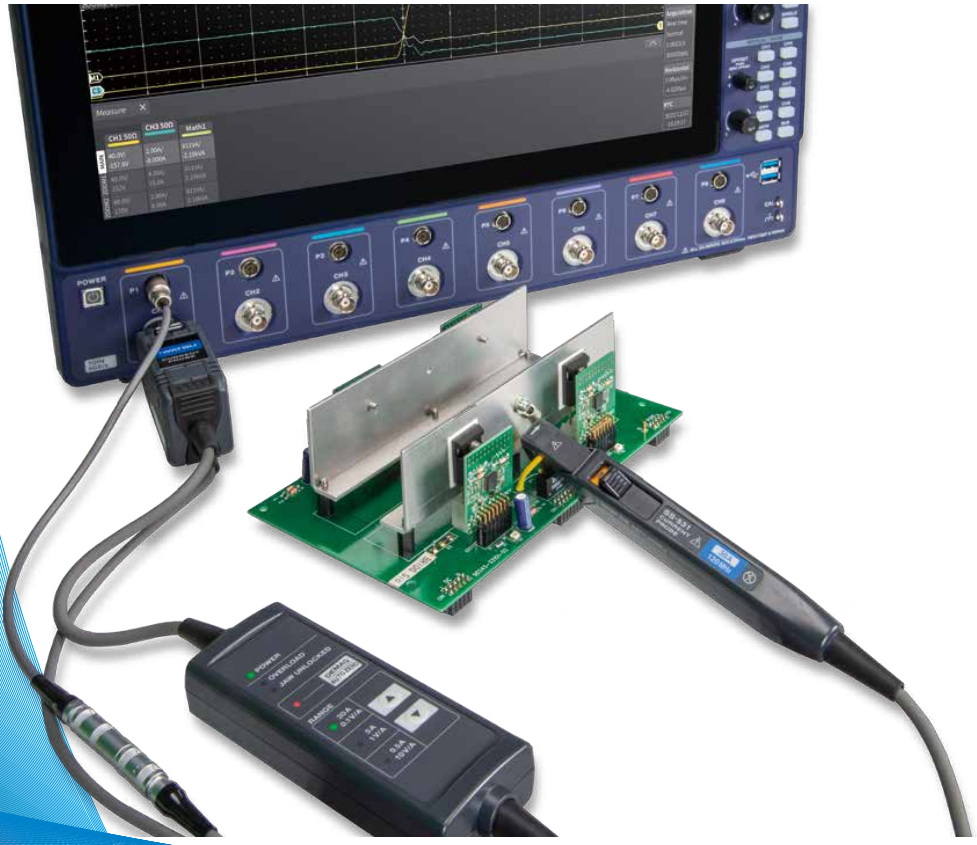
IWATSU

dataTec

Mess- und Prüftechnik. Die Experten.

High Current, Wideband Current Probes

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



30A, 5A, 0.5Arange 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

High Current

SS-550 series

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

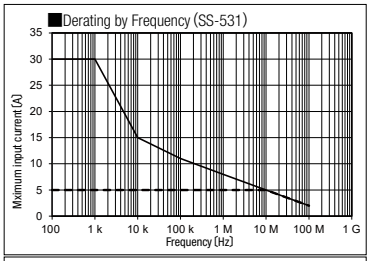
Current probe

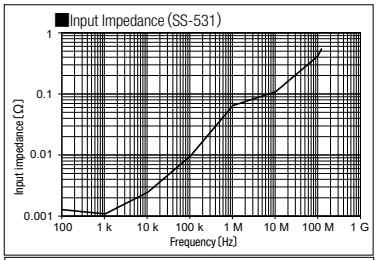
Current probes SS-531, SS-530

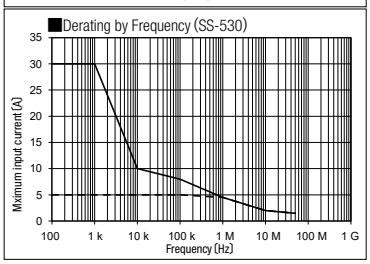
3 Full Ranges of 30A, 5A, 0.5A offer expanded current measurement capabilities from 0.5A to 30A.

