp
Maximum Input Data Rate		300 Mbps	120 Mbps
Minimum Detectable Pulse Width		3.3 ns	8.3 ns
Channel-to-Channel Skew		\pm 1 digital sample interval	\pm 1 digital sample interval

Near Field Probe

Parameter \ Model	SRF5030T-H20	SRF5030T-H10	SRF5030T-H5	SRF5030T-E5
				
Frequency Range	300 kHz ~ 3 GHz	300 kHz ~ 3 GHz	300 kHz ~ 3 GHz	300 kHz ~ 3 GHz
Resolution	20 mm	10 mm	5 mm	5 mm
Application	<p>The SRF5030T Near Field Probe Kit includes magnetic (H) and electric (E) probes for EMC pre-compliance testing to locate radiation sources in electronics.</p> <p>A near-field probe is similar to a broadband antenna, detecting radiated signals from components, PCB boards, gaps in shielding covers, etc. The use of smaller probes allows for greater accuracy in locating the radiation area.</p> <p>Other applications include: shock immunity testing, troubleshooting in RF signal chains, non-invasive testing of modulators and oscillators, measuring frequency, phase, spectral components, etc. with LNAs.</p>			



About SIGLENT

SIGLENT is an international high-tech company, concentrating on R&D, sales, production and services of electronic test & measurement instruments.

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, isolated handheld oscilloscopes, function/arbitrary waveform generators, RF/MW signal generators, spectrum analyzers, vector network analyzers, digital multimeters, DC power supplies, electronic loads and other general purpose test instrumentation. Since its first oscilloscope was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test & measurement.

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