

# S29GL512N MirrorBit™ Flash Memory

512 Megabit (32 M x 16-Bit / 64 M x 8-Bit)

## Spansion Overview

Spansion, the Flash memory subsidiary of AMD and Fujitsu, is the world's leading manufacturer of NOR Flash Memory. Spansion is committed to delivering outstanding customer service and expert technical support, as well as providing the highest level of quality and reliability in its products. All Spansion production fabs are certified to the demanding ISO/TS16949:2002 global technical specification, ISO9001:2000 quality standards, and the ISO14001 environmental standard.

## General Description

Spansion S29GL512N devices, manufactured using 110-nanometer second-generation MirrorBit™ (two-bit-per-cell) technology, uniquely combine expanded storage capacity with high performance and unparalleled security features to enable the next generation of embedded wireless applications.

## Target Applications

- Consumer Electronics
- Networking
- Telecom
- Gaming
- Solid-State Disk
- Automotive
- Mobile Devices

## PERFORMANCE CHARACTERISTICS

### ACCESS TIMES

Max. Access Time (ns)	90*	100	110
Max. CE# Access Time (ns)	90	100	110
Max. Page Access Time (ns)	25	25	25
Max. OE# Access Time (ns)	25	25	25

\* Contact local sales representative for availability.

### POWER DISSIPATION

Active Read (@ 10 MHz) (mA)	60
Intra-Page Read (@ 33MHz) (mA)	5
Program (mA)	50
Erase (mA)	50
Standby Mode (µA)	1

Note: Values based on typical.

### PROGRAM & ERASE TIMES

Effective Word Program (16-word buffer) (µs)	15
Write Buffer Program (16-word buffer) (µs)	240
Typical Sector Erase (sec)	0.5

## FEATURES AND BENEFITS

- **Award-Winning 110nm MirrorBit™ Technology**
- **High Performance Read**
  - Up to 90ns Random Access, 25ns Page Access
- **Highest Quality and Reliability in the Industry**

## DISTINCTIVE CHARACTERISTICS

### ARCHITECTURAL

- Second generation 110nm MirrorBit technology
- Single 3.3V power supply with Versatile I/O™ (V<sub>CC</sub> or 1.8V)
- Flexible uniform sector architecture
  - 512 sectors (sector size 64-Kword/128-Kbyte)
- 16-word/32-byte write buffer
- 8-word/16-byte page read buffer
- Industrial temperature
  - (-40 to 85) °C
- JEDEC standard compliant

### SOFTWARE AND HARDWARE

- Program and Erase Suspend and Resume
- CFI (Common Flash Interface) compliant
- ACC pin accelerates factory programming

### SECURITY

- Advanced Sector Protect
- WP# protects top and bottom sectors
- 128-word/256-byte SecSi™ (Secured Silicon) Sector

