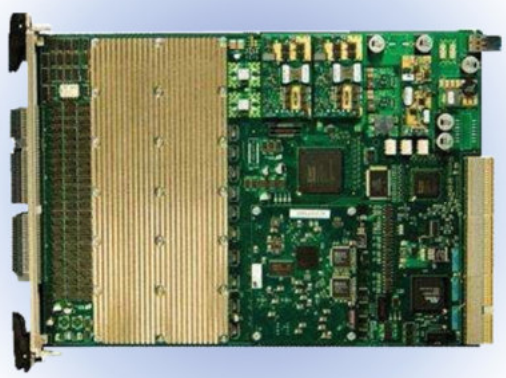
Cohu

DIAMOND SERIES HDVI



The Value Standard for Massive Multisite Test (HDVI)

The HDVI offers significant cost-of-test and cost-of-ownership savings for very price sensitive devices used in consumer products such as digital cameras and mobile electronics. It offers the highest V/I pin density in the industry and reduces the total number of instruments and test systems needed for high volume production.

- Voltage/current supply (VIS) mode
- Precision analog source (PAS) mode
- Flexible triggering options
- External input matrix

The High Density Voltage Current (HDVI) instrument for Diamond Series has 72 channels of 4-quadrant voltage/current source and measurement capability.

Features:

- Industry-leading V/I channel density enables massive multisite configurations for the best through
- Built-in, high-bandwidth input matrix allows external instruments to connect to dual-use DUT pins which reduces relays on the loadboard, simplifies design and improves loadboard Reliability
- High-precision, per-pin analog source enables parallel testing of embedded ADC's, analog pins on microcontrollers and a wide range of consumer devices
- 4-quadrant, high-current performance provides coverage for the growing embedded power management market
- High-accuracy voltage measurement capability ensures reliable testing of sensitive voltage references

DIAMOND SERIES HDVI

Voltage/Current Supply (VIS) Mode

In the VIS mode, the HDI instrument provides a scalable, four-quadrant power supply gangable by 2, 4 or 8 channels up to a maximum of 2 A, each with multiple force and measure ranges to test a wider range of consumer, wireless and automotive devices. The force side on each channel is driven by a 16-bit DAC and a 4k source memory. On the receive side, each channel has a 1k measure memory.

Precision Analog Source (PAS) Mode

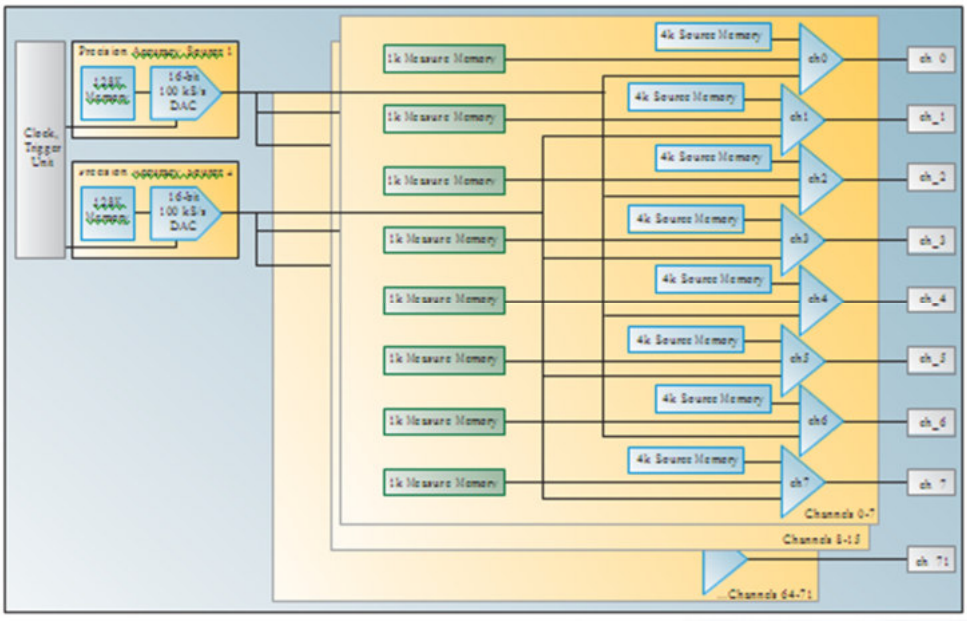
In the PAS mode the HDVI provides two precision analog sources. Source 0 connects to all even channels and Source 1 all odd channels on the instrument with individual gain and offset control per channel. These sources give the test engineer a high degree of accuracy for forcing volt- age. The PAS has a 16-bit DAC and a 128k waveform memory to drive high-accuracy analog waveforms into microcontrollers and other consumer devices with embedded ADCs. An array of pre-defined signals like sine, ramp and triangle waveforms makes programming the PAS easy.

