

IWATSU

World-class technology!!

with "High Temperature at +150°C", "100MHz Wide Frequency Bandwidth" and "φ1mm Extreme thin cable diameter"

Total of 101 models

Rogowski Coil Current Probe

SS-280 Series

SS-290 Series

SS-620 Series

SS-660 Series

SS-680 Series

1.2kV with Extreme thin φ1.2mm

SS-660P

60A 120A 300A

600A 1.2kA

Frequency BW

30MHz

Max. Voltage

1.2kV

Temperature range

-40°C ~ +125°C

Coil length

84mm ±4mm

max 1.2mm

Extreme thin φ1mm

SS-660

60A 120A 300A

600A 1.2kA

Frequency BW

30MHz

Max. Voltage

600V

Temperature range

-40°C ~ +125°C

Coil length

84mm ±4mm

max 1.0mm

SS-280A

30A 60A 120A 300A

600A 1.2kA 3.0kA

6.0kA 12kA 30kA

Frequency BW

30MHz

Max. Voltage

1.2kV

Temperature range

-40°C ~ +125°C

Coil length

84mm ±4mm

max 1.7mm

150°C High Temperature

SS-280A-H

30A 60A 120A 300A

600A 1.2kA 3.0kA

6.0kA 12kA 30kA

Frequency BW

30MHz

Max. Voltage

1.2kV

Temperature range

-40°C ~ +150°C

Coil length

84mm ±4mm

max 1.7mm



100MHz Wide BW

SS-680

120A 300A

600A 1.2kA

3.0kA 6.0kA

12kA

Frequency BW

100MHz

Max. Voltage

1.2kV

Temperature range

-10°C ~ +70°C



SS-620

60A 120A 300A

600A 1.2kA 3.0kA

6.0kA 12kA 30kA

Frequency BW

S type M type

25MHz 20MHz

L type XL type

15MHz 10MHz

Max. Voltage

5kV

Temperature range

-40°C ~ +125°C

Coil length

S:100mm

M:200mm

L:300mm

XL:500mm

max 3.0mm

120kA High Current

SS-290

1.2kA 3.0kA 6.0kA

12kA 30kA 60kA

120kA

Frequency BW

S type M type

20MHz 15MHz

L type XL type

10MHz 5MHz

Max. Voltage

10kV

Temperature range

-40°C ~ +125°C

Coil length

S:300mm

M:500mm

L:700mm

XL:1100mm

max 8.5mm

SS-680 Series



- Achieved 100MHz Measurement Frequency Bandwidth, suitable for evaluation of High-Speed Power Devices, such as SiC and GaN, etc.
- Downsizing and Low-profile of the Probe Head contribute Low-Ls Measurement.
- Max. 12,000A Measurement Capability. High Current Test can be performed without worrying about Magnetic Saturation.
- Shielded Sensor Coil contributes to High-Performance against external environment, such as external noises, etc.
- Sensor Coil Temperature Range : -10°C to +70°C
- Max. Peak Voltage : 1.2kV

Frequency BW 100MHz

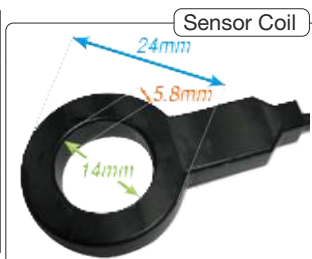
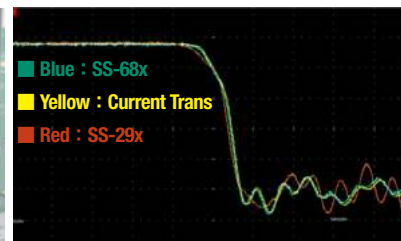
Max. Current 12,000A

Low-Ls Measurement

SiC · GaN devices

Non-magnetic saturation

Frequency bandwidth	100MHz
Temperature range (Sensor&cable)	-10°C~+70°C
Maximum peak voltage	1.2kV
Sensor coil dimensions	Outer diameter : 24mm Inner diameter : 14mm Thickness : 5.8mm



Comparison

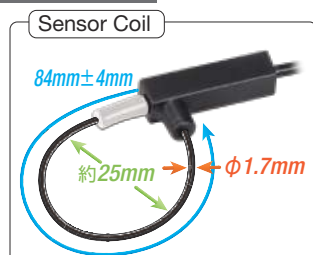
Model	IWATSU SS-68x	Current Trans	Other Rogowski
Frequency bandwidth	100MHz	70MHz	30MHz
Noise-tolerant	◎	◎	△
Size[Low-Ls]	○	△	◎
Max current	12,000A	10A	12,000A
Saturation	◎	×	◎

