



**AT25F512A  
(AT39505)  
SPI EEPROM  
Product Qualification**



The AT25F512A Serial Peripheral Interface EEPROM is fabricated on the AT39500 CMOS process. All tests were performed at Atmel's Colorado Springs Facility.

This report summarizes the product level qualification data, ESD, Latchup, and Write Endurance for the AT25F512 SPI EEPROM. Package specific qualification data is available separately.



# AT39505 Product Qualification

## ESD Characterization

ORYX Model 11000 ESD Test System  
 Pass/Fail via Final Production Test Program: EPRO Model 142AX Tester  
 Quantity Tested: 3/Lot/Voltage  
 Device:AT25F512A

## Human Body Model Testing – Mil Std 883, Method 3015

Lot Number: 3j1286

			3 Positive & 3 Negative Pulses per The Specified Pin Combinations				Max Passing Voltage	
Pin Name	Function	Tested As	Qty/Fail 500V	Qty/Fail 1000V	Qty/Fail 2000V	Qty/Fail 4000V	Qty/Fail	Voltage
Vcc	Power	Vcc	3/0	3/0	3/0	3/2	3/0	3000
Gnd	Ground	Gnd	3/0	3/0	3/0	3/2	3/0	3000
A0	Address	Input	3/0	3/0	3/0	3/2	3/0	3000
A1	Address	Input	3/0	3/0	3/0	3/2	3/0	3000
A2	Address	Input	3/0	3/0	3/0	3/2	3/0	3000
WP	Write Protect	Input	3/0	3/0	3/0	3/2	3/0	3000
SCL	Serial Clock Input	Input	3/0	3/0	3/0	3/2	3/0	3000
SDA	Serial Data	Input/Output	3/0	3/0	3/0	3/2	3/0	3000
Functional Test Only Failing Pin Not Identified		See Above	3/0	3/0	3/0	3/2	3/0	3000

## Machine Model Testing – JEDEC Std 22A, Method 115A

Lot Number: 3j1286

			1 Positive & 1 Negative Pulse per The Specified Pin Combinations				Max Passing Voltage	
Pin Name	Function	Tested As	Qty/Fail 50V	Qty/Fail 100V	Qty/Fail 150V	Qty/Fail 200V	Qty/Fail	Voltage
Vcc	Power	Vcc	3/0	3/0	3/0	3/3	3/0	150
Gnd	Ground	Gnd	3/0	3/0	3/0	3/3	3/0	150
A0	Address	Input	3/0	3/0	3/0	3/3	3/0	150
A1	Address	Input	3/0	3/0	3/0	3/3	3/0	150
A2	Address	Input	3/0	3/0	3/0	3/3	3/0	150
WP	Write Protect	Input	3/0	3/0	3/0	3/3	3/0	150
SCL	Serial Clock Input	Input	3/0	3/0	3/0	3/3	3/0	150
SDA	Serial Data	Input/Output	3/0	3/0	3/0	3/3	3/0	150
Functional Test Only Failing Pin Not Identified		See Above	3/0	3/0	3/0	3/3	3/0	150

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## AT39505 Product Qualification

### Latch-Up Characterization

Device: AT25F512

Lot Number: Lot# 3j1286

Quantity Tested: 3 per lot

Test Method: JEDEC 78

Final Production Test Program: EPRO Model 142AX Tester @ 25C

Over Current Test Voltage Vcc = 5.0V

Maximum Applied Trigger Current = 200 mA

Maximum Applied Trigger Voltage = 7.0 V

Pin Name	Function	Tested As	Max Trigger Current			Max Trigger Voltage		
			Passing* -I (mA)	Passing* +I (mA)	Compliance Setting (V)	Passing* -V (V)	Passing* +V (V)	Compliance Setting (mA)
Vcc	Power	Vcc	---	---	---	---	7.0	250
Gnd	Ground	Gnd	---	---	---	---	---	---
CS	Chip Select	Input	200	200	7.0	---	---	---
Hold	Suspend Input	Input	200	200	7.0	---	---	---
SI	Serial Data IN	Input	200	200	7.0	---	---	---
WP	Write Protect	Input	200	200	7.0	---	---	---
SCK	Serial Clock	Input	200	200	7.0	---	---	---
SO	Serial Data OUT	Output	200	200	7.0	---	---	---

\* 0 Fails for Latchup or Post Stress Functional Tests.

### Write Endurance Characterization

Device: AT25F512A

Lot Number: Lot# 3j1286

Quantity Tested: 100

Test Temperature: 25C

Vcc: 3.6 Volts

Write Mode: Page

Highest Passing Cycles: 10,000

Cycles To First Failure: NA