Flexible Triggering Options

The HDVI is clocked internally by the on-board Clock and Trigger Unit. It can be triggered internally or externally through the Diamond Series event trigger infrastructure for maximum flexibility. Trigger event lines on the system bus are available for signaling and synchronizing with other instruments. A full suite of APIs allow the user- defined program to loop, increment and decrement the 4k VIS and 128k PAS source memories, as well as trigger measurements.

External Input Matrix

The HDVI has an external input on each channel that allows the test engineer to connect other instruments to general-purpose I/O device pins. The input matrix reduces loadboard circuitry needed to switch between tester resources and multi-function device pins. As a direct consequence of reduced loadboard components, the resulting space savings can be used to increase multisite count which significantly lowers the unit cost of test.



The industry-leading V/I channel density of the HDVI instrument on the Diamond Series enables massive multisite configurations for the best throughput and lowest cost of test.

www.xcerra.com/diamondx
info@cohu.com
Semiconductor Test Group
www.xcerra.com/ate

Cohu, Inc.
12367 Crosthwaite Circle, Poway, CA 92064-6817 | Tel. +1 858.848.8000
www.cohu.com

DIAMOND SERIES HDVI

1. General

1.1 Channel Count: 72

1.2 Voltage/Current Source & Measure: 4-Quadrant

2. Voltage/Current Supply (VIS)

2.1 DC Voltage Force/Measure Ranges: ±1.8 V, 3.6 V, 7 V

2.2 DC Voltage Force Accuracy: ±0.05% FSR*

2.3 DC Voltage Measure Accuracy: ±0.025% FSR*

2.4 DC Current Force Ranges: ±8 mA, 128 mA, 256 mA

2.5 DC Current Force Accuracy:
±8 mA, 128 mA: ± (0.125% FSR + 0.25% force value)*
±256 mA: ± (0.25% FSR + 0.5% force value)*

2.6 DC Current Measure Ranges:
±15 µA, 125 µA, 1 mA, 8 mA, 128 mA, 256 mA

2.7 DC Current Measure Accuracy:
±15 µA, 125 µA, 1 mA, 8 mA, 128 mA: ±(0.125% FSR + 0.25% measure value)*
±256 mA: ±(0.25% FSR + 0.5% measure value)*

2.8 Ganged Channels: 2, 4, 8

2.9 Maximum Current:
±2 A (8 x 256 mA/channel) or ±200 mA/channel (all channels ON)

2.10 Source Memory: 4 kS/Channel

2.11 Measure Memory: 1 kS/Channel

3. Precision Analog Source (PAS)

3.1 Independent PAS Sources:
PAS0 (channels 0, 2, 4, ...70)
PAS1 (channels 1,3, 5, ...71)

3.2 Individual Channel Gain & Offset:
Output voltage range: +3 V, +6V
Output voltage accuracy: ±300 µV, ±400 µV

3.3 Source Waveform Memory: 128 kS

3.4 Maximum Sample Rate: 100 kHz

4. External Input Matrix

4.1 Impedance: 50 ohms

4.2 Bandwidth: 0 to 500 MHz

*Full Scale Range (FSR) is defined as –FS to +FS. So±0.05% FSR of ±7 V range is (±0.05 * 14 V) = ±7 mV

All specifications are subject to change without notice.

www.xcerra.com/diamondx
info@cohu.com
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www.cohu.com |