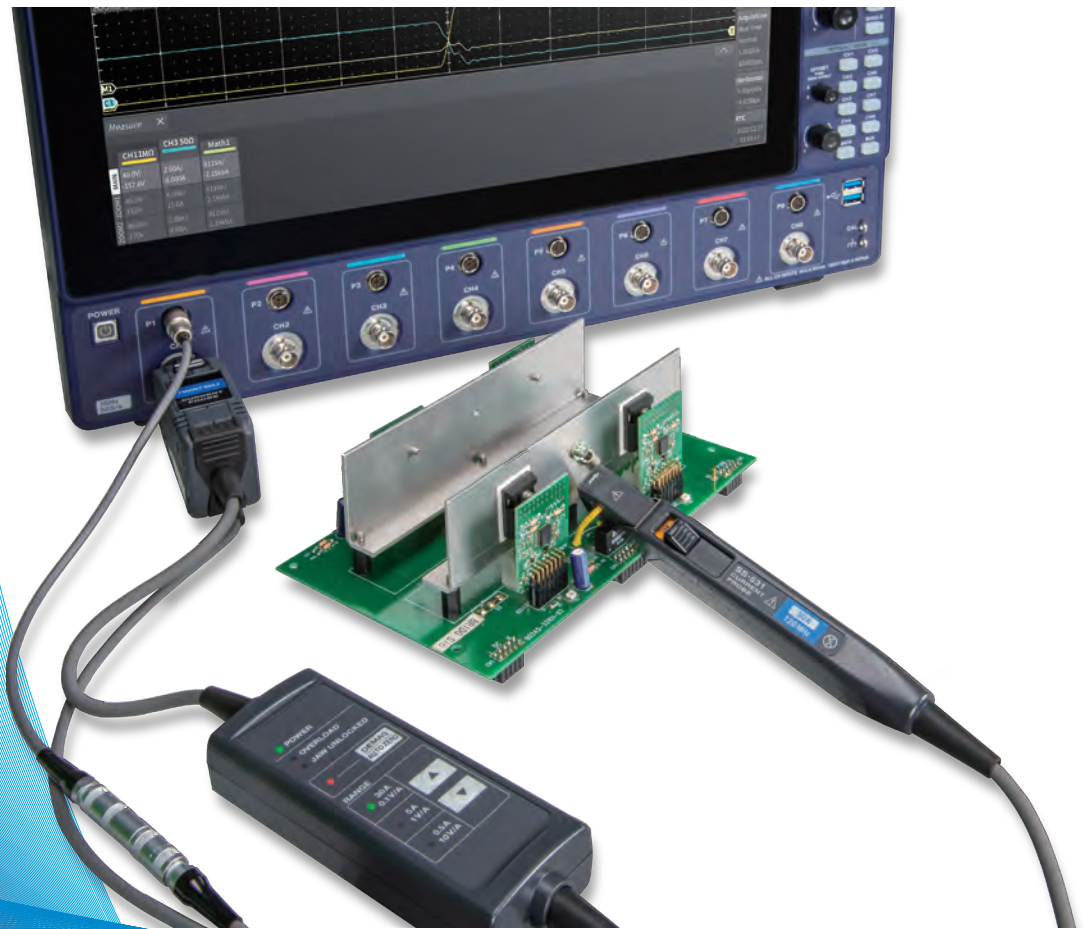


High Current, Wideband Current Probes

The best solution for the current measurement of the switching power supplies.



30A, 5A, 0.5A range model

SS-530 series

Max. 30Arms DC ~ 120MHz
 Max. 30Arms DC ~ 50MHz



5A range model

SS-520 series

Max. 5Arms DC ~ 120MHz
 Max. 5Arms DC ~ 50MHz



~30A, 150A, 500A model

SS-570/560/540/550

Max. 500Arms DC ~ 2MHz
 Max. 150Arms DC ~ 10MHz
 Max. 30Arms DC ~ 50MHz
 Max. 30Arms DC ~ 100MHz



