

Programmable Pin Electronics Module

MODEL 36010

The 36010 is a 100MHz programmable pin electronic module designed for characterizing, validating and testing digital and mixed signal IC or electronics. Each module consists of a Sequence Pattern Generator and Logic Pin Electronics Card containing 8 channels. The 36010 module is expandable to provide up to 64 channels hardware resource for various purposes. Besides, based on the per-pin architecture, each channel is equipped with 32M vector memory, 32 sets of clocks, 32 sets of waveforms and one PMU channel. It provides fast and accurate testing, with same performance and features as other stand ATE equipment.

Sequence Pattern Generator

The Sequence Pattern Generator of the 36010 module provides more than 17 sequence commands including "jump", "match", "loop", "repeat", ... etc, to control the flow of pattern execution. It equips with 32M sequence command memory, which allows each vector to has its own sequence command to control the flow of pattern execution flexibly. Besides, each Sequence Pattern Generator can support up to 8 Logic Pin Electronics Cards, which means it can support up to 64 I/O channels and performs testing on 8 DUT simultaneously.

Logic Pin Electronics Card

In each Logic Pin Electronics Card, it adopts Chroma® PINF ICs on it to achieve high timing accuracy and flexible waveform output functions. The per-pin timing generator provides 32 sets of clock containing 6 programmable edges. As for the per-pin waveform generator, it provides each digital I/O channel 32 sets of programmable waveform with the change-one-the-fly feature. In the analog function, the Logic Pin Electronics card has the tri-level driver and comparator with 610uV programmable resolution. It also equips with active load, per-pin PMU and high voltage driver functions. Moreover, the 36010 supports scan pattern function for scan test.

Proprietary Software, CRISP

In addition to support the LabView and LabWindows environments, Chroma® also provides the proprietary software option, CRISP. To cover the various requirements for the IC debugging, CRISP contains lots of software modules. Running on the Microsoft Windows XP® operation system and using C++ as the test program language, CRISP provides users the flexible, easy-to-use and fast-runtime GUI software to meet the various demands. The project IDE tool makes it easy to create the test program quickly. In the test program debugging stage, CRISP provides the suite of debugging software tools for user, which includes Plan Debugger, Datalog, Waveform, Scope, SHMOO, Pin Margin, Wafer Map, Summary, Histogram, STDF, Test Condition Monitor, Pattern Editor, and so on.

Key Features

- Standard PXI 3U/PXIe-Hybrid compatible bus type
- 100MHz maximum data rate
- 8 channels with per-pin, per-cycle bidirectional control
- Scalable architecture to provide up to 64-pin
- 32M sequence command memory
- More than 17 pattern sequence commands
- Per-pin architecture
- 32M vector memory per pin
- 32 sets of clock and waveform per pin
- Waveforms changes on-the-fly
- Programmable tri-level driver in 610uV resolution
- One high voltage driver per board
- Per-channel PMU
- Per-channel timing measurement unit
- Support scan pattern function
- Windows 2000/XP operating system
- Support LabView and LabWindows
- Proprietary software tools option



Applications

- Logic and mixed signal validation and test
- Digital pattern generator and vector capture
- Consumer IC and electronics test
- Logic test subsystem for DC and RF ATE



SPECIFICATIONS

Model	36010	Programmable Load	
Test Rate	50/100MHz	IOL/IOH Range	±12mA
Channels Per Board	8 (Scalable to 64 channels)	IOL/IOH Accuracy	±25uA
Vector Depth	32M	VREF Setting Range	-1.5V ~ +6V
Sequence Control Memory	32M	VREF Accuracy	±50mV
Number of Sequence Control Command	17	High Voltage Driver	
Parallel test capability	8	HV Channel	1 HV channel / board
Timing Generator Per Pin		VIL/VIH Range	0V ~ +13.5V
No. of Edges	6 edges / pin (2 Driver, 2 Driver & I/O, 2 Strobe)	VIL/VIH Accuracy	±20mV
No. of Timing Sets	32 sets / pin	VIL/VIH Output Current	± 60mA
Rate / Edge Setting Resolution	125ps / 62.5ps	Scan Chain	
Rate Setting Range	20nS → 1mS	Chain number / LPC	1/2/4
Waveform Generator Per Pin		Size per chain	256M/128M/64M
No. of Waveform Sets	32 sets / pin	PPMU	
Driver		Channel Number	1 channel / 1 pin
VIL/VIH Range	-1.5V~+5.9V / -1.4V~+6V	Voltage Force Range	-1.5V ~ +6V
VIL/VIH Accuracy	±5mV @ VIH ≥ VIL+200mV	Current Measured Range	32mA / 2mA / 200uA / 20uA/2uA
Output Current (Static/Dynamic)	±50mV/±100mA	Current Forced Range	32mA / 2mA / 200uA / 20uA/2uA
Output Impedance	50±5Ω	Voltage Measured Range	-1.5V ~ +6V
Comparator		Power and Dimensions	
VOL/VOH Range	-1.5V ~ +6V	Power Consumption	25W per Slot
VOL/VOH Accuracy	±15mV	Size	PXI 3U Standard Board (Extendable)
		Cooling System	Standard PXI Chassis Fan (Forced Air Cooling)

* The specifications are subject to change without notice.

ORDERING INFORMATION

36010 : Programmable Pin Electronics Card
 A360100 : Sequence Pattern Generator
 A360101 : Load Board Test Fixture
 A360102 : 250W/48V DC Power Supply
 Universal Load Board
 CRISP System Software



Universal Load Board



Load Board Test Fixture

Developed and Manufactured by :

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