



## MODEL 33011

### KEY FEATURES

- PXI-e based universal relay control for semiconductor load boards
- 32CH direct relay drivers
- 2 lanes of SPI relay control interface
- 5V @ 100mA for relay control
- 5V and 3.3V @ 0.6A for load board peripherals
- $\pm 12V$  @ 0.75A for load board peripherals
- 2 ports of SPI interface for EEPROMs on load boards
- External trigger input and output for high speed test synchronization
- Semiconductor grade CRAFT-PXIe software
- LabView and LabWindows support
- Master/Slave architecture for boards chaining
- Compliance pattern and timing structure with Chroma 3380 series

## UNIVERSAL RELAY DRIVER CONTROL MODULE MODEL 33011

### Addressing the testing needs for all types of semiconductor components

The world is pushed to change by the advance in semiconductor technologies. This is the time when artificial intelligence meets 5G, when autonomous cars meet big data analysis, with everything consolidated into a portable device. Semiconductor test systems need to be transformed to a new era where all sorts of features need to be integrated into a tiny system. The emerging PXIe-based platform provides a good viable path to fulfill the needs in the new era. Chroma's PXIe Semiconductor Test Solutions give our clients a versatile workplace to complete the semiconductor test while integrating functional instrument modules from different suppliers.

### The First PXIe Card for All You Need around Load Board Electronics

Load Boards are the most important interfacing electronics in semiconductor test systems. For all different kinds of needs in applications, a wide range of components might be added to the load board to maybe light up a power LED, simulate the actual application environment, multiplex for cost considerations, or even recording the outputs from the device for data-logging purposes. Chroma 33011 Universal Relay Control card gives you everything that can be implemented on the load board with control - relays, sets of DC sources, SPI channels, and triggering

signals. Users won't need to buy multiple PXIe cards nor occupying scarce test resources just to manage the needs on the load board. It saves PXIe slots for more - such as higher site count for more outputs.

### Proprietary Software, CRAFT and other rich features of software support

In addition to supporting the LabView and LabWindows environment, Chroma provides a proprietary software suite, CRAFT. CRAFT, running on Microsoft Windows operation system, contains a full set of tools for semiconductor tests from test program development, debugging, production to maintenance. The production tools include easy-of-use GUI software such as Operator Interface, Test Data Output, Binning and Sequence Control, Wafer Map, Summary Tool, and rich sets of prober/handler drivers. The user debugging tools include the Datalog, Plan Debug, TCM, Shmoo, Pattern Editor, and Waveform, etc. It also supports LabView and LabWindow environment, and a subset of debugging tools are provided. In addition, a third party CAD to ATE pattern conversion tool is also supported to cover the WGL/STIL/VCD/EVCD conversions.

### FOCUSED APPLICATIONS

- MCU and consumer SoC
- MEMS & Sensors: Light sensors, temperature sensors, pressure sensors, magnetic sensors, gyro, accelerometers
- Automotive 48V power system
- RF: Switch/Front-end module IC, connectivity (bluetooth, WiFi, combo, etc.), mobile IC

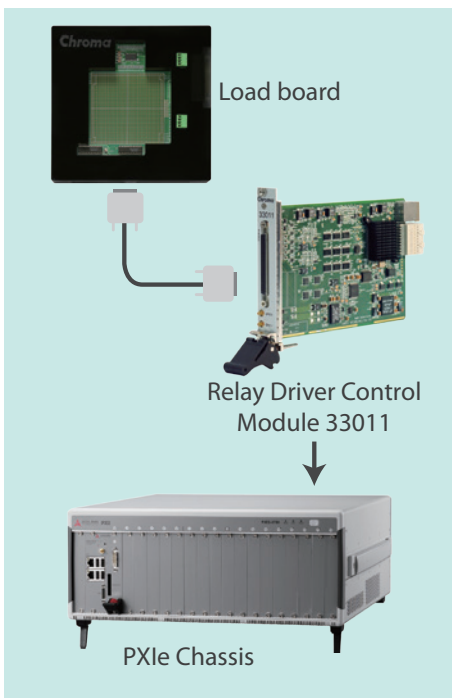


## SPECIFICATIONS

Model	33011
Number of Channel	32 channels of direct relay driver 2 lanes SPI relay control interface (8, 16, 32, 40, 48, 56...128 channel/lanes, configurable)
Maximum Direct Drive Current	100mA per channel
Output Power Supply	LB_R5V at max. 3.2A, for relay use LB_A5V at max. 0.6A, for peripheral circuit use +3.3V at max. 0.6A, for peripheral circuit use +12V at max. 0.75A -12V at max. 0.75A
Digital Interface	2 ports SPI interface for external EEPROM use
External Trigger	External trigger I/O
Outlet Type	Pinout connector type : SCSI II 68 pins External trigger type : SMB x 1

All specifications are subject to change without notice.

## ARCHITECTURE OVERVIEW



## ORDERING INFORMATION

33011 : PXle Relay Driver Control Module (URL), 32 channels

Load Board

PXle Chassis



6-slot chassis

9-slot chassis

18-slot chassis

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33011

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