Current probe

Current probe: SS-531, SS-530

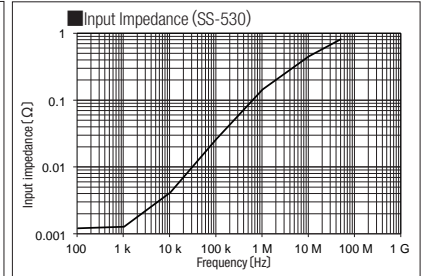
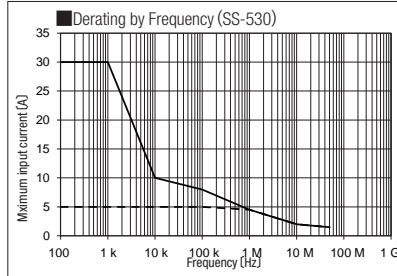
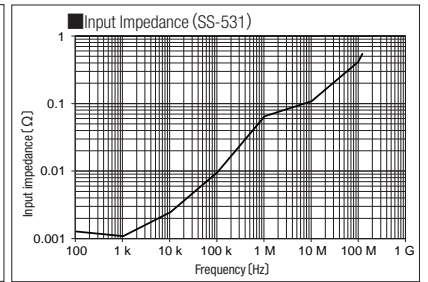
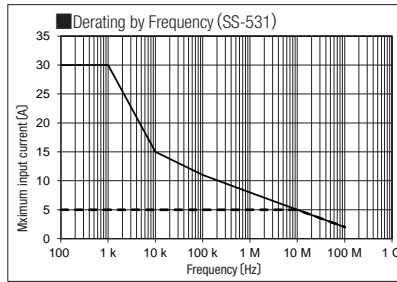
3 Full Ranges of 30A, 5A, 0.5A offer expanded current measurement capabilities from 0.5A to 30A.

SS-531 DC ~ 120MHz (30 / 5 / 0.5Arms)

SS-530 DC ~ 50MHz (30 / 5 / 0.5Arms)



※Please select a power supply PS-54 for SS-531 and SS-530.

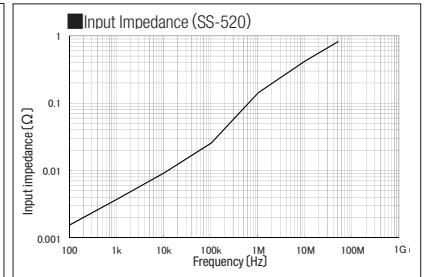
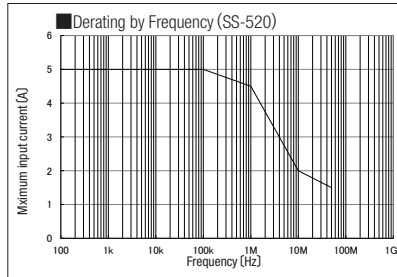
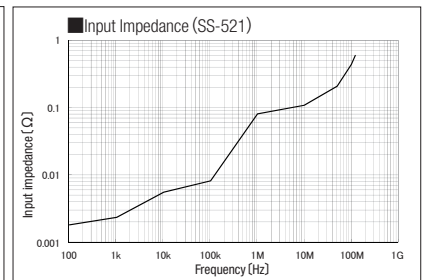
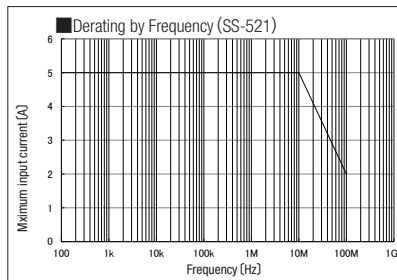


Current probe: SS-521, SS-520

High S/N characteristic ideal for ultra low 1mA order current waveforms.

SS-521 DC ~ 120MHz (Max. 5Arms)

SS-520 DC ~ 50MHz (Max. 5Arms)



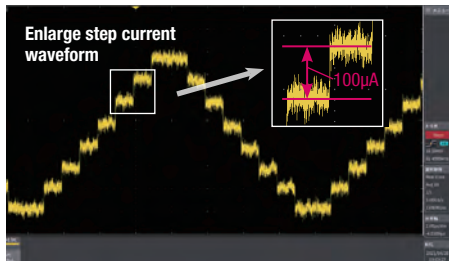
Example of use

Micro currents measurement

[SS-531 / 530 / 521 / 520]

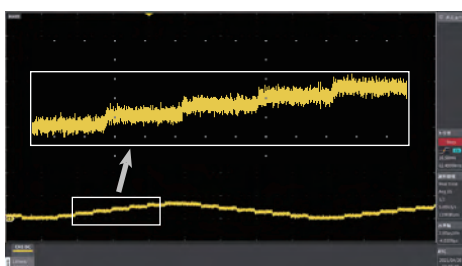
With a high resolution oscilloscope, SS-531 / 530 / 521 / 520 can measure 100μA step currents such as 100μA ripple current.

