The Floating Power Voltage/Current Source (FPVI) is a high voltage, high current floating programmable power supply for the Diamond 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

- 8 Digital Channels per instrument
- Force/measure 4-quad ±60 V / 5 A per channel
- 4:1 SmartMux
- Transient detection enables monitoring for unexpected voltages or currents at DUT
DiamondX FPVIx
High-Voltage, High-Current Floating Programmable Power Supply

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

- An eight-channel board providing fully independent floating operation with four channels and an eight-channel mode that uses the FPVIx 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 FPVIx 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

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

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