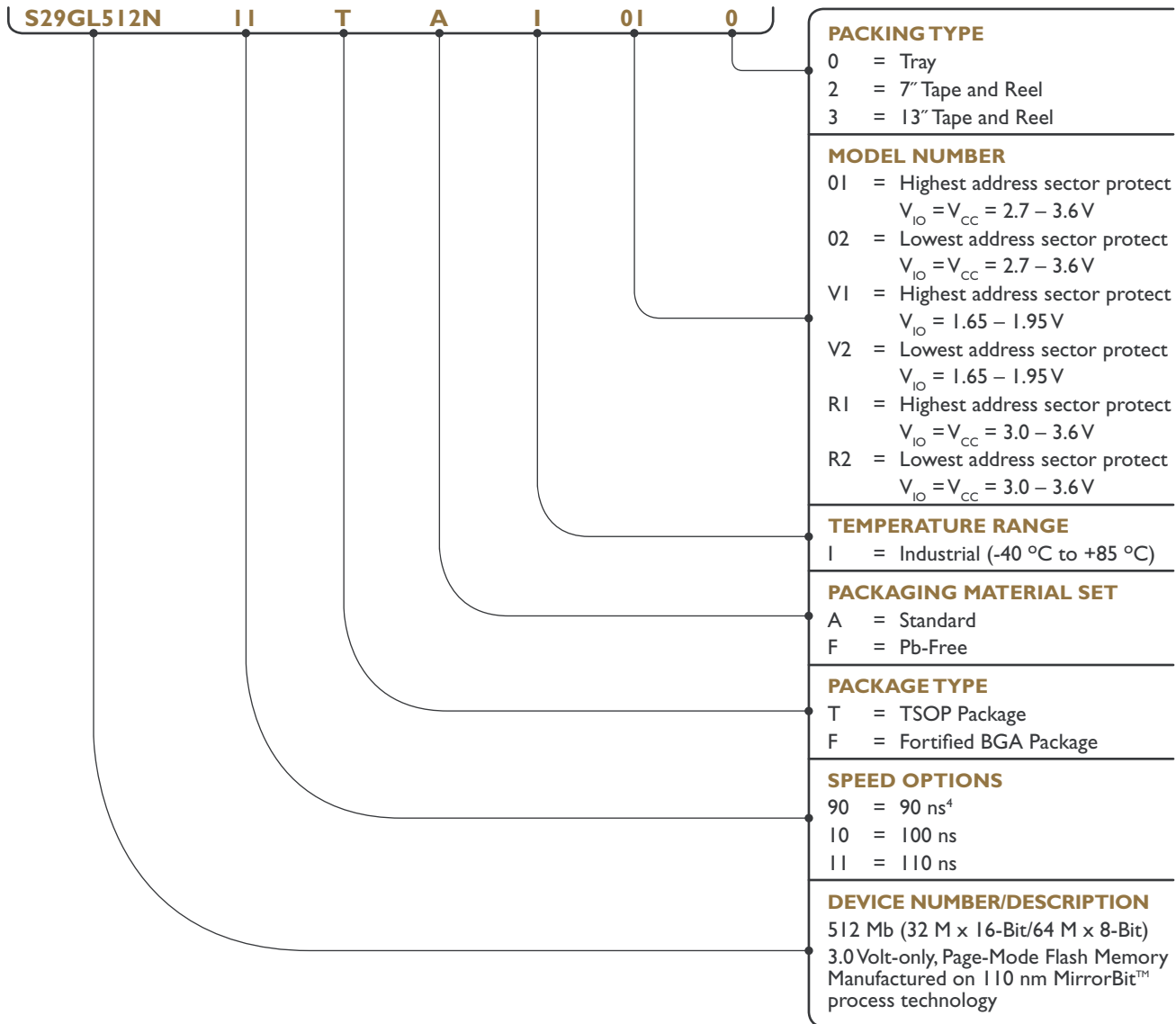
### QUALITY AND RELIABILITY

- 100,000 erase cycles per sector typical
- 20 years data retention typical

### PACKAGING

- 56-pin TSOP Package
- 64-ball Fortified BGA Package
- Standard or Pb-Free options available

## Ordering Information



### VALID COMBINATION FOR S29GL512N FLASH MEMORY

Device Number	Speed Option	Package & Material Temperature	Model Number	Packing Type	Package Description <sup>2</sup>
S29GL512N	90 <sup>4</sup>	TAI,TFI FAI,FFI	R1,R2	0,2,3 <sup>1</sup>	TS056 (TSOP <sup>2</sup> ) LAA064 (Fortified BGA <sup>3</sup> )
	10,11		01,02		
	11	V1,V2			

**Notes:**

- Type 0 is standard. Specify others as required: TSOPs can be packed in Types 0 and 3; BGAs can be packed in Types 0, 2, or 3.
- TSOP package marking omits packing type designator from ordering part numbers
- BGA package marking omits leading "S29" and packing type designator from ordering number. For example, the package marking for Part Number S29GL512N10FA1010 is GL512N10FA101.
- Contact local sales representative for availability.