

Parametric Test Solutions

For Legacy, Advanced Nodes and Flash Memory Devices



PARAMETRIC TEST SYSTEM

The Chroma 3530 Parametric test system is a paradigm shift in wafer testing. Every design feature produces lower cost per wafer, increased test quality and uncompromised coverage.

- » Zero footprint = more testers/wafers per floorspace
- » Per pin resources = true parallel test, no trade-off
- » Arm processor per pin = high throughput, lower test time
- » No Mechanical Relays= higher reliability, more uptime
- » 1 year calibration cycle = more system uptime
- » Personality options = reuse of existing probe cards

The xMU resource card provides the capability to test legacy and latest devices eliminating the need to retain legacy testers. The 10MHz LCR measures gate capacitance even with larger leakage in small nanometer devices. For the first time in parametric test industry, All Per Pin Resources can fill the gap between a benchtop and a production system.

ALL Per Pin Resources:

- » SMU HW current auto-range, 100mA - 1nA, for faster measurements
- » SMU = +/- 100V, 100mA - 10pA Range
- » Pulse Generator = +/- 40V with tristate for Flash Memory
- » PulseIV = +/- 10V Pulse and I Measure +/- 10mA to +/- 100nA, 50nS rise/fall for NBTI
- » CMU = 10KHz-10MHz, any pin to any pin for gate capacitance
- » FMU = 10KHz to 20MHz, to measure ring oscillators

3530 Parametric Test System

KEY FEATURES

- True Zero Footprint
- Test Head is THE complete footprint
- 1 year Calibration Interval
- True Parametric Resource Per Pin
- +/-100V SMU, CMU, FMU per Pin
- PulseIV, HVPGU per Pin
- ARM processor per Pin
- Each pin has its own SENSE Pin
- Fast, 0V to 100V measure <1pA in 10ms
- HW auto-range I measure, 100mA-1nA, no switches
- SMU = No Mechanical Relays
- Personality interface options
- Test plan executes on the resource's board

