Applications

- High Voltage Supply & Pulsing
- Gate Threshold/Cutoff Voltage
- Leakage Current
- Substrate Thermal Characterization
- Gate-to-Source & Gate-to-Drain Voltage
- Device Stress Testing

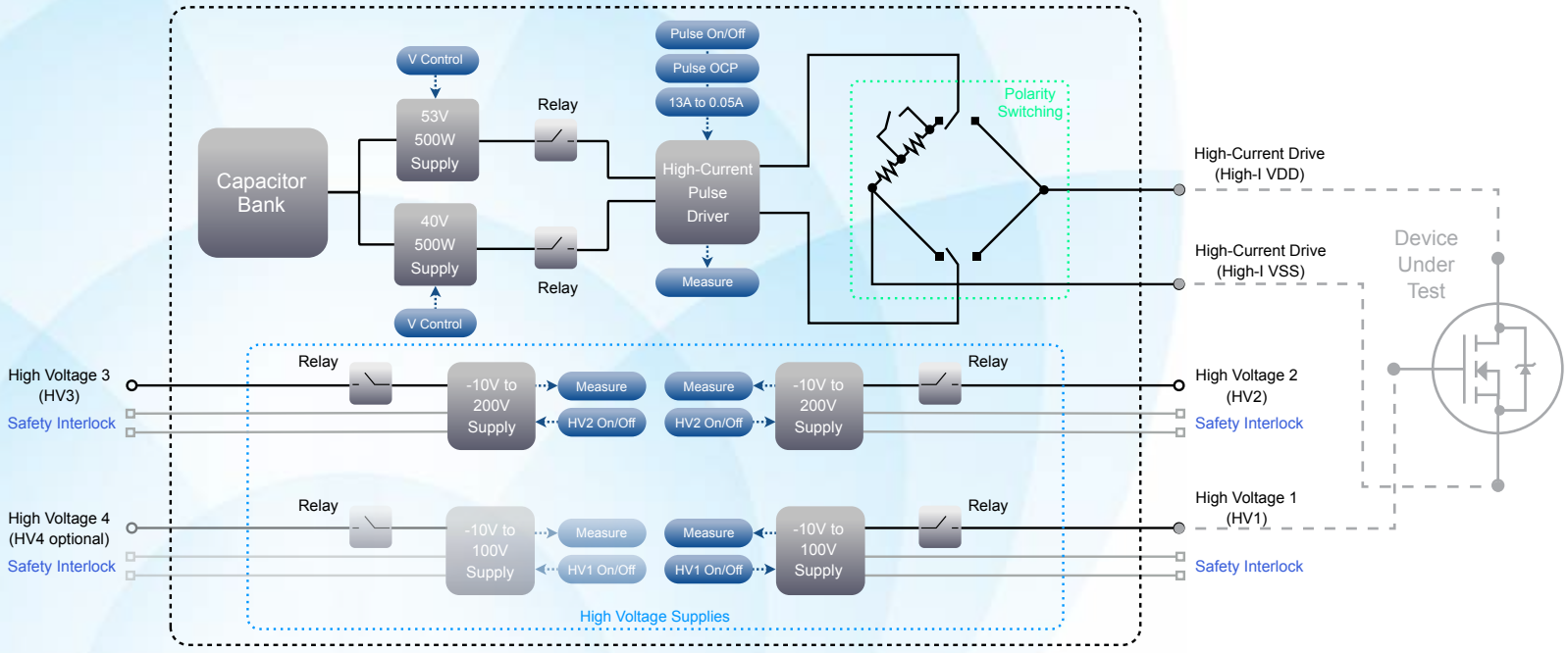
Overview

The RI8589 FET Pulser provides an all-in-one production solution for power device supply and parametric measurement. With a current drive and measurement range of 1µA to 20A, this instrument enables evaluation of power FETs, BJTs, and IGBT devices as well as wide band-gap materials such as GaN and SiC. The RI8589 enables precise, small on-resistance measurements and 10µs fast pulse capability for complete power device characterization, temperature stress, and failure analysis.

Key Features

- *DC Parametric Measure & High-Power Supply in One Instrument*
- *High-Power Polarity Switching without Re-Cabling*
- *10µs Burst, 1kW High Power Pulse Capability*
- *8 Control Pins for External Relays*

Block Diagram



Performance

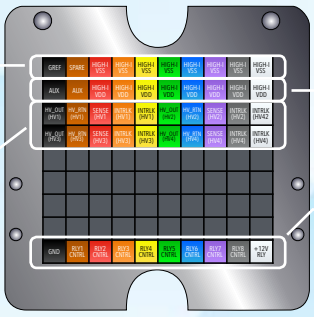
Supply	**Gate Bias** (HV1|HV3)	**Drain Bias** (HV2)	**Drain Pulsing**	**Drain Reverse Diode Test**
V_{MAX} | V_{MIN}	+80 V | -10 V	185 V | -5V	52V | 8 V	+1V | -5V
V_{SET} Resolution	5 mV	20 mV	20 mV	-
I_{MAX}	10 mA	10 mA	23A	10A
Settling Time	10 µs	10 µs	10 µs to 100ms (pulse)	10 µs
Measure				
Range	1 µA to 20 mA	1 µA to 20 mA	10 mA to 23 A	-10mA to +10mA
Accuracy	0.1 %	0.2 %	0.3 %	0.1%
Meas. Rate	80 ksps	80 ksps	80 ksps	80 ksps
R_{OUT}	100 Ω | 1 kΩ[1]	100 Ω | 1 kΩ[1]	0.04 Ω	2.5 Ω

[1] Current measurements below 100 µA use 1 kΩ

Inputs/Outputs

High-Current Drive (High-I VSS)

High Voltage 1,2,3: (HV1/HV2/HV3)
Output Drive/Rtn, Sense, Safety Interlock (HV4 optional)



High-Current Drive (High-I VDD)

Relay Control Bits:
GND pin, 8 Independent Control Lines, and +12V pin (optional)

Cassini Test Systems

A versatile, high-speed, automated test solution for analog, mixed-signal, RF, and millimeter-wave devices.

Cassini provides a modular base architecture that is fully configurable via Test Instrument Modules (TIMs) to meet the needs of any IC, wafer, or module test requirement.

Each TIM contains internally-cooled, RF-shielded instrumentation, signal distribution, and blind mate interfacing to provide targeted test resources and integrate to build up a complete production test platform.

Combined with Roos Instruments' integrated test software, Cassini can be configured to any application for maximum performance, true low cost of test, and the industry's fastest test times.

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