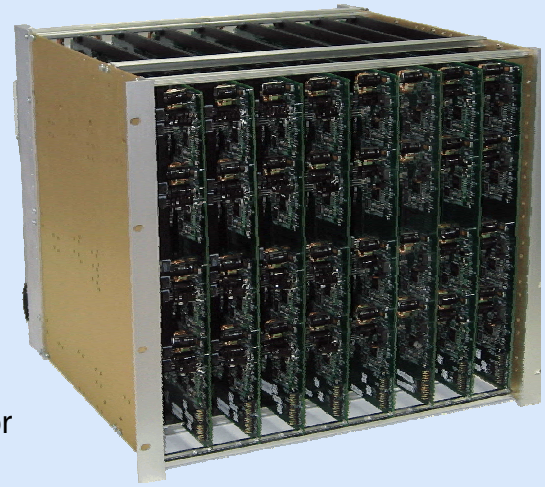
SpikeSafe Precision Pulsed Current Source – High Current

SS200HC:

- SpikeSafe™ load fault protection preserves devices
- Scaleable Parallel Architecture supports any need
- Maximum Current 533 Amps
- DC and pulsed operation
- Precision pulsing with built-in Pulse Generator 50uS pulsing/ 10uS rise/fall times
- Programmable



533 Amp Rack Mount

Overview

The SpikeSafe current source is optimized for applications requiring precise high current, high compliance drive with excellent load protection. The SS200HC provides DC and pulsed current up to 533A. A scalable, parallel architecture allows the source to be sized to fit the current needed.

	Number of Modules							
	1	2	3	4	5	6	7	8
Max Amps	67	133	200	267	333	400	467	533

SS200HC Scaleable to fit any need

Clean Waveforms, Fast Edges

The SS200HC creates precise high current pulses by combining the outputs of multiple channels into a single output. Precision timing circuitry ensures that output pulses overlap in time. Separate output cables for each channel convey the current to a summing point near the load, resulting in near-perfect superposition of the current signals. Superposition reduces the load inductance seen by each source. Thus the combined source produces extremely clean waveforms with 10uS rising and falling edges.

SpikeSafe Load Protection

When a load device in a series circuit fails, it can induce voltage and current transients in the entire load circuit. The SpikeSafe's DSP-based load transient protection algorithms continuously monitor the drive voltage and current for anomalies; if an anomaly is spotted, current drive is terminated within microseconds, often before a catastrophic device failure occurs. This rapid shutdown preserves the individual device for failure analysis, and it ensures other devices in the circuit are not damaged, significantly reducing costs.

Applications

- Laser diode burn-in and test
- CW and pulsed laser diode arrays
- Power semiconductor testing
- High speed LIV testing
- Other high power pulsed applications

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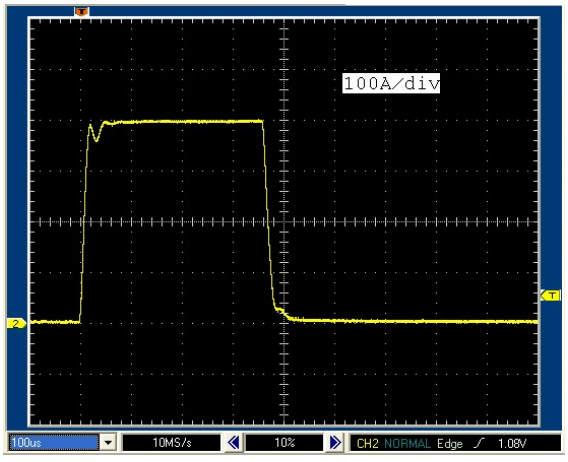
Specifications

Output Configuration	
Current Capability:	1 to 533A
Type:	Differential (cathode not grounded)
Packaging: To 67A:	2U rack mountable chassis
Packaging: 67 to 533A:	9U rack crate, requires external forced air cooling
Output Current Range:	200mA – 67A per module, maximum 533A
Maximum Compliance Voltage:	100V, programmable in 1V steps
Absolute Accuracy:	+/- 0.5% of setpoint +/- 300mA
Output Current Ripple:	0.2% p-p typical, 200kHz
Output Cable Type	Multi circuit twisted pair, 5 foot minimum up to 30 foot maximum (sold separately)
Output Bus Bar	Optional output bus bar available
Triggering	Yes
Remote Control	
Physical:	100-base T Ethernet
Protocol:	TCP/IP
Command Set:	SCPI
Drivers:	.NET, LabVIEW available, Control Panel application
Readback Capability:	Voltage, current, fault conditions
Power Conversion	
Type:	DSP-controlled two-stage stepdown regulator
Output Power:	400W/module maximum
Duty Cycle:	Rated for continuous operation
Cooling:	Forced air
Input Power	
Bulk:	24-125 VDC, up to 55A/module
AC:	110VAC, 3A average

Pulse Performance	
Modes:	DC, Continuous Pulse
Timebase Accuracy:	+/-50 ppm
Pulse Width Range:	50uS – 10S
Duty Cycle:	0-100%
Pulse Width Accuracy:	+/- 0.1% +/- 4uS
Rise/Fall Time:	5-15uS depending upon compensation settings
Edge Overshoot:	0-30% depending upon compensation settings
SpikeSafe Load Protection	
Cathode Over Current Shutdown:	Shutdown in 10-30uS When cathode current exceeds 100-160% of setpoint + 800mA/module
Anode Over Current Shutdown:	Shutdown within 2mS when current exceeds 1.5x the setpoint current.
Dynamic Compliance Voltage Limitation	Limits available compliance voltage to 3-8V above nominal
Negative Current Protection	Asymmetrical rise/fall characteristic to eliminate undershoot



Typical 400A, 350uS Current Pulse
Load: 8 Diode Stack

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