※ Contact us for made-to-order specifications

※ SS-686/SS-687/SS-688/SS-689 : Production by order

Model	Peak current [A]	Frequency BW [-3dB]	Sensitivity [mV/A]	Peak di/dt [kA/μs]	Noise [mV rms]	Absolute Max. di/dt	
						Peak [kA/μs]	RMS [kA/μs]
SS-683	120	65Hz ~ 100MHz	10	30	1.8	150	3.0
SS-684	300	32Hz ~ 100MHz	5	85			
SS-685	600	15Hz ~ 100MHz	2	150			
SS-686	1,200	8Hz ~ 100MHz	1	90	1.8	90	3.0
SS-687	3,000	5Hz ~ 50MHz	0.5				
SS-688	6,000	3Hz ~ 30MHz	0.2				
SS-689	12,000	2Hz ~ 30MHz	0.1				

SS-280A-H Series



High Temperature +150°C

- Equipped with 1.7mm Thin Sensor Coil Wire Diameter, suitable for direct probing to TO Type MOSFET, IGBT Devices which are widely used for Power Electronics Equipment, such as Switching Power Supplies.
- Achieved 30MHz Measurement Frequency Bandwidth, suitable for observation of High-Speed Switching Waveforms.
- Measurement Range of 30A to 30,000A contributes to Wide Range Current Measurement.
- High Current Test can be performed without worrying about Magnetic Saturation.
- Sensor Coil Temperature Range : A-H Type -40°C to +150°C, A Type -40°C to +125°C

Frequency bandwidth	30MHz
Temperature range (Sensor&cable)	-40°C~+150°C
Maximum peak voltage	1.2kV
Sensor coil dimensions	84mm ± 4mm
Coil diameter	1.7mm (Max.)

Probing example



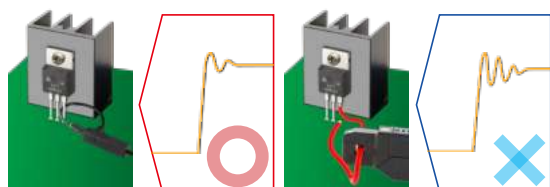
SS-280A Series

Model	30MHz
Temperature range (Sensor&cable)	-40°C~+125°C
Maximum peak voltage	1.2kV
Sensor coil dimensions	84mm ± 4mm
Coil diameter	1.7mm (Max.)

Model	Peak current [A]	Frequency BW [-3dB]	Sensitivity [mV/A]	Peak di/dt [kA/μs]	Noise [mV rms]	Absolute Max. di/dt	
						Peak [kA/μs]	RMS [kA/μs]
SS-281A / A-H	30	110Hz ~ 30MHz	200	2	3.5	80	1.0
SS-282A / A-H	60	65Hz ~ 30MHz	100	4	2.5		1.5
SS-283A / A-H	120	32Hz ~ 30MHz	50	8	2.0		
SS-284A / A-H	300	9Hz ~ 30MHz	20	20	1.8		
SS-285A / A-H	600	6Hz ~ 30MHz	10	40			
SS-286A / A-H	1,200	3Hz ~ 30MHz	5	80/40	1.4	80/40	2.0
SS-287A / A-H	3,000	2Hz ~ 30MHz	2				
SS-288A / A-H	6,000	2Hz ~ 30MHz	1				
SS-289A / A-H	12,000	2Hz ~ 30MHz	0.5				
SS-280A / A-H	30,000	2Hz ~ 30MHz	0.2				

※ Contact us for made-to-order specifications

※ SS-280A/AH: Production by order



SS-660 / SS-660P Series

Extreme thin coil $\phi 1\text{mm}$



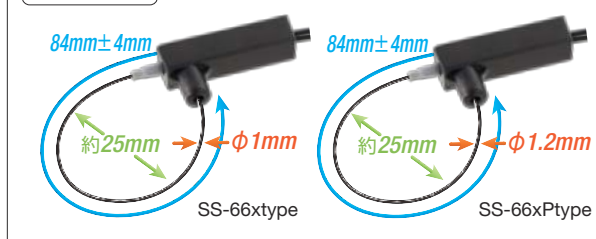
- Equipped with 1.0mm Extreme thin Sensor Coil Wire Diameter (1.2mm for P Type), suitable for direct probing to narrow spaces on Surface Mount Devices.
- Achieved 30MHz Measurement Frequency Bandwidth, suitable for observation of High-Speed Switching Waveforms.
- Wide Range Current Measurement Range of 60A to 12,000A.
- High Current Test can be performed without worrying about Magnetic Saturation.
- Sensor Coil Temperature Range : -40°C to $+125^{\circ}\text{C}$

Probing example



	SS-660	SS-660P
Frequency bandwidth	30MHz	
Temperature range (Sensor&cable)	$-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$	
Maximum peak voltage	600V	1.2kV
Sensor coil dimensions	84mm $\pm$ 4mm	
Coil diameter	1mm (Max.)	1.2mm (Max.)

