

# Diamond<sub>x</sub> FPVI<sub>x</sub>

High-Voltage, High-Current Floating Programmable Power Supply



The Floating Power Voltage/Current Source (FPVI<sub>x</sub>) is a high voltage, high current floating programmable power supply for the Diamond<sub>x</sub> test system targeted for use in power management, automotive, and display driver applications.

## 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
- Expert mode to maximize energy efficiency of the instrument

## Features

- 8 channels, 4 floating
- SmartMux capabilities
- Transient detection
- Duty-Cycle Credit System
- Four quadrant force voltage or force current operation
- Continuous and pulsed mode operation
- Kelvin force and measurement capability
- Ganging and stacking capabilities
- Floating operation to 250 V from ground
- Independent measure ADC per pin
- Sequencer control with local per-channel results buffer



Automotive



Consumer



Power Management



IoT/IoV & Optoelectronics



Industrial & Medical



MCU



Mobility

- 8 Digital Channels per instrument
- 4:1 SmartMux
- Force/measure 4-quad  $\pm 60$  V / 5 A per channel
- Transient detection enables monitoring for unexpected voltages or currents at DUT

# Diamond<sub>x</sub> FPVI<sub>x</sub>

## High-Voltage, High-Current Floating Programmable Power Supply

The Floating Power Voltage/Current Source (FPVI<sub>x</sub>) is a high voltage, high current floating programmable power supply for the Diamond<sub>x</sub> test system. FPVI<sub>x</sub> is targeted for use in power management, automotive and display driver applications. The FPVI<sub>x</sub> supports the following features:

- An eight-channel board providing fully independent floating operation with four channels and an eight-channel mode that uses the FPVI<sub>x</sub> Shared Rail Architecture
- SmartMux capabilities that enable.
  - Fanning each channel out to four different DUT IO path
  - Mapping two 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.
- A rack power supply with two Power Modes: automatic mode and an "expert" mode for greater control.
- The FPVI<sub>x</sub> Duty Cycle Credit System which provides thermal shut down circuitry to enable faster throughput for pulse mode testing.
- Four quadrant force voltage (FV) or force current (FI) operation.
- Continuous and pulsed mode operation.
- 4K Measure FIFO per channel, simplifying multisite measurements.

### Key Specifications

| Feature         | ± Ranges                                      | Resolution | Maximum Force / Measure Value                                       |
|-----------------|-----------------------------------------------|------------|---------------------------------------------------------------------|
| Force Voltage   | 60 V, 25 V, 10 V, 5 V, 2.5 V                  | 16 bits    | 250 V w.r.t. Ground, stacked 60 V per channel                       |
| Measure Voltage | 60 V, 25 V, 10 V, 5 V, 2.5 V, 1 V             | 16 bits    | 250 V w.r.t. Ground, stacked 60 V per channel                       |
| Force Current   | 5 A, 500 mA, 50 mA, 5 mA, 500 µA, 50 µA, 5 µA | 16 bits    | 5 A @ 20% Duty cycle<br>2.5 A continuous per channel<br>20 A Ganged |
| Measure Current | 5 A, 500 mA, 50 mA, 5 mA, 500 µA, 50 µA, 5 µA | 16 bits    | 5 A max Single channel<br>20 A max Ganging                          |

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