EASY ACCESS & FLEXIBLE CONNECTIONS

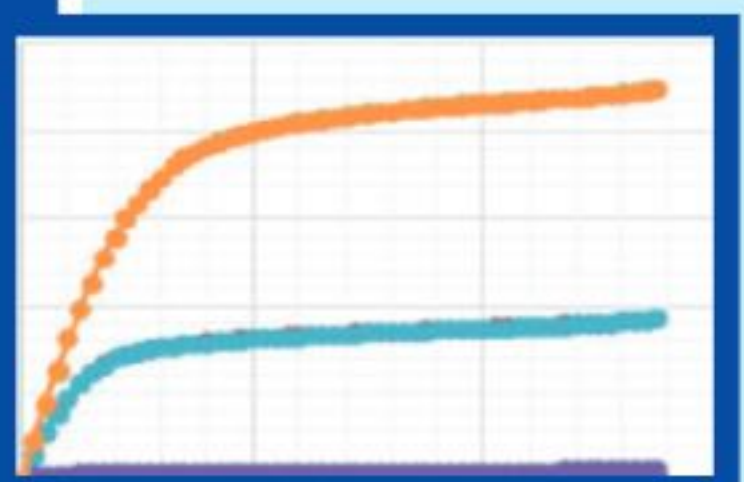


SMU Access



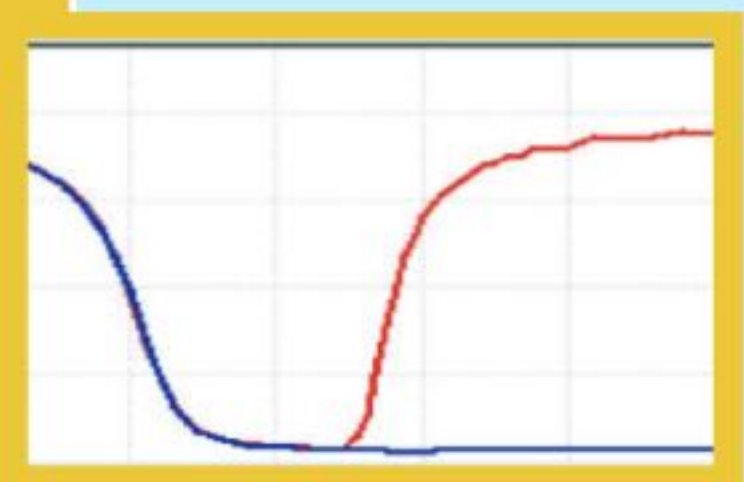
Direct Docking

Chroma
Advancing Excellence



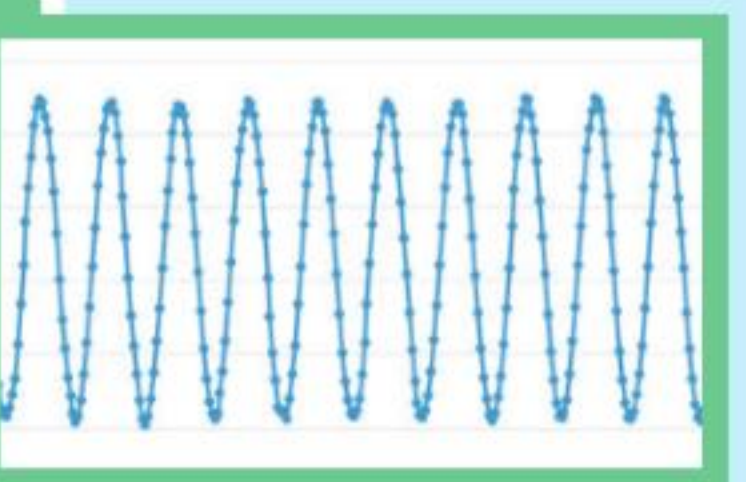
SMU

- Four Quadrant, FV or FI
- MV and MI Simultaneously
- 2 ADCs, 24-bit 1MSPS
- 2 DACs, 20-bit 1MSPS
- 8 MV & FV ranges: +/-100V to +/-500mV
- 11 MI & FI ranges: +/-100mA to +/-10pA
- FVMI, HW current auto-ranging
- Fast FVMI settle time
- Step 0-100V, MI < 1pA in 10ms



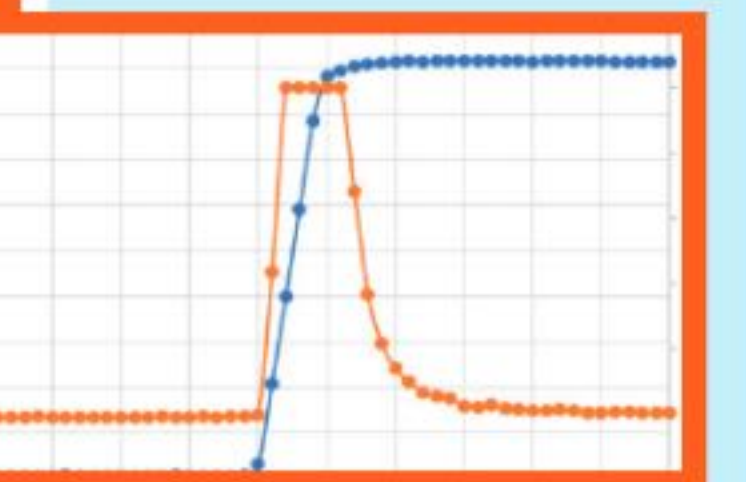
CMU

- Frequency 10KHz-10MHz
- Any pin to any pin
- Multiple pins in parallel
- 100nF to 1pF ranges
- DC range = +/-10V



FMU

- AC and DC
- DC level range +/-10V
- Threshold DAC = 16bits
- 1 Mohm or 50 ohm
- 10KHz to 20MHz
- 10 ppm accuracy
- Sensitivity = 200mV rms