Sensor Coil



※ Contact us for made-to-order specifications

※ SS-66XP Series and SS-662/SS-666: Production by order

Model	Peak current [A]z	Peak current [A]	Frequency BW	Sensi- tivity [mV/A]	Peak di/dt [kA/μs]	Noise [mV rms]	Absolute Max. di/dt	
							Peak [kA/μs]	RMS kA/μs]
SS-662	60A	600V	110Hz ~ 30MHz	100	4	5.0	80	3.0
SS-662P		1,200V						
SS-663	120A	600V	65Hz ~ 30MHz	50	8	3.5		
SS-663P		1,200V						
SS-664	300A	600V	32Hz ~ 30MHz	20	20	2.5		
SS-664P		1,200V						
SS-665	600A	600V	17Hz ~ 30MHz	10	40	2.0		
SS-665P		1,200V						
SS-666	1,200A	600V	9Hz ~ 30MHz	5	80	1.8		
SS-666P		1,200V						

SS-620 Series



- Equipped with 3.0mm Thin Sensor Coil Wire Diameter, and Max. 5kV peak withstanding Voltage.
- Wide Range Current Measurement from 60A to 30,000A.
- High Current Test can be performed without worrying about Magnetic Saturation.
- Four(4) Types of Coil Length (100 to 500mm) are selectable.

Probing example



	SS-620XL Series	SS-620L Series	SS-620M Series	SS-620S Series
Frequency bandwidth	10MHz	15MHz	20MHz	25MHz
Temperature range (Sensor&cable)	$-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$			
Maximum peak voltage	5kV			
Sensor coil dimensions	Approx. 500mm	Approx. 300mm	200mm $\pm$ 5mm	100mm $\pm$ 5mm
Coil diameter	3mm (Max.)			

Sensor Coil



※ Contact us for made-to-order specifications

※ Coil length L type and XL type : Custom-made products

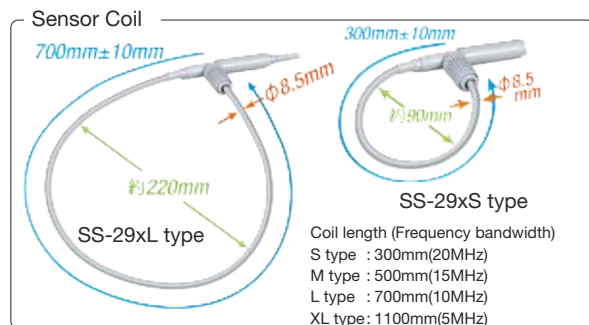
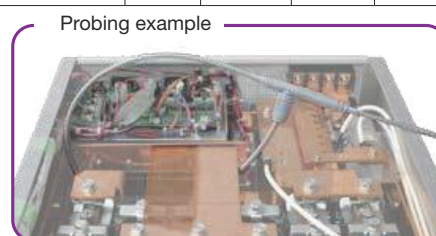
※ SS-622 · SS-630 Series : Production by order

Model	Size	Peak current [A]	Frequency BW	Sensitivity [mV/A]	Peak di/dt [kA/μs]	Noise [mV rms]	Absolute Max. di/dt	
							Peak [kA/μs]	RMS [kA/μs]
SS-622	M	60	25Hz ~ 20MHz	100	TBD	5.0	80	3.0
	S		~ 25MHz		4			
SS-623	M	120	10Hz ~ 20MHz	50	6			
	S		~ 25MHz		8			
SS-624	M	300	4Hz ~ 20MHz	20	16			
	S		~ 25MHz		20			
SS-625	M	600	2Hz ~ 20MHz	10	32			
	S		~ 25MHz		40			
SS-626	M	1,200	1Hz ~ 20MHz	5	60			
	S		~ 25MHz		60			
SS-627	M	3,000	0.8Hz ~ 20MHz	2	2			
	S		~ 25MHz		2			
SS-628	M	6,000	0.6Hz ~ 20MHz	1	1			
	S		~ 25MHz		1			
SS-629	M	12,000	0.4Hz ~ 20MHz	0.5	0.5			
	S		~ 25MHz		0.5			
SS-630	M	30,000	0.2Hz ~ 20MHz	0.2	0.2			
	S		~ 25MHz		0.2			

SS-290 Series

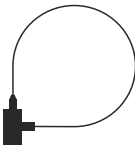
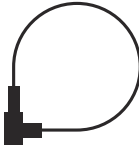
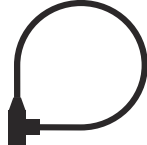
	SS-290L Series	SS-290S Series
Model	Up to 10MHz	Up to 20MHz
Temperature range (Sensor&cable)	-40°C~+125°C	
Maximum peak voltage	10kV	
Sensor coil dimensions	700mm ±10mm	300mm ±10mm
Coil diameter	8.5mm (Max.)	

