

Diamond_xATMP_x

Analog Time Measurement Processor



Provides 4 independent time measurement channels per board to perform rise or fall time, pulse width, delay, frequency, or period and duty cycle measurement.

Each channel has two signal measurement inputs (A and B) and a trigger signal input for arming the measurement. Each of these inputs has front-end circuitry to optionally attenuate or filter the incoming signals, and allows setting conditions for low level, high level, and hysteresis. For each input, the fan-out replays enable connection from 6 different DUT pins.

Highlights

- Flexible timing measurements through per-pin programmable comparator levels and programmable hysteresis
- Reduced loadboard complexity using the SmartMux for high voltage timing measurements

Features

- 4 independent time measurement channels per board
- 4:1 Smart Mux capabilities
- $\pm 2.5\text{ V}$, -5 V to $+25\text{ V}$, -15 V to $+100\text{ V}$ comparator ranges
- Flexible arming for wide range of measurements



Automotive



Consumer



Flat Panel Display



IoT/IoV & Optoelectronics



Industrial & Medical



MCU



Mobility

- TED - Time Event Digitization
- 8M Sample Event Memory
- Burst Mode Read Back
- Multiple Trigger Modes
- High Voltage Direct Input
- Mixed-Signal Sync Capability

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Analog Time Measurement Processor

The Analog Time Measurement Processor (ATMPx) is a high voltage multichannel time measurement unit.

- A quad-channel board providing fully independent operation
- SmartMux capabilities that enable
 - Fanning each channel out to four different DUT IO paths
 - Mapping two alternate load board connected signals to the DUT connection path



Key Specifications

Feature	Specification	Pulse Width Measurement	Specification
Retrigger Time between Samples	1.5 μ s	Resolution	29 ps
Samples per Measurement	1 to 4194303	Measurement Accuracy	± 1 ns typical
Rise/Fall Time	± 1 ns typical	Min. Pulse Width	10 ns
Duty Cycle Measurements	$\pm(((800 \text{ ps} + \text{pulse width}) / (\text{period} - 800 \text{ ps}/\#\text{samples}) - \text{pulse width} / \text{period}) * 100\%$	Max. Pulse Width	800 ms

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