

OSCILLOSCOPE PROBES







Data Sheet
EN01F






CALTRON PTE LTD

SIGLENT TECHNOLOGIES CO.,LTD


Passive Probe

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



Model Parameter	SP2035A	SP3050A	SP3150A
			
Attenuation Rate	10X	10X	10X
Bandwidth	350MHz	500MHz	500MHz
Input Impedance	10MΩ±2%	10MΩ	10MΩ
Input Capacitance	12pF	11pF	11pF
Compensation Range	9pF-25pF	8pF-20pF	8pF-20pF
Input Voltage	10X: 300V RMS CAT II	400V RMS CAT II	400V RMS CAT II
Operation Temp	-10°C ~ 55°C	0°C ~ 50°C	0°C ~ 50°C
Cable Length	130 cm ± 2 cm	120 cm	120 cm
Weight	About 55g	55g	55g

Model Parameter	SP5050A	PB925
		
Attenuation Rate	10X	10X
Bandwidth	500MHz	250MHz
Input Impedance	10MΩ	10MΩ
Input Capacitance	12pF	16pF
Compensation Range	12pF-22pF	10pF-35pF
Input Voltage	300V RMS CAT II	600 V CAT III 1000 V CAT II
Operation Temp	-10°C -55°C	0°C -50°C
Cable Length	130cm	120cm
Weight	55g	55g


Single-Ended Active Probe

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





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


Active Probe Adapter





Parameter \ Model	TPA10
	
Bandwidth	4GHz
Power Supplies	+15V ($\pm 2\%$, 100 mA), - 15V ($\pm 2\%$, 100 mA), +5V ($\pm 2\%$, 200 mA), - 5V ($\pm 2\%$, 200 mA)
Offset Range	- 1.2V ~ +1.2V to probe

Current Probe





Model Parameter	CP4020	CP4050	CP4070	CP4070A
				
Bandwidth	DC-200kHz	DC-1MHz	DC-300kHz	DC-300kHz
Rise Time	1.75 μ S	0.35 μ S	1.2 μ S	1.2 μ S
Max effective Value of AC	20 Arms	50 Arms	70 Arms	70 Arms
Max Working Current	60 A	140 A	200 A	200 A
Range Switch	50mV/A; 5mV/A	500mV/A; 50mV/A	50mV/A; 5mV/A	100mV/A; 10mV/A
DC Accuracy	$\pm 2\% \pm 0.4A$ at 50mV/A (0.4A-10A p-p range); $\pm 2\% \pm 1A$ at 5mV/A (1A-60A p-p range)	$\pm 3\% \pm 20mA$ at 500mV/A (20mA-14A peak range); $\pm 4\% \pm 200mA$ at 50mV/A (200mA-100A peak range); $\pm 15\%$ max at 50mV/A (100A peak-140A peak range)	$\pm 2\% \pm 0.4A$ at 50mV/A (0.4A-10A p-p range); $\pm 2\% \pm 1A$ at 5mV/A (1A-200A p-p range)	$\pm 3\% \pm 50mA$ at 100mV/A (50mA-10A peak range); $\pm 4\% \pm 50mA$ at 10mV/A (500mA - 40A peak range); $\pm 15\%$ max at 10mV/A (40A-200A peak range)
Power Supply	DC 9V Adapter			
Max. rated Voltage to earth	CAT III 600V, CAT II 600V	CAT III 300V, CAT II 600V		CAT III 600V, CAT II 600V
Conductor Size	10.3mm	10.3mm	10.3mm	11mm