PulseIV & HVPGU

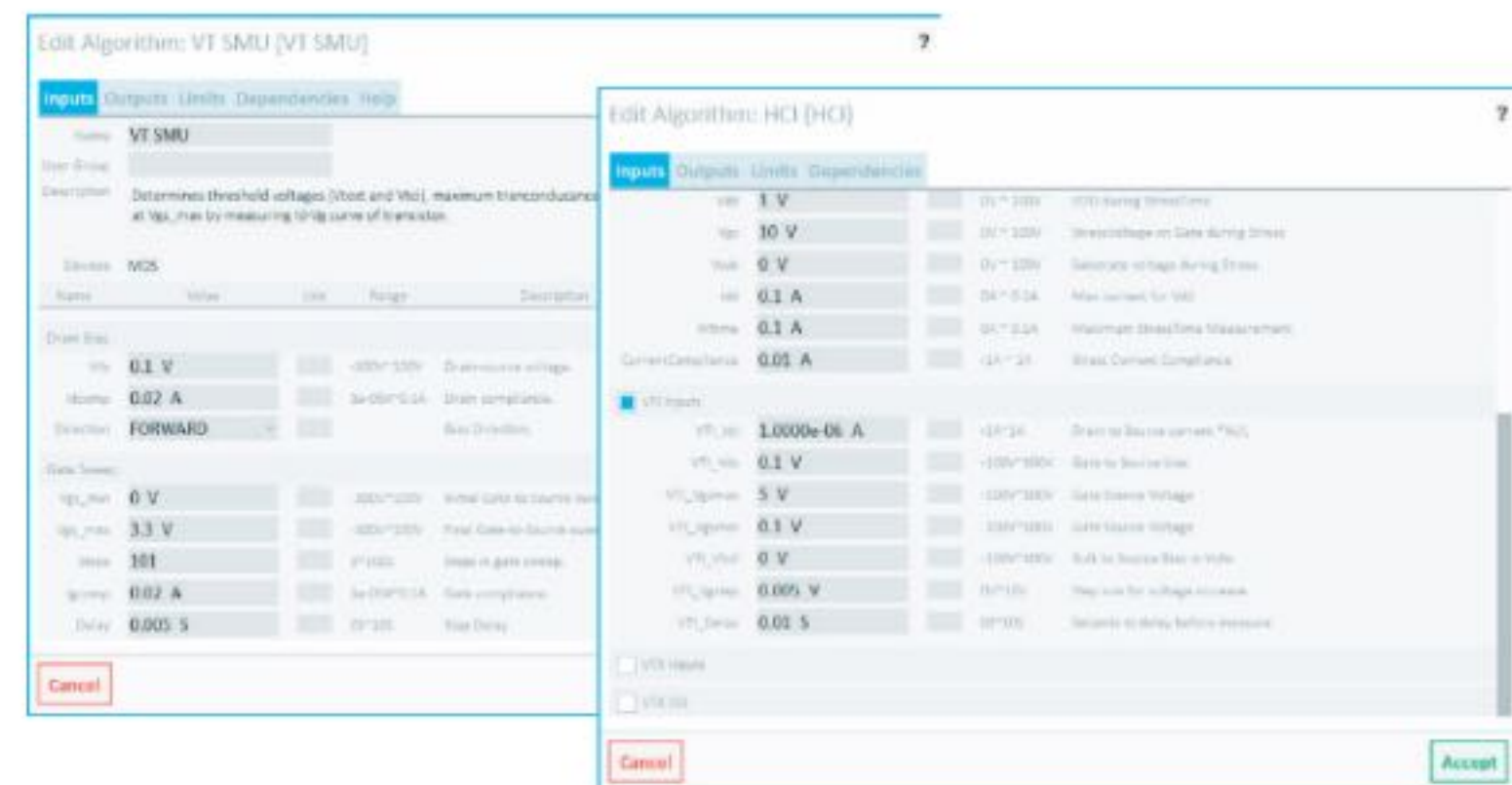
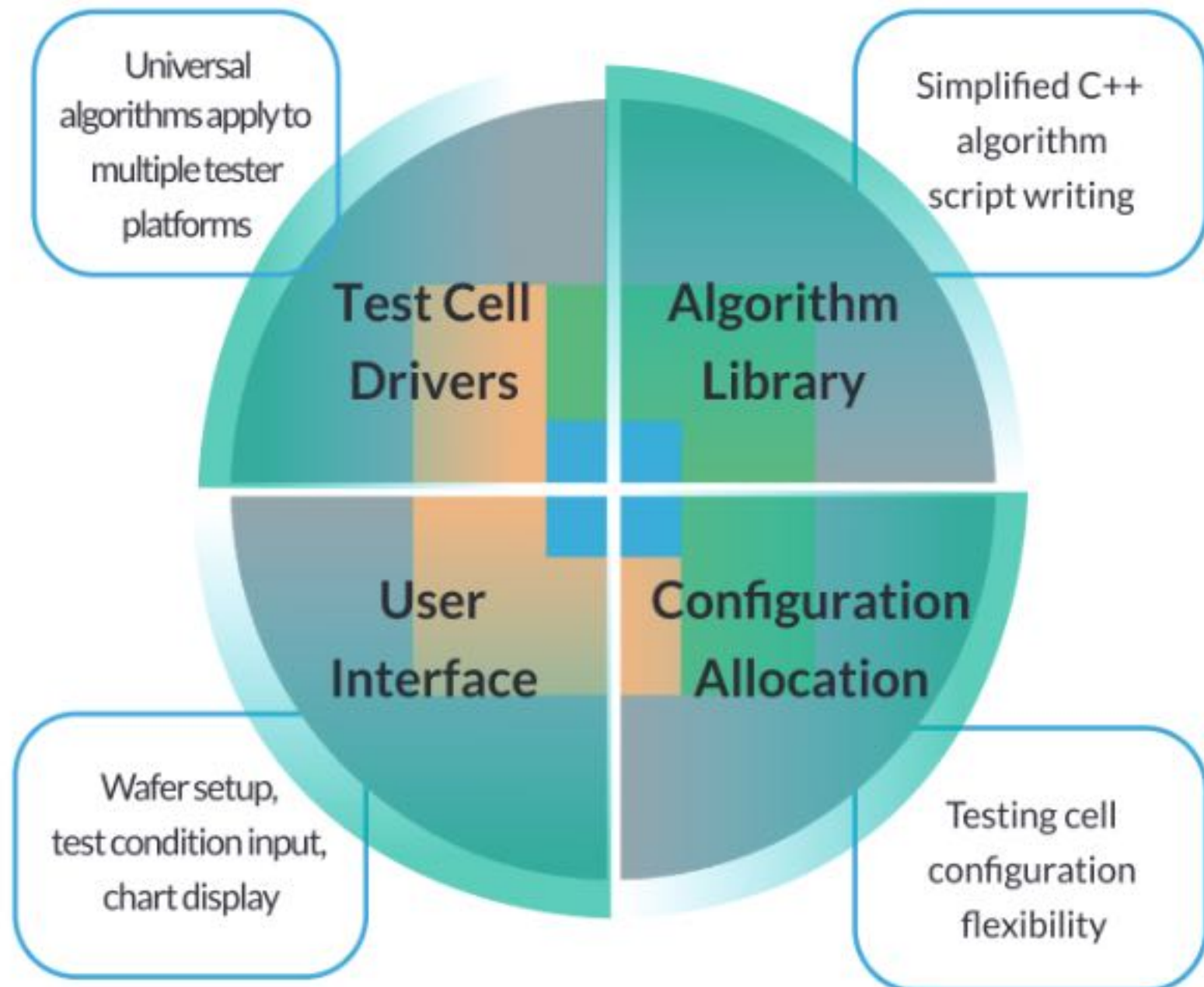
- Force Voltage pulse only
- Dual 16bit 100MSPS ADC
- V and I measured simultaneously
- 16bit 100MSPS DAC Voltage force
- AWG mode, remote sense
- IV mode = +/-10V, +/-5V ranges
- IV mode = +/-10mA to +/-100nA
- PG mode = +/-10V, +20V, +/-40V
- 10ns resolution

WRITE-ONCE ALGORITHMS

Hyperion test algorithms are universal and written in a C++. If you've written C algorithms on other platforms, you can already write them on Hyperion.

Algorithm input and output parameters are entirely defined self-contained within the code without the need to define other files or even use the Test Shell. We provide GUI-based starting point as well.

Algorithm definition includes both scalar and vector parameters which are automatically handled by output formatting plug-ins.



POWERFUL "PLUG-IN" ARCHITECTURE

- Plug-In Customization
- Standard-Based Chroma Algorithms
- C++ Algorithm Plug-Ins
- Test Plan Importing
- C++ Output Data Plug-Ins
- Consulting Service Available

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