Model	Size	Peak current [A]	Frequency BW	Sensitivity [mV/A]	Peak di/dt [kA/μs]	Noise [mV rms]	Absolute Max. di/dt	
							Peak [kA/μs]	RMS [kA/μs]
SS-293	L	1,200	1Hz ~ 10MHz 20MHz	5	32 60	3.5	80	3.0
	S							
SS-294	L	3,000	0.8Hz ~ 10MHz 20MHz	2	80	2		
	S							
SS-295	L	6,000	0.6Hz ~ 10MHz 20MHz	1		1.4		
	S							
SS-296	L	12,000	0.4Hz ~ 10MHz 20MHz	0.5		1.2		
	S							
SS-297	L	30,000	0.2Hz ~ 10MHz 20MHz	0.2		1.1		
	S							
SS-298	L	60,000	0.1Hz ~ 10MHz 20MHz	0.1		1		
	S							
SS-299	L	120,000	0.1Hz ~ 5MHz 5MHz	0.05				
	S							



※ Contact us for made-to-order specifications
 ※ Coil length XLtype : Custom-made products
 ※ SS-297 / SS-298 / SS-299 Series : Production by order

Rogowski current probe common specifications

Model		SS-680 Series	SS-660 Series	SS-660P Series	SS-280A-H Series	SS-280A Series	SS-620 Series	SS-290 Series	
Sensor Coil									
Basic	Sensitivity accuracy	±2% (10°C ~ +70°C)	±2%(-10°C ~ +70°C) + additional ±250ppm/°C for -10°C or lower and +70°C or higher						±2%(-10°C ~ +60°C) + additional ±300ppm/°C for -10°C or lower and +60°C or higher
	Out-put	Connector type	BNC						
		Voltage range	±1.5V or ±1.2V with 50Ω termination	±6V (Load at ≥ 100kΩ) ※±2V at 50Ω termination, Sensitivity can be half.					
	Linearity	±0.05% (for full scale)							
	ZERO adj. range	±3mV or more	±300mV or more						
Sensor coil	Coil length/ Outer dimensions	OD : 24mm iD : 14mm Thickness : 5.8mm	Approx. 84mm±4mm		Approx. 84mm ±4mm	Approx. 84mm ±4mm (※60mm also available, contact us for quote)	SS-62xS: 100mm±5mm SS-62xM: 200mm±5mm	SS-29xS: 300mm±10mm SS-29xL: 700mm±10mm	
	Sensor coil wire diamete	-	1.0mm, Max.	1.2mm, Max.	1.7mm, Max.		3mm, Max.	8.5mm, Max.	
	Max. voltage	1.2kVpeak	600Vpeak	1.2kVpeak	1.2kVpeak		5kVpeak	10kVpeak	
	Sensor coil cable length	1.5m ±50mm						3.0m ±100mm	
	Temperature range (Sensor & cable)	-10°C ~ 70°C	-40°C ~ 125°C		-40°C ~ 150°C		-40°C ~ 125°C		
Amplifier mainframe	Dimensions	Approx. 80(W)×165(D)×35(H) mm (excluding externals)							
	Weight	Approx. 0.37kg					Approx. 0.4kg	SS-29xS : Approx. 0.48kg SS-29xL : Approx. 0.50kg	
	Power supply	AA type *4pcs. (approx. 18hours with Alkaline batteries), AC adaptor is also available(optional)						AA type *4pcs. (approx. 30hours with Alkaline batteries)	
	Accessories	BNC-BNC coaxial cable(50cm*1pc.), Instruction manual (1), Adjustment driver(1), Cardbox(1), Alkaline batteries*4pcs.							
Environmental specification	Temp. range (operation)	0°C ~ +40°C, 80%RH or less							
	Temp. range (storage)	-10°C ~ +60°C, 80%RH or less							
	Operational altitude	≤2,000m at ≤25 °C							

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IWATSU <https://www.iti.iwatsu.co.jp>

IWATSU ELECTRIC CO., LTD.

Overseas Sales Sect.

Test & Measurement Solution Sales Dept.

7-41, Kugayama 1-chome, Suginami-ku, Tokyo, 168-8501 Japan

Tel: +81-3-5370-5483 Fax: +81-3-5370-5492