

CYPRESS

# 256Mb 3.0-V QUAD SPI FL-L NOR FLASH MEMORY WITH 4KB UNIFORM SECTOR SIZE



## PRODUCT OVERVIEW

### INTRODUCTION

The Cypress FL-L NOR Flash Memory family is the fastest Quad SPI NOR Flash family with 4KB uniform sector size for high-performance embedded systems. The low-pin-count Quad SPI interface enables reduced package size and simplified board layout. Read bandwidth of 67 MBps ensures fast program execution for high-performance systems. A 4KB uniform sector size provides maximum flexibility for storing program code and parametric data and improves efficiency of memory usage. Cypress applies stringent testing and qualification processes to ensure all parts meet our world-class quality requirements, and offers AEC-Q100 qualification.

### REDUCED PCB AREA AND COMPLEXITY

- Cypress FL-L NOR Flash products save board space by using a low-pin-count Quad SPI Interface which enables package sizes as small as 48-mm<sup>2</sup>
- A low-pin-count interface also simplifies board layout

### HIGH READ BANDWIDTH

- Cypress FL-L NOR Flash products offer high read bandwidth of 67 MBps
- High read bandwidth enables the fastest program execution for high-performance systems

### 4KB UNIFORM SECTOR SIZE WITH FAST PROGRAM AND SECTOR ERASE TIMES

- A uniform 4KB sector size provides maximum flexibility for storing program code and parametric data
- A 300- $\mu$ s Page Program (256 Bytes) time (Typical) increases manufacturing throughput
- A 50-ms Sector Erase (4KB) time (Typical) enables new data to be written quickly

### TARGET APPLICATIONS

- Video Game Consoles
- Advanced driver assistance systems (ADAS)
- Automotive instrument clusters and infotainment systems
- Networking devices
- Settop boxes

### FEATURES

#### SECTOR SIZE

- 4KB Uniform

#### SPI CLOCK RATE

- 133 MHz (SDR)
- 66 MHz (DDR)

#### READ BANDWIDTH

- 67 MBps (Max)

#### PROGRAM AND ERASE TIMES (TYP)

- 300- $\mu$ s Page Program (256 Bytes)
- 50-ms 4KB Sector Erase
- 270-ms 256KB Sector Erase

#### POWER

- 2.7-V to 3.6-V Supply Voltage
- 30-mA Active Current (Typ)
- 20- $\mu$ A Standby Current (Typ)
- 2- $\mu$ A I<sub>dpd</sub><sup>1</sup> (Typ)

#### TEMPERATURE RANGES

- Industrial: -40°C to +85°C
- Industrial-plus: -40°C to +105°C
- Extended: -40°C to +125°C

#### AUTOMOTIVE SUPPORT

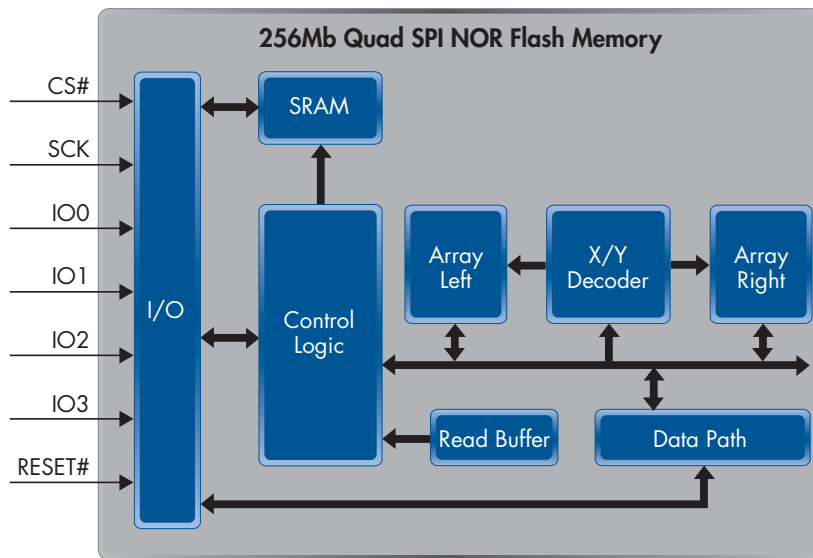
- AEC-Q100 Qualification
- PPAP Support

#### PACKAGES

- 16-SOIC (300 mil)
- 8-WSON (6 mm x 8 mm)
- 24-ball BGA (5-ball x 5-ball)
- 24-ball BGA (6-ball x 4-ball)

<sup>1</sup> Deep power-down current

### 256Mb QUAD SPI NOR FLASH MEMORY BLOCK DIAGRAM



### 256Mb 3.0-V QUAD SPI FL-L NOR FLASH MEMORY DEVICE PORTFOLIO

Part Number	Density	Speed	Package	Package Materials	Temperature Range
S25FL256LAGMF	256 Mbit	133 MHz (SDR)	16-pin SOIC	Lead (Pb)-free	I = Industrial (-40°C to +85°C) V = Industrial-plus (-40°C to +105°C) N = Extended (-40°C to +125°C)
S25FL256LAGNF			8-pin WSON	Lead (Pb)-free	
S25FL256LAGBH			24-ball BGA	Low-Halogen, Lead (Pb)-free	
S25FL256LDPMF		66 MHz (DDR)	16-pin SOIC	Lead (Pb)-free	
S25FL256LDPNF			8-pin WSON	Lead (Pb)-free	
S25FL256LDPBH			24-ball BGA	Low-Halogen, Lead (Pb)-free	

### GET STARTED NOW

To learn more about Quad SPI FL-L NOR Flash Memory products, visit [www.cypress.com/NOR-Flash-FL-L](http://www.cypress.com/NOR-Flash-FL-L)

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