1μs width Gradual current, Cycle 16μs



SS-530 Output rate: 10V/A (0.5A range)

Voltage range : 1mV/div
Current range : 100μA/div



SS-520 Output rate: 1V/A

Oscilloscope: IWATSU DS-8000 series
Oscilloscope Setting: Without bandlimiting filter, Averaging: 16 times

10 times larger output rate

Voltage range : 1mV/div
Current range : 1mA/div

Low noise small current measurement

High S/N and 10 times larger output rate provide high accuracy of the small current measurement.



SINE wave 1kHz 20mAp-p

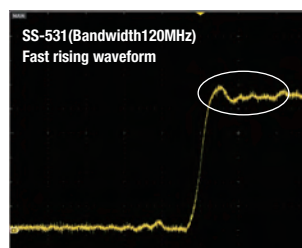


Square wave 1kHz 20mAp-p

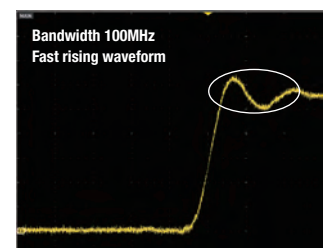
Oscilloscope: Bandwidth1GHz, 10mA/div

The fast rising current waveform measurement

Current waveforms containing high frequency components can be observed with low distortion because of the high frequency bandwidth. (SS-531 / 521: Max. frequency 120MHz)



SS-531 Bandwidth: 120MHz
Rising response characteristic
Oscilloscope: Bandwidth 1GHz, 5ns/div, 20mA/div



Bandwidth: 100MHz
Rising response characteristic

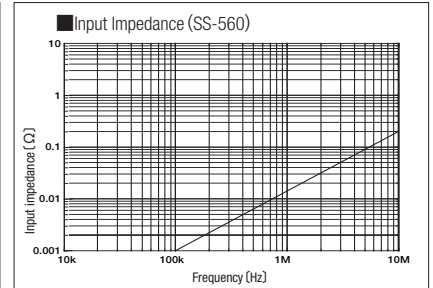
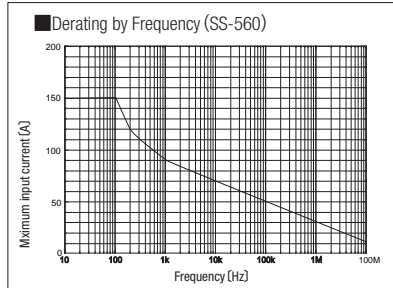
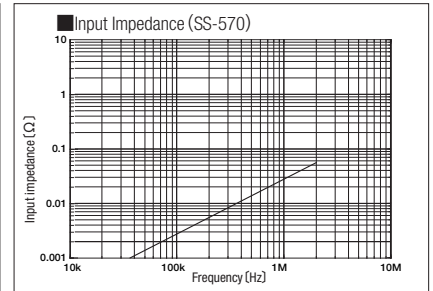
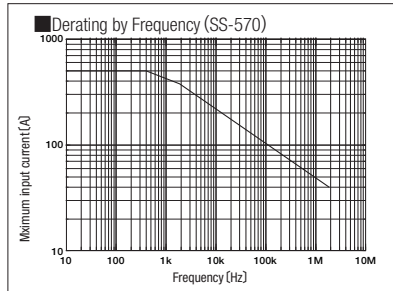
Current probe

Current probe: SS-570, SS-560

High current, Large hole diameter

SS-570 DC ~ 2MHz (Max. 500Arms)

SS-560 DC ~ 10MHz (Max. 150Arms)

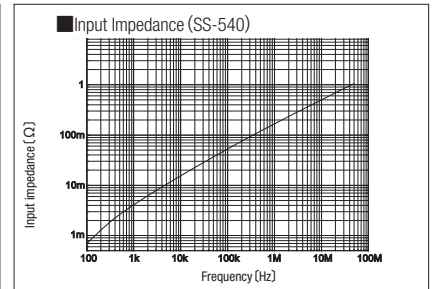
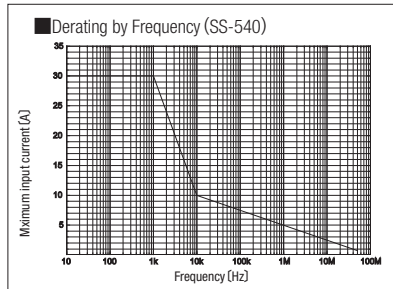
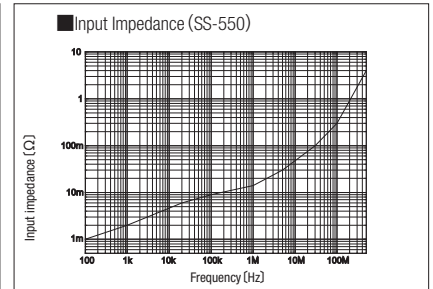
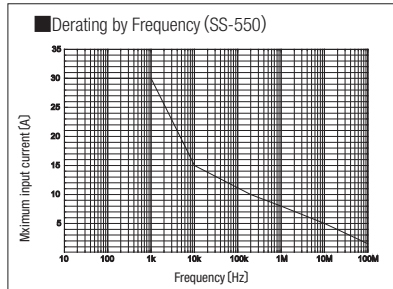


