IWATSU

Semiconductor Curve Tracer
CS Series

An ultra-high voltage and large current can be measured.

Suitable for various semiconductor specification measurement
such as IGBTs, MOSFETs, transistors and diodes, etc.

Semiconductor Curve Tracer CS-5400 NEW

CS-5400

Semiconductor Curve Tracer CS-5000 Series

- Maximum peak voltage at 5,000V
- Maximum peak current at1,500A

CS-3100

CS-3300 / CS-3200

Semiconductor Curve Tracer CS-3000 Series

- Maximum peak voltage at 3,000V
- Maximum peak current at1,000A

Semiconductor Curve Tracer CS-10000 Series

Custom produst

- Maximum peak voltage at 10,000V
- Maximum peak current at 8,000A

IWATSU http://www.iti.iwatsu.co.jp/

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Semiconductor Curve Tracer Series Specifications

■Collector supply

		CS-3100	CS-3200	CS-3300	CS-5100	CS-5200	CS-5300	CS-5400	CS-10400	CS-10800
Mode	High voltage1	AC, ± Rectified SIN, ± DC, ± LEAKAGE								
	High voltage2	–			–				+DC	
	High current	–	±Pulse		–	±Pulse			±Pulse	
Maximum peak power	High voltage1	120mW、1.2W、12W、120W、390W ※390 W can be selected excluding the maximum peak voltage setting at 3,000V range.			120mW、1.2W、12W、120W、390W at 3,000V range 320mW、3.2mW、32W at 5,000V range				120mW、1.2W、12W、120W、390W ※390 W can be selected excluding the maximum peak voltage setting at 3,000V range.	
	High voltage2	–			–				40W、400W、4kW	
	High current	–	400W、4kW	400W、4kW、10kW	–	400W、4kW	400W、4kW、10kW	400W、4.5kW、12kW	600W、6kW、60kW	600W、6kW、60kW、64kW

High voltage mode1

Maximum peak current(maximum peak pulse current)	Maximum peak voltage
75mA(150mA)	3,000V(2,500V / AC)
750mA(1.5A)	300V
7.5A(15A)	30V

Maximum peak current(maximum peak pulse current)	Maximum peak voltage
25mA(25mA)	5,000V(2,500V / AC)
750mA(1.5A)	300V
7.5A(15A)	30V

Maximum peak current(maximum peak pulse current)	Maximum peak voltage
75mA(150mA)	3,000V(2,500V / AC)
750mA(1.5A)	300V
7.5A(15A)	30V

Loop compensation

The floating capacitance between the collector terminal and the ground of the fixture is compensated by the hardware in the high voltage mode. Digital compensation is also available.

High voltage mode2

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Maximum peak current	Maximum peak voltage
400mA	10,000V

High current mode (pulse only)

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Maximum peak current	Maximum peak voltage
400A	40V
40A	40V

Maximum peak current	Maximum peak voltage
1,000A	40V
400A	40V
40A	40V

–

Maximum peak current	Maximum peak voltage
400A	40V
40A	40V

Maximum peak current	Maximum peak voltage
1,000A	40V
400A	40V
40A	40V

Maximum peak current	Maximum peak voltage
1,500A	30V
600A	30V
60A	30V

Maximum peak current	Maximum peak voltage
4,000A	60V
400A	60V
40A	60V

Maximum peak current	Maximum peak voltage
8,000A	60V
4,000A	60V
400A	60V
40A	60V

Pulse width / measurement point

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The pulse width is variable in the range from 50μs to 400 μs.
Measurement points can be specified
(with a resolution of 10 μs/step).

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The pulse width is variable in the range from 50μs to 400 μs.
Measurement points can be specified
(with a resolution of 10 μs/step).

The pulse width is variable in the range from 50μs to 400 μs.
(50μs to 1,200 μs / over 4kV)
Measurement points can be specified (with a resolution of 10 μs/step).

Maximum data points

20 to 1,000 points can be specified per trace.

■Step generator

Current mode	Amplitude range: 50 nA to 200 mA, 21 ranges, 1-2-5 step Maximum current: ±2A / Offset: ±10 times STEP AMPLITUDE setting				
Voltage mode	Amplitude range: 50 mV to 2 V, 6 ranges, at 1-2-5 step Maximum voltage:±40V / Offset: ±10 times STEP AMPLITUDE setting				
Step rate	Staircase wave: 2times of 50 Hz or 60 Hz (50 Hz or 60 Hz in the AC mode)	Staircase wave: 2times of 50 Hz or 60 Hz (50 Hz or 60 Hz in the AC mode) Pulse : The pulse changes in the range from 80ms to 1,000 ms. (The lowest frequency limited by the maximum peak power consumption setting.)	Staircase wave: 2times of 50 Hz or 60 Hz (50 Hz or 60 Hz in the AC mode)	Staircase wave: 2times of 50 Hz or 60 Hz (50 Hz or 60 Hz in the AC mode) Pulse : The pulse changes in the range from 80ms to 1,000 ms. (The lowest frequency limited by the maximum peak power consumption setting.)	
Pulse step	The pulse width is variable in the range from 50 μs to 400 μs at 10μs resolution.				
Number of steps	0 to 20steps				

■AUX output

Range	OFF, -40 to +40 V, variable with a 100mV resolution

■Vertical axis

Collector current	High voltage	1 μA/div to 2 A/div, 20 steps, 1-2-5 switching							
	High current	–	100 mA/div to 50 A/div, 9 ranges, at 1-2-5 step	100 mA/div to 100 A/div, 10 ranges, at 1-2-5 step	–	100 mA/div to 50 A/div, 9 ranges, at 1-2-5 step	100 mA/div to 100 A/div, 10 ranges, at 1-2-5 step	100 mA/div to 200 A/div, 11 ranges, at 1-2-5 step	100 mA/div to 1,000 A/div, 13 ranges, at 1-2-5 step
Emitter current(LEAKAGE)	1 nA/div - 2 mA/div, 20 ranges, at 1-2-5 steps								

■Horizontal axis

Collector voltage	High voltage	50 mV/div to 500 V/div, 13 ranges, at 1-2-5 step							50 mV/div to 1,000 V/div, 14 ranges, at 1-2-5 step
	High current	–	50 mV/div to 5 V/div, 7 ranges, at 1-2-5 step		–	50 mV/div to 5 V/div, 7 ranges, at 1-2-5 step			50 mV/div to 10 V/div, 8 ranges, at 1-2-5 step
Base / emitter voltage	50 mV/div to 5 V/div, 7 ranges, at 1-2-5 step								

■Miscellaneous

Display	8.4-inch color TFT-LCD (SVGA 800 x 600 pixels)
Data save / recall	Internal: Memory (setup: 256, REF waveform: 4) External: Removable storage connected to the USB port (setup, waveform save / recall, screen hard copy)
USB	1 port (USB1.1)
Remote control	Remote control by LAN: 1 port (100BASE-TX)

■Mechanism section

Dimensions (mm)	424 (W) x 555.2 (L) x 221 (H) (without the external projection portion)	424 (W) x 555.2 (L) x 354.5 (H) (without the external projection portion)	424 (W) x 555.2 (L) x 221 (H) (without the external projection portion)	424 (W) x 555.2 (L) x 354.5 (H) (without the external projection portion)		1,110 (W) x 1,150 (L) x 1,216 (H) (without the external projection portion)