



V6000e

Product Overview



Industry Challenges

Engineers need the ability to develop programs and characterize devices in their office or lab environment, so they don't have to take a high-value production tester off-line for tasks that don't require its full (and comparatively expensive) capabilities.

V6000e Memory Test System

The V6000e enables program development and characterization in a lab or office environment at the lowest cost of test, using the same V6000 hardware and software with Active Matrix found in the V6000 production systems.

With the Verigy V6000e, engineers now have a cost-effective, flexible, fully compatible, scalable test solution that offers the robust test capabilities of much larger solutions in a form factor suitable for an office or lab.

The Verigy V6000e is the industry's first engineering test solution for Flash and DRAM applications with Active Matrix technology for the office environment. Part of the V6000 family, the V6000e brings to the lab or office setting the same powerful testing capabilities of the production V6000 WS and FT systems.



Like the V6000 WS and FT, the V6000e is supported by patent-pending Active Matrix technology, which delivers breakthrough cost of test (COT), as well as the scalability and flexibility required to perform both Flash and DRAM testing on the same system.

By providing a driver and comparator for each pin, and maintaining signal integrity and isolation, the V6000e test solution with Active Matrix improves yield and reduces cost per pin by 50 percent compared to a traditional tester.

With the simple installation of a new loadboard, the V6000e can test either DRAM or Flash memory, allowing engineers the flexibility to meet market conditions quickly and easily on one tester.

Because the V6000e has the same operating system software, hardware and interface of Verigy's V6000 WS and FT test solutions, moving to the manufacturing floor is easy.

The V6000 platform's scalability and versatility will allow manufacturers to extend the useful life of the tester, through a series of upgrades, well into the future. The V6000 is water-cooled, requiring a smaller footprint than air-cooled systems.

Revolutionary Active Matrix

With the V6000 test solutions, Verigy introduces Active Matrix, the innovative patent-pending technology that enables

increased throughput through increased parallelism, and increased yield through significantly improved signal fidelity.

Four times the number of pins = four times the parallelism at half the cost per pin

- Pin electronics are moved to the interface layer, located in a cost-optimized pin electronics ASIC to achieve up to 18K pins per system
- Custom ASICs with drivers and comparators, produce four times the parallelism of traditional test solutions, at significantly lower costs (50 percent less per pin)
- Matches or exceeds the parallelism of other testers, without the signal degradation caused by sharing pins or the yield loss caused by shorted pins on a shared channel

75 percent reduction in distance between the pin electronics and probe card significantly improves signal fidelity and yield

- Active Matrix ASIC enables close proximity to the probe card to provide optimal signal performance and parallel reads
- Reduced capacitive load-to-drive helps to eliminate excessive guard banding caused by long tester transmission lines that don't match real-world device environments

Features and Benefits

Feature	Benefit
Active Matrix	Active Matrix maintains high yields, by maintaining high signal fidelity and reduced capacitive load. Delivering 288 I/O pins in office and 576 I/O pins in lab environment.
Performance options: 70 MHz / 140 Mbps 140 MHz / 280 Mbps 280 MHz / 560 Mbps Up to 880 Mbps	Flexibility and scalability in performance to meet future test requirements
Office Environment	Operates on 110 V, with standard power cord. No external cooling required.
Lab Environment	Operates on 220V. External cooling water source required.
Small footprint	The small footprint allows customers to develop test programs in an office or lab environment. Previously, a production system was needed for these purposes, which is very expensive and time-consuming.
6th generation Tester-Per-Site® architecture	Delivers better throughput for a range of memory devices (Flash and DRAM) by providing independent APGs per site. Expandable configurations for increased parallelism
Hardware and software compatibility throughout the V6000 platform	All test programs can be leveraged from the V6000e engineering work station to the WS and FT systems

Components

- V6000e tester with Active Matrix
- 2 flat panel displays
- PC controller
- 1 TSM (test site module)
- Device interface for user customization
- ECR
- Performance options up to 280 MHz/880 Mbps

Key Specifications

Specification	Value	
Test site modules (TSM)	<u>Office</u> 2	<u>Lab</u> 4
Tester resources	<u>Office</u>	<u>Lab</u>
I/O	288 pins	576 pins
Programmable Power Supplies (PPS)	32	64
DCV	32	64
APG	2	2
Test frequency / Data Rate	280 MHz / 560 Mbps up to 880 Mbps (+/-330 ps OTA) 140 MHz / 280 Mbps (+/-400 ps OTA) 70 MHz / 140 Mbps (+/- 1 ns OTA)	
ECR (Error Capture RAM)	Up to 64 Gigabits per TSM	
Applications	NAND, NOR, MCPs, DRAM, SRAM	

Related Information

For more information about the V6000e, please visit the following website:

www.verigy.com/go/V6000

Contact Information

For more information about the V6000e, please contact your local Verigy sales representative

www.verigy.com/go/contactus

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November 2008

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