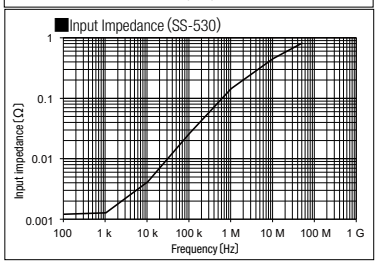
SS-531 DC ～ 120MHz (30 / 5 / 0.5Arms)
SS-530 DC ～ 50MHz (30 / 5 / 0.5Arms)

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





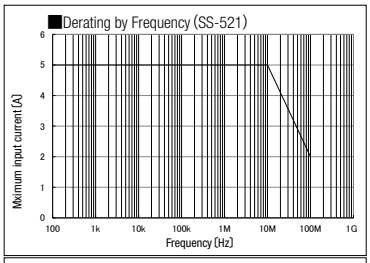


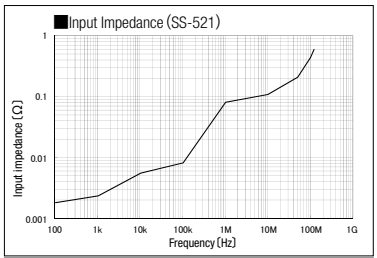


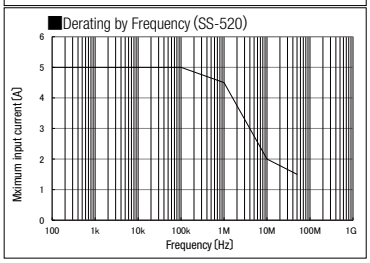
Current probes SS-521, SS-520

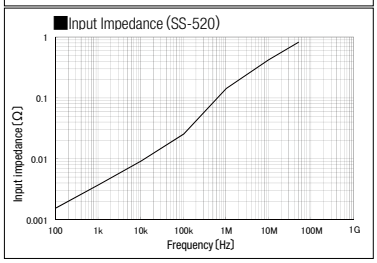
High S/N characteristic ideal for ultra low 1 mA order current waveforms.

SS-521 DC ～ 120MHz (Max 5Arms)
SS-520 DC ～ 50MHz (Max 5Arms)







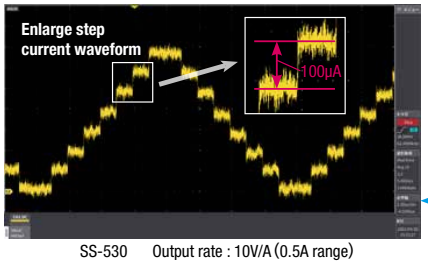


Example of use

■ Micro currents measurement

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

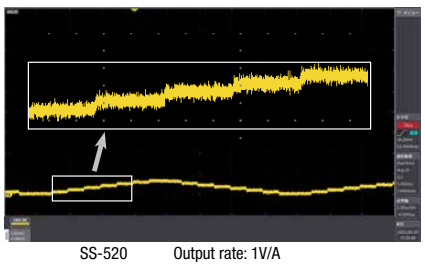
1 μs width Gradual current, Cycle 16 μs



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

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

10 times larger output rate



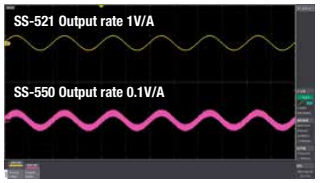
Voltage range :1mV/div
Current range :1mA/div

SS-520 Output rate: 1V/A

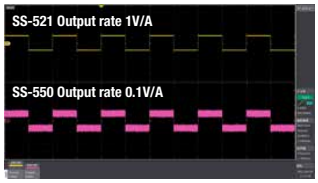
Oscilloscope: IWATSU DS-8000 series
Oscilloscope Setting: Without bandlimiting filter, Averaging: 16 times

■ 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

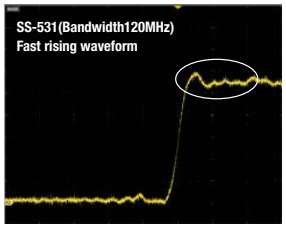


Square wave 1kHz 20mAp-p

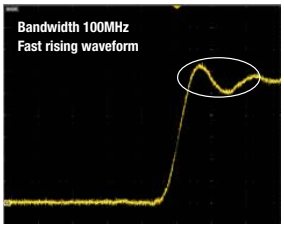
Oscilloscope : Bandwidth1GHz, 10mA/div

■ 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 120MH)



