MiNT SYSTEMS CORPORATION

MS7208
Flash Device Test System
for Multi-site Testing

The MiNT Systems' MS7208 Flash Device Test System (FDTS) is a multi-site automatic test system primarily designed for engineering and production in flash device manufacturing.

The MS7208 system can test a wide range of device families including – but not limited to – NAND flash, NOR flash, multi-level flash, multi-die flash, EEPROM, RAM, and mixed-technology memory devices.

Built on the flexible modular ATE platform, the MS7208 can be tailored to test a single device or up to 8 devices simultaneously with one Flash Device Test Module. The parallel testing capability is field-expandable from 1 module to 30 modules (up to 240 devices; higher device count optional), providing great flexibility in configuring the MS7208 to work manually or with any single site or multi-site prober or handler.

The application-specific PC Windows-based test software allows the user to create, edit, and store custom test program flows, which can be used to collect and analyze even the most complex test combinations. Additionally, the network-ready MS7208 is equipped to interface with your factory intranet, providing test results and data analysis to those who need it most. The PC-based controls allow the MS7208 to be incorporated into your network in minutes.

MiNT Systems is dedicated to advancing semiconductor testing technology. We are continuously adding new modules to the ATE family to provide more test functions with higher accuracy and greater flexibility.

Features:

- Tests a wide range of flash device families
- Supports open, short, resistance, and leakage tests
- Supports programming, verify, and erase algorithms

- Advanced precision test system in a bench top portable package
- Multi-die testing
- Single-site and multi-site testing configurations
- Field-expandable test sites
- Flexible pin number configuration
- Windows-based spreadsheet-like programming
- Comprehensive MiNT Test Flow Editor software for fast device test application generation
- Interfaces for any wafer-prober or device handler

Applications:

- DC and functional testing for flash memory devices
- DC testing for any device up to 96 pins per module
- Use as a general test system, a programmer, or an endurance test system

A single MS7208 Flash Device Test Module is capable of testing 1 to 8 devices simultaneously. A complete system can operate 1 to 30 modules for parallel testing of up to 240 devices.

File Edit Help

Index	My Name	Method	Run	Parameters
1	Pin Continuity	Continuity	Y	Pin
2	Vcc Continuity	Continuity	Y	Vdd
3	Signal Leakage (low)	Leakage Current	Y	InputPadLow
4	Signal Leakage (high)	Leakage Current	Y	InpputPadHi
5	I/O Leakage (low)	Leakage Current	Y	TriStatePadLow
6	I/O Leakage (high)	Leakage Current	Y	TriStatePadHi
7	Power down	Voltages	Y	PowerOff
8	Power on	Voltages	Y	Vcc=3.30 Vih=3.30 Vo=1.80 Vpp=0.00, Vil=0.00
9	Reset command issued	Reset	Y	
10	Standby Idd (CMOS)	Standby/Active Idd	Y	SCMOS

MiNT Test Flow Editor allows the user to generate target device test program effortlessly.

Specifications[1]:

Flash Device Test System
Model MS7208

Programmable Device Power Supply

Number:	2 per module
Voltage Range:	VCC: 0 to 7.5V VCCQ: 0 to 12.5V
Accuracy:	VCC: ±30mV VCCQ: ±50mV
Resolution:	12 Bits
Current Measurement Range:	Range 1: 0 to 100mA Range 2: 0 to 10mA Range 3: 0 to 1mA
Resolution:	16 Bits

Programmable Device Pin Logic Level

Number:	3 per module
Voltage Range:	VIH: 0 to 5V VHH: 0 to 12.5V VIL: -0.25 to +2.5V VO: 0 to 5V
Accuracy:	VHI: ±25mV VHH: ±50mV VLO: ±15mV VO: ±25mV
Resolution:	12 Bits

Open/Short Test Control

Force Current Ranges:	4 ranges, Range 1: ±5mA Range 2: ±500µA Range 3: ±50µA Range 4: ±5µA
Measure Voltage Range:	-2.5V to +7.5V
Force Voltage Range:	-2.5V to +7.5V
Measure Current Ranges:	4 ranges, Range 1: ±5mA Range 2: ±500µA Range 3: ±50µA Range 4: ±5µA
Force / Measure Resolution:	16 Bits

Leakage Test Control

Force Voltage Range:	-2.5V to +7.5V
Measure Current Ranges:	4 ranges, Range 1: ±5mA Range 2: ±500µA Range 3: ±50µA Range 4: ±5µA
Force / Measure Resolution:	16 Bits

Resistance Test Control

Force Current Ranges:	4 ranges, Range 1: ±5mA Range 2: ±500µA Range 3: ±50µA Range 4: ±5µA
Measure Voltage Range:	-2.5V to +7.5V
Test Current Resolution:	16 Bits

Tester Pin Assignment

I/O Field:	32 Bits: I/O0 to I/O31 Voltage: VIH to VIL
Address Field:	32 Bits: A0 to A31 Voltage: VIH to VIL
Control Field:	8 Bits: ALE, CLE, WE/, WP/, and CNT0 to CNT3 Voltage: VHH/VIH to VIL
RY/BZ Field:	8 Bits: RBZ0 to RBZ7 Voltage: VIH to VIL
RE Field:	8 Bits: RE0 to RE7 Voltage: VIH to VIL

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Cycle Time

Clock Rate:	100ns, 150ns, 200ns, 250ns, 300ns, 350ns, 400ns, 450ns
WE/ Edge Placement:	10ns
Read Strobe Placement:	10ns

Software

System Software:	MS Windows platform, test flow editor, auto calibration, measurement and test control, data logging and analysis tools
Application Software:	MiNT Test Flow Application Software

General

Power Requirement:	115/230V, ±15%, 50Hz/60Hz, 150 VA
Dimensions:	15.5”(40mm)W x 2.5”(6mm)H x 13”(33mm)D
Weight:	15lb (7kg)
Humidity:	20% to 80% RH, non-condensing
Operating Temperature:	10°C to 35°C

Prober/Handler Interface

RS232:	Optional
IEEE488 (GPIB):	Optional
MCT 24pin Handler I/F:	Optional

Representative:

[1] *Preliminary specifications subject to change.*