Model Parameter	CP6030	CP6030A	CP6150	CP6500
				
Bandwidth	DC-50MHz	DC-100MHz	DC-12MHz	DC-5MHz
Rise Time	$\leq 7\text{nS}$	$\leq 3.5\text{nS}$	$\leq 29\text{nS}$	$\leq 70\text{nS}$
Max. effective Value of AC	30 Arms	30 Arms	150 Arms	500 Arms
Peak-Peak Value	50 A	50 A	300 A	750 A
Range	5A(1X)/30A(10X)	5A(1X)/30A(10X)	30A(10X)/150A(100X)	75A(10X)/500A(100X)
Overload Value	5A($\geq 5\text{A}$) 30A($\geq 50\text{A}$)	5A($\geq 5\text{A}$) 30A($\geq 50\text{A}$)	30A($\geq 30\text{A}$) 150A($\geq 300\text{A}$)	75A($\geq 75\text{A}$) 500A($\geq 750\text{A}$)
Current Transfer Ratio	5A(1V/A) 30A(0.1V/A)	5A(1V/A) 30A(0.1V/A)	30A(0.1V/A) 150A(0.01V/A)	75A(0.1V/A) 500A(0.01V/A)
Measurement Resolution	5A(1mA) 30A(10mA)	5A(1mA) 30A(10mA)	30A(10mA) 150A(100mA)	75A(10mA) 500A(100mA)
DC Accuracy	5A($\pm 1\% \pm 1\text{mA}$) 30A($\pm 1\% \pm 10\text{mA}$)	5A($\pm 1\% \pm 1\text{mA}$) 30A($\pm 1\% \pm 10\text{mA}$)	30A($\pm 1\% \pm 10\text{mA}$) 150A($\pm 1\% \pm 100\text{mA}$)	75A($\pm 1\% \pm 10\text{mA}$) 500A($\pm 1\% \pm 100\text{mA}$)
Max. rated Voltage to earth	300V CAT I		300V CAT III	600V CAT II
Conductor Diameter Max	5mm		20mm	
Cable Length	1m		1.5m	
Power Supply	DC 12V/1A			
BNC Length	100cm			
Weight	255g		555g	525g

Parameter	Model	CPL5100
		
Range Level	23°C , 60%RH, cable under test get through the test center, load resistance 1MΩ	
Current Range	L	H
Attenuation Accuracy	50mA~10A Peak	1A~100A Peak
Typical DC Precision	0.1V/A	0.01V/A
DC Accuracy	3%±50mA	500mA~40A Peak: 4%±50mA; 40A~100A Peak: ±15% Maximum
Bandwidth (-3dB)	DC-600kHz	
Phase Shift	DC ~ 65Hz: <1.5°	DC ~ 65Hz: <1°
Typical DC Linearity	The typical DC linearity at H level (0.01 V/A)	
Rise Time	≤ 583ns	
Max Operation Current	10A	100A
Max Operation Voltage	600V	
Max Floating Voltage	600V	
Operating Voltage RMS	CATI 600V CATII 600V CATIII 300V	
Common Mode Voltage RMS	CATI 600V CATII 600V CATIII 300V	
Low Power Indication	When battery voltage is lower than 6.5 V, battery indicator will turn red and alert	
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	


Model Parameter	SCP5030	SCP5030A	SCP5150	SCP5500
				
Bandwidth	DC-50MHz	DC-100MHz	DC-12MHz	DC-2MHz
Rise Time	$\leq 7\text{nS}$	$\leq 3.5\text{nS}$	$\leq 29\text{nS}$	$\leq 175\text{nS}$
Max. effective Value of AC	30 Arms	30 Arms	150 Arms	500 Arms
Peak-Peak Value	50 A	50 A	300 A	750 A
Range	5A(1X)/30A(10X)	5A(1X)/30A(10X)	30A(10X)/150A(100X)	75A(10X)/500A(100X)
Overload Value	5A($\geq 5\text{A}$) 30A($\geq 50\text{A}$)	5A($\geq 5\text{A}$) 30A($\geq 50\text{A}$)	30A($\geq 30\text{A}$) 150A($\geq 300\text{A}$)	75A($\geq 75\text{A}$) 500A($\geq 750\text{A}$)
Current Transfer Ratio	5A(1V/A) 30A(0.1V/A)	5A(1V/A) 30A(0.1V/A)	30A(0.1V/A) 150A(0.01V/A)	75A(0.1V/A) 500A(0.01V/A)
Measurement Resolution	5A(1mA) 30A(10mA)	5A(1mA) 30A(10mA)	30A(10mA) 150A(100mA)	75A(10mA) 500A(100mA)
DC Accuracy	5A($\pm 1\% \pm 1\text{mA}$) 30A($\pm 1\% \pm 10\text{mA}$)	5A($\pm 1\% \pm 1\text{mA}$) 30A($\pm 1\% \pm 10\text{mA}$)	30A($\pm 1\% \pm 10\text{mA}$) 150A($\pm 1\% \pm 100\text{mA}$)	75A($\pm 1\% \pm 10\text{mA}$) 500A($\pm 1\% \pm 100\text{mA}$)
Max. rated Voltage to earth	300V CAT I		300V CAT III	600V CAT II
Conductor Diameter Max	5mm		20mm	
Power Supply	Directly powered by the oscilloscope through SAPBUS			
Weight	270g		475g	

