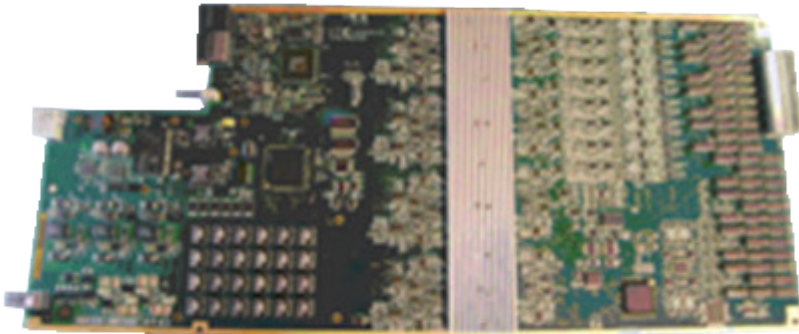# Diamond$_X$ HPVI$_X$

High-Power Voltage / Current Programmable Power Source

The High Power Voltage/Current Source (HPVI$_X$) is a high voltage programmable power supply for the Diamondx test system targeted for use in power management, automotive, and display driver applications.

Automotive

Power Management

Flat Panel Display

IoT/IoV & Optoelectronics

Industrial & Medical

MCU

Mobility

Highlights

- Fast throughput with high power pulsed mode operation
- Transient detect capability to capture perturbations at the device in program development, or production test
- Reduced load board complexity using the SmartMux for high voltage and current signal routing

Features

- 8 channels
- SmartMux capabilities
- Transient detection
- Four quadrant force voltage or force current operation
- Continuous and pulsed mode operation
- Kelvin force and measurement capability +100 V to -40 V & +40 V to -100 V
- Independent measure ADC per pin
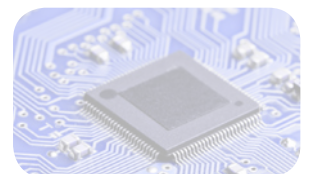- Sequencer control with local per-channel results buffer

- **8 Channels**
- **Force/Measure 4-Quadrant Operation**

- **±100 V / 500 mA**
- **4:1 SmartMux**

Diamond$_X$ HPVI$_X$

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The High Power Voltage/Current Source (HPVI$_X$) is a high voltage, high current programmable power supply for the Diamondx test system. HPVI$_X$ is targeted for use in power management, automotive and display driver applications.

The HPVI$_X$ support the following features:

- An eight-channel board providing fully independent floating operation
- SmartMux capabilities that enable:
  - Fanning each channel out to four different DUT IO path
  - Mapping tow alternate load board connected signals to the DUT connection path

- Transient detection that enables monitoring for unexpected voltages or currents at the device under test
- Four quadrant force voltage (FV) or force current (FI) operation
- Continuous and pulsed mode operation
- Up to 250K samples/second
- 4K Measure FIFO per channel, simplifying multisite measurements

Key Specifications

Feature	± Ranges	Resolution	Maximum Force / Measure Value
Force Voltage	100 V, 50 V, 25 V, 10 V, 5 V, 2.5 V	16 bits	+100 V to -40 V +40 V to -100 V
Measure Voltage	100 V, 50 V, 25 V, 10 V, 5 V, 2.5 V	16 bits	
Force Current	500 mA, 50 mA, 5 mA, 500 µA, 50 µA, 5 µA	16 bits	continuous 50 mA pulsed 500 mA 10 ms max, 10% duty cycle
Measure Current	500 mA, 50 mA, 5 mA, 500 µA, 50 µA, 5 µA	16 bits	

All specifications are subject to change without notification and are for reference only. For detailed performance specifications, please contact Cohu.