SS-531 Bandwidth: 120MHz
Rising response characteristic



Bandwidth: 100MHz
Rising response characteristic

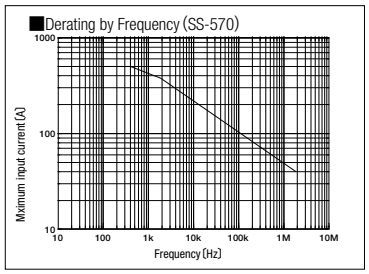
Oscilloscope : Bandwidth 1GHz, 5ns/div, 20mA/div

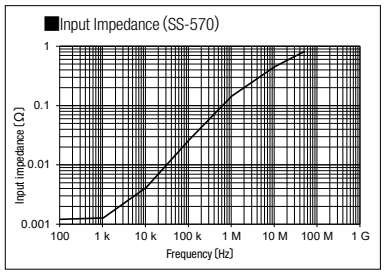
Current probe

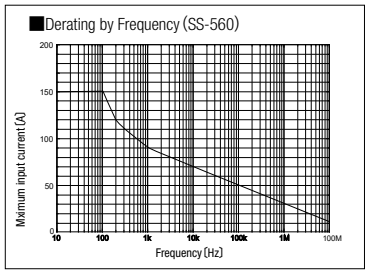
Current probe SS-570, SS-560

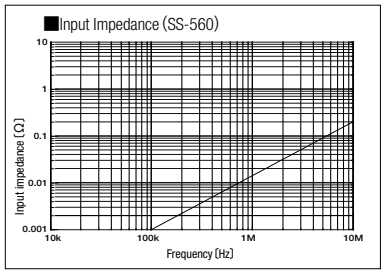
High current, Large hole diameter

SS-570 DC ～ 2MHz (Max 500Arms)
SS-560 DC ～ 10MHz (Max 150Arms)





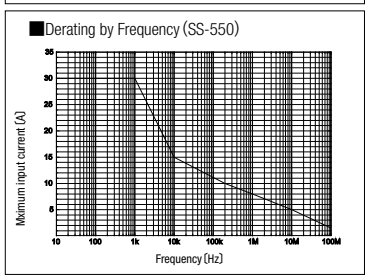


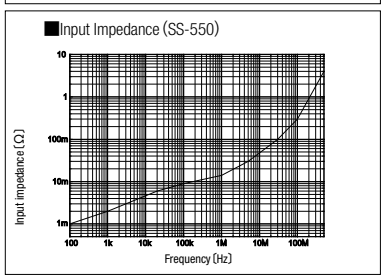


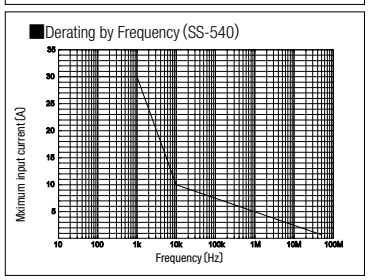
Current probe SS-550, SS-540

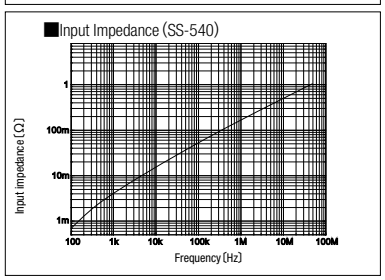
Wide badwidth

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

Power supply PS-52 (2 outputs)

Compatible probes
SS-521 / SS-520
SS-570 / SS-560 / SS-550 / SS-540

	PS-54	PS-52
Number of power supply connectors	4	2
Output	±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～+40ºC (no condensation) , 80%RH or less	
Rated supply voltage	AC100～ 240V (50/60Hz)	AC100V (50/60Hz) (Options: 120V, 220V, 240V)
Dimensions	80 (W) x119 (H) x200 (D)	73 (W) x110 (H) x186 (D)
Weight (without any accessory)	1100g±100g	

