

# Diamond<sub>x</sub> PD1<sub>x</sub>/PD2<sub>x</sub>

Test Solution for Ultra-High Definition Display Driver ICs



PD1x and PD2x address the test challenges of next generation flat panel display driver ICs, including TDDI (Touch and Display Driver Integration) for mobile, home, enterprise and automotive application. These challenges include high pin count per device, low voltage measurement requirements, very high unit volume and intense cost of test pressure.

## Highlights

- Integrated display drivers for mobile and tablet applications, including touch and display driver integration (TDDI)
- Large panel television and monitor applications, including ultra-high definition and 240 Hz refresh rate
- Extended range selection
- 128k capture memory per channel
- Industrial and automotive display drivers

## Features

- 320 channels per board
- >5000 channels per system
- Digitizer per pin
- Continuity / leakage measure unit per pin
- Precision voltage references
- Multi-threaded multi-lane PCI Express data transfer and processing
- Direct probe and COF handler interfaces



Automotive



Consumer



Flat Panel Display



IoT/loV & Optoelectronics



Industrial & Medical



MCU



Mobility

- 320 Channels per Instrument
- 16-bit 123 kpsps Digitizer
- Max Current Constant/Pulsed  $\pm 10.24V$ , 0/+20V
- Max Pins 6,080 (20 slot), 12,160 (40 slot)

# Diamond<sub>x</sub> PD<sub>1x</sub>/PD<sub>2x</sub>

## Test Solution for Ultra-High Definition Display Driver ICs

PD<sub>1x</sub> and PD<sub>2x</sub> address the test challenges of the full spectrum of next generation display driver devices, from TDDI (Touch and Display Driver Integration) devices for mobile and transportation products to the latest Ultra-HD televisions.

These challenges include high pin count per device, extreme low leakage, high voltage accuracy requirements, and very high unit volume and cost of test pressure.

PD<sub>1x</sub> and PD<sub>2x</sub> address these challenges by offering 320 channels of per pin digitizers providing 1 mV accuracy, optimized continuity and leakage measurement, and leading edge data transport.

Digitizer input bandwidth is optimized to support stringent slew rate testing of the latest high-refresh rate Ultra-HD display drivers. With 1 Gohm impedance, PD<sub>2x</sub> can easily test leakage to single digit nanoamp accuracy to ensure ppm test quality.

The revolutionary channel density of PD<sub>1x</sub> and PD<sub>2x</sub> enable over 5000 channels to be configured in a system for multi-site test strategies that exceed the throughput and cost effectiveness of any existing solution.

The Diamond<sub>x</sub> architecture is uniquely designed to maximize throughput and minimize test costs, and PD<sub>1x</sub> and PD<sub>2x</sub> take full advantage of these architectural capabilities.

The addition of the PD<sub>1x</sub> and PD<sub>2x</sub> to the comprehensive suite of Diamond<sub>x</sub> analog, digital and wireless instruments provides a compelling solution for display driver and TDDI devices, in addition to the full MCU, SoC/ASSP, Automotive and wireless test capability of the Diamond<sub>x</sub>.

### PD<sub>1x</sub>

- 320 channels per instrument
- 16 bit, +/-1 mV accuracy
- 123 ksps sampling rate (320 channels)
- 243 ksps sampling rate (160 channels)
- 128 k sample memory per channel
- Real-time sample averaging
- 500 MΩ input impedance
- -10 V to +10 V voltage range
- +/-10.5 V reference voltage source
- Synchronous sampling

### PD<sub>2x</sub>

- 320 channels per instrument
- 16 bit, +/-1 mV accuracy
- 123 ksps sampling rate (320 channels)
- 243 ksps sampling rate (160 channels)
- 128 k sample memory per channel
- Real-time sample averaging
- 1 GΩ input impedance
- -10 V to +10 V and 0 to +20 V voltage ranges
- -10.5 V to +20 V reference voltage sources
- Synchronous sampling

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