High-Voltage Differential Active Probe

Parameter \ Model	DPB5150	DPB5150A	DPB5700	DPB5700A	
					
Bandwidth (-3dB)	70MHz	100MHz	70MHz	100MHz	
Rise Time	≤ 5ns	≤ 3.5ns	≤ 5ns	≤ 3.5ns	
DC Accuracy	±2%	±2%	±2%	±2%	
Attenuation Ratio	50X/500X		100X/1000X		
Max Differential Test Voltage (DC + Peak AC)	50X: ±150V 500X: ±1500V		100X: ±700V 1000X: ±7000V		
Max Input Common Mode voltage (voltage-to-earth Vrms)	600V CATIII 1000V CATII		1000V CATIII 2300V CATI		
Input Impedance	Single-ended to Ground	5MΩ	5MΩ	20MΩ	20MΩ
	Two Inputs	10MΩ	10MΩ	40MΩ	40MΩ
Input Capacitance	Single-ended to Ground	< 4pF	< 4pF	< 5pF	< 5pF
	Two Inputs	< 2pF	< 2pF	< 2.5pF	< 2.5pF
CMRR	DC	> 80dB	> 80dB	> 80dB	> 80dB
	100kHz	> 60dB	> 60dB	> 60dB	> 60dB
	1MHz	> 50dB	> 50dB	> 50dB	> 50dB
Noise (Vrms)	50X: < 50mV 500X: < 300mV		100X: < 200mV 1000X: < 1.2V		
Propagation Delay	Probe: ≈9ns		BNC Line(1m): ≈5ns		
Bandwidth Limit	≥ -3dB@5MHz				
Differential Overvoltage Detection Level	50X: ≥ 150V 500X: ≥ 1500V		100X: ≥ 700V 1000X: ≥ 7000V		
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	≥100kΩ				
Power Supply	USB 5V/1A Adapter				
Probe Body Dimensions	195*65*28 mm				
Probe Body Weight	216g		216g		

Parameter		Model	DPB1300	DPB4080
				
Bandwidth (-3dB)			50MHz	50MHz
Rise Time			≤ 7ns	≤ 7ns
DC Accuracy			±2%	±1%
Attenuation Ratio			50X/500X	
Max Differential Test Voltage (DC + Peak AC)			50X: ±130V 500X: ±1300V	10X: 80Vpp 100X: 800Vpp
Max Input Common Mode voltage (voltage-to-earth Vrms)			600V CATIII 1000V CATII	5kVrms
Input Impedance	Single-ended to Ground		5MΩ	2MΩ
	Two Inputs		10MΩ	4MΩ
Input Capacitance	Single-ended to Ground		< 4pF	< 2.5pF
	Two Inputs		< 2pF	< 1.3pF
CMRR			DC > 80dB	60Hz > 80dB
			100kHz > 60dB	100Hz > 50dB
			1MHz > 50dB	100kHz > 50dB
Noise (Vrms)			50X: < 50mV 500X: < 300mV	
Propagation Delay			Probe: ≈10ns BNC Line(1m): ≈5ns	
Bandwidth Limit			Null	
Differential Overvoltage Detection Level			50X: ≥ 140V 500X: ≥ 1400V	
Overload Indicator (red light)			YES	Null
Terminate Load			≥ 100kΩ	1MΩ
Power Supply			DC12V/1.2A Adapter	6V DC Power
Probe Body Dimensions			145*58*24 mm	165*69*26 mm
Probe Body Weight			165g	500g

High Voltage Probe

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



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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