Current probe: SS-550, SS-540

Wide bandwidth

SS-550 DC ~ 100MHz (Max. 30Arms)

SS-540 DC ~ 50MHz (Max. 30Arms)



Accessory (Power supply, Conversion cable for power supply connection)

Power supply PS-54 (4 outputs)

Compatible probes

SS-531 / SS-530 / SS-521 / SS-520

SS-570 / SS-560 / SS-550 / SS-540

*SS-531 / 530: Max. 2 probes.



Power supply PS-52 (2 outputs)

Compatible probes

SS-521 / SS-520

SS-570 / SS-560 / SS-550 / SS-540



Conversion cable SS-200-IW / HK

SS-200-IW / SS-200-HK

You may need a conversion cable when you use an oscilloscope such as DS-8000 or external power supply.



	PS-54	PS-52
Number of power supply connectors	4	2
Output voltage	±12V ±0.5V	
Rated output current (sum total of all channels)	2.5A	600mA
Ripple voltage	50mVp-p or less	3mVp-p or less
Maximum rated power	170VA	20VA
Operating temperature and humidity range	0~+40°C (no condensation), 80%RH or less	
Rated supply voltage	AC100~240V (50/60Hz)	AC100V (50/60Hz) (Options: 120V, 220V, 240V)
Dimensions (tolerance: ±5mm)	80 (W) x 119 (H) x 200 (D)	73 (W) x 110 (H) x 186 (D)
Weight (without any accessory)	1100g ± 100g	

	SS-531/530	SS-521/520/ 570/560/550/540	SS-270/260/ 250/240A ^{*2}
DS-8000 DS-579 ^{*1}	SS-200-IW	SS-200-IW	Not required
PS-54	Not required	Not required	SS-200-HK
PS-52	Disabled	Not required	SS-200-HK
PS-26 ^{*2}	Disabled	SS-200-IW	Not required

*1 Power supply option for DS-5600/5400A.

*2 SS-270/260/250/240A and PS-26 are discontinued.

Specifications

	SS-531	SS-530	SS-521	SS-520
Frequency bandwidth	DC~120MHz (-3dB)	DC~50MHz (-3dB)	DC~120MHz (-3dB)	DC~50MHz (-3dB)
Rise time (10~90%)	2.9ns or less	7.0ns or less	2.9ns or less	7.0ns or less
Max. rated current	30A range: 30Arms, 5A range: 5Arms, 0.5A range: 0.5Arms (DC, SINE)		5Arms (DC, SINE)	
Max. allowable peak current	30A range: $\pm 50A_{peak}$ (2s or less, 10s for cool down is required.) 5A range: $\pm 7.5A_{peak}$ 0.5A range: $\pm 0.75A_{peak}$ (10MHz or less) $\pm 0.3A_{peak}$ (10MHz or higher)		$\pm 7.5 A$ peak (discontinuous)	
Output rate	30A range: 0.1V/A 5A range: 1V/A 0.5A range: 10V/A		1 V/A	
Amplitude accuracy	30A range: Typ. $\pm 1.0\%rdg.$, $\pm 1mV$, $\pm 3.0\%rdg.$, $\pm 1mV$ 5A range: Typ. $\pm 1.0\%rdg.$, $\pm 1mV$, $\pm 3.0\%rdg.$, $\pm 1mV$ 0.5A range: Typ. $\pm 1.0\%rdg.$, $\pm 1mV$, $\pm 3.0\%rdg.$, $\pm 10mV$ (DC, SINE 45~66 Hz, within the Max. peak current value of each current range)		Typ. $\pm 1.0\%rdg.$, $\pm 1mV$, $\pm 3.0\%rdg.$, $\pm 1mV$ (DC, SINE45~66 Hz, 0~5Arms)	
Noise level	75 μ Arms or less (For only the probe with the 0.5 A range, connected with a measuring instrument that has a frequency band of 20 MHz)			
Maximum rated power	7.8 VA (When measuring 30Arms continuously)		3.2 VA (with continuous maximum input)	
Rated supply voltage	DC $\pm 12V \pm 0.5V$		DC $\pm 12V \pm 0.5V$	
Operating temperature and humidity range	0°C ~ +40°C, 80%RH or less (no condensation)			
Storage temperature and humidity range	-10°C ~ +50°C, 80%RH or less (no condensation)			
Location for use	Indoor, pollution degree 2, altitude up to 2000 m			
Effect of external magnetic fields	5mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	20mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	5mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	20mA or less (DC and 60 Hz, Magnetic field of 400 A/m)
Diameter of measurable conductors	ϕ 5mm or less			
Input Coupling of the Measurement Instrument	1 M Ω AC / DC			
Cable lengths	Sensor cable: 1.5m, Power cord: 1.0m Between junction box and termination unit: 0.15m		Sensor cable: 1.5m, Power cord: 1.0m	
Dimensions	Sensor: 155 (W) \times 18 (H) \times 26 (D) mm Termination unit: 29 (W) \times 83 (H) \times 40 (D) mm Junction box: 45 (W) \times 120 (H) \times 25 (D) mm		Sensor: 155 (W) \times 18 (H) \times 26 (D) mm Termination unit: 29 (W) \times 83 (H) \times 40 (D) mm	
Mass	Approx. 370g		Approx. 250g	
Power supply (optional)	PS-54		PS-54, PS-52	
Standards	Safety: EN61010, EMC: EN61326			
Accessories	Manual (1), Case (1)			