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

Conversion cable SS-200-IW


PS-52

Conversion cable SS-200-HK


PS-26

	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 require	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 PS-26 is 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: ±50Apeak (2s or less, 10s for cool down is required.) 5A range: ±7.5Apeak 0.5A range: ±0.75Apeak (10MHz or less) ±0.3Apeak (10MHz or higher)		± 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. ±1.0%rdg. ±1mV, ±3.0%rdg. ±1 mV 5A range : Typ. ±1.0%rdg. ±1mV, ±3.0%rdg. ±1 mV 0.5A range : Typ. ±1.0%rdg. ±1mV, ±3.0%rdg. ±10 mV (DC, SINE 45～66 Hz, within the max. peak current value of each current range)		Typ. ±1.0%rdg. ±1mV, ±3.0%rdg. ±1 mV (DC, SINE45～66 Hz, 0～5Arms)	
Noise level	75μArms 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 30A rms continuously)		3.2 VA (with continuous maximum input)	
Rated supply voltage	DC ± 12 V ± 0.5 V		DC ± 12 V ± 0.5 V	
Operating temperature and humidity range	0ºC ～ +40ºC, 80%RH or less (no condensation)			
Storage temperature and humidity range	-10ºC ～ +50ºC, 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/)	5mA or less DC and 60 Hz, Magnetic field of 400 A/	20mA or less DC and 60 Hz, Magnetic field of 400 A/
Diameter of measurable conductors	ϕ 5mm or less			
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) ×18 (H) ×26 (D) mm Termination unit: 29 (W) ×83 (H) ×40 (D) mm Junction box: 45 (W) ×120 (H) ×25 (D) mm		Sensor: 155 (W) ×18 (H) ×26 (D) mm Termination unit: 29 (W) ×83 (H) ×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	700Apeak (discontinuous)	300Apeak (discontinuous) 500Apeak (Pulse width≦30μs)	50Apeak (discontinuous)	
Output rate	0.01 V/A		0.1 V/A	
Amplitude accuracy	～500A ±1.0%rdg. ±5mV, ～700Apeak ±2.0%rdg. (DC, SINE 45～66 Hz, 25mArms)	～150A ±1.0%rdg. ±5mV, ～300Apeak ±2.0%rdg. (DC, SINE45～66 Hz, 25mArms)	～30A ±1.0%rdg. ±1mV, ～50Apeak ±2.0%rdg. (DC, SINE45～66 Hz)	
Noise level	2.5mArms or less (for measuring instrument with 20 MHz bandwidth)		2.5mArms or less (for measuring instrument with 20 MHz 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 ±12V±0.5V	DC ±12V±1V	DC ±12V±0.5V	
Operating temperature and humidity range	0ºC～+40ºC, 80%RH or less (no condensation)			
Storage temperature and humidity range	-10ºC～+50ºC, 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	ϕ20 mm or less		ϕ5 mm or less	
Cable lengths	Sensor cable: 2.0m, Power cord: 1.0m		Sensor cable: 1.5m, Power cord : 1.0m	
Dimensions	Sensor: 176 (W) ×69 (H) ×27 (D) mm Termination unit: 27 (W) ×55 (H) ×18 (D) mm		Sensor: 175 (W) ×18 (H) ×40 (D) mm Termination unit: 27 (W) ×55 (H) ×18 (D) mm	
Mass	Applox. 520g	Applox. 500g	Applox. 240g	Applox. 230g
Power supply (optional)	PS-54, PS-52			
Standards	Safety: EN61010, EMC: EN61326			
Accessories	Manual (1) , Case (1)			

※The products shown in this catalogue are current models at the date of publication. Design and specification are subject to change without notice for improvement.
※All enterprises including National instruments and Microsoft, etc. and product names mentioned are trademarks or registered trademarks of the respective owners.
※Some of the products are Regulated Products subject to the ForeignExchange and Foreign Trade Control Law of Japan. Export should not be allowed without appropriate governmental authorization. Please ask our sales office whether the product concerned is a Regulated Product(s).

Änderungen und Irrtümer vorbehalten. dataTec 07-06-2022 | © Iwatsu Electric: C.S(OK)2107-835-2-00 8511-3101-1 | 07/2021