	SS-570	SS-560	SS-550	SS-540
Frequency bandwidth	DC~2MHz (-3dB)	DC~10MHz (-3dB)	DC~100MHz (-3dB)	DC~50MHz (-3dB)
Rise time (10~90%)	175ns or less	35ns or less	3.5ns or less	7.0ns or less
Max. rated current	500A	150A	30Arms	
Max. allowable peak current	700A _{peak} (discontinuous)	300A _{peak} (discontinuous) 500A _{peak} (Pulse width $\leq 30\mu s$)	50A _{peak} (discontinuous)	
Output rate	0.01 V/A		0.1 V/A	
Amplitude accuracy	$\sim 500A \pm 1.0\%rdg.$, $\pm 5mV$, $\sim 700A_{peak} \pm 2.0\%rdg.$ (DC, SINE 45~66 Hz, 25mArms)	$\sim 150A \pm 1.0\%rdg.$, $\pm 5mV$, $\sim 300A_{peak} \pm 2.0\%rdg.$ (DC, SINE45~66 Hz, 25mArms)	$\sim 30A \pm 1.0\%rdg.$, $\pm 1mV$, $\sim 50A_{peak} \pm 2.0\%rdg.$ (DC, SINE45~66 Hz)	
Noise level	2.5mArms or less (for measuring instrument with 20MHz bandwidth)		2.5mArms or less (for measuring instrument with 20MHz bandwidth)	
Maximum rated power	7.2VA (with continuous maximum input)	5.5VA (with continuous maximum input)	5.3VA (with continuous maximum input)	5.6VA (with continuous maximum input)
Rated supply voltage	DC $\pm 12V \pm 0.5V$	DC $\pm 12V \pm 1V$	DC $\pm 12V \pm 0.5V$	
Operating temperature and humidity range	0°C~+40°C, 80%RH or less (no condensation)			
Storage temperature and humidity range	-10°C~+50°C, 80%RH or less (no condensation)			
Location for use	Indoor, pollution degree 2, altitude up to 2000 m			
Effect of external magnetic fields	800mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	150mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	5mA or less (DC and 60 Hz, Magnetic field of 400 A/m)	20mA or less (DC and 60 Hz, Magnetic field of 400 A/m)
Diameter of measurable conductors	ϕ 20 mm or less		ϕ 5 mm or less	
Input Coupling of the Measurement Instrument	1 M Ω AC / DC			
Cable lengths	Sensor cable: 2.0m, Power cord: 1.0m		Sensor cable: 1.5m, Power cord: 1.0m	
Dimensions	Sensor: 176 (W) \times 69 (H) \times 27 (D) mm Termination unit: 27 (W) \times 55 (H) \times 18 (D) mm		Sensor: 175 (W) \times 18 (H) \times 40 (D) mm Termination unit: 27 (W) \times 55 (H) \times 18 (D) mm	
Mass	Approx. 520g	Approx. 500g	Approx. 240g	Approx. 230g
Power supply (optional)	PS-54, PS-52			
Standards	Safety: EN61010, EMC: EN61326			
Accessories	Manual (1), Case (1)			

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