



**Long-Term Support  
World Class Quality**



## **SPI Flash (1.8/3V)**

Complete Offering from 256Kb to 1Gb  
Automotive Grade Flash Available up to 125°C

ISSI introduces its new Family of IS25LP [2.5/3V] and IS25WP/WJ [1.8V] series of flash devices. The family builds upon the success of ISSI's IS25LQ [2.5/3V] and IS25WQ [1.8V] family by introducing leading edge features such as double data rate\* (DTR/DDR) interface modes, SFDP support, and the popular 2 cycle instruction input (QPI mode).

The new product family offers read speeds up to 166Mhz in Single/Dual/Quad I/O and 80 MHz in double data rate (DTR/DDR) modes, delivering up to 664Mb/s [equivalent 83MB/sec] of read throughput.

ISSI's SPI NOR Flash are ideal for a broad range of applications, such as Automotive, Industrial, Medical, Communications, Networking, Smart Meters, FPGA, Digital Cameras, Printers, Bluetooth, and IOT. The family is also ideal for code shadowing, execute in place (XIP), and data storage operations.

### **Industry Standard Serial Interface**

- IS25LP(WP)02GG: 2Gb/256MB
- IS25LP(WP)01GG: 1Gb/128MB
- IS25LP(WP)512MG: 512Mb/64MB
- IS25LP(WP)256D: 256Mb/32MB
- IS25LP(WP/WJ)128F: 128Mb/16MB
- IS25LP(WP/WJ)064D/F: 64Mb/8MB
- IS25LP(WP/WJ)032D/F: 32Mb/4MB
- IS25LP(WP)016D: 16Mb/2MB
- IS25LP(WP)080D: 8Mb/1MB
- IS25LP040E/IS25WP040E: 4Mb/512KB
- IS25LP020E/IS25WP020E: 2Mb/256KB
- IS25LP010E: 1Mb/128KB
- IS25LP512E: 512Kb/64KB

### **High Performance Serial Flash (LP/WP Series)**

- 50MHz Normal and up to 166Mhz Fast Read
- 664 MHz equivalent QPI SPI
- DTR [Dual Transfer Rate] up to 80MHz
- Selectable dummy cycles
- Configurable drive strength
- Supports SPI Modes 0 and 3
- More than 100,000 erase/program cycles
- More than 20-year data retention

### **Applications**

- Instrument Clusters
- Infotainment consoles
- Telematics
- Safety Systems (ADAS)
- Smart TV STB
- HDD
- Printers
- Gaming
- Industrial Controls
- Medical Devices
- Military & Aerospace
- Wireless Access Points
- 4G LTE Base Stations
- Routers & Switches
- Home Networking
- Smart Grid

### **Flexible & Efficient Memory Architecture**

- Chip Erase: Uniform: Sector and Block Erase  
[4K/32K/64K-Byte]
- Program 1 to 256 bytes per page
- Program/Erase Suspend & Resume

### **Efficient Read and Program Modes**

- Low Instruction Overhead Operations
- Continuous Read 8/16/32/64-Byte Wrap
- Selectable burst length
- QPI for reduced instruction overhead
- Allows XIP operations (execute in place)

### **Low Power with Wide Temp. Ranges**

- Single Voltage Supply
- Low Standby Current
- Deep Power Down mode
- Temperature Grades:
  - Extended: -40°C to +105°C
  - Auto Grades: up to +125°C

\*Double data rate (DTR/DDR) available on WP/LP family over 4Mbit densities.



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### Advanced Security Protection

- Software and Hardware Write Protection
- Power Supply lock protect
- 4x256-Byte dedicated security area with user-lockable bits, [OTP] One Time Programmable Memory
- 128 bit Unique ID for each device [Call Factory]

### Serial Flash Clock Rate & Data Throughput

| SPI Protocols                         | 256K | 512K | 1M  | 2M  | 4M  | 8M  | 16M | 32M | 64M | 128M | 256M | 512M | 1G  | 2G  |
|---------------------------------------|------|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|
| Single I/O                            | 104  | 104  | 104 | 104 | 104 | 104 | 104 | 133 | 166 | 166  | 166  | 133  | 133 | 133 |
|                                       | 104  | 104  | 104 | 104 | 104 | 104 | 104 | 133 | 166 | 166  | 166  | 133  | 133 | 133 |
| Dual I/O                              | 208  | 208  | 208 | 208 | 208 | 208 | 208 | 266 | 332 | 332  | 332  | 266  | 266 | 266 |
|                                       | 104  | 104  | 104 | 104 | 104 | 104 | 104 | 133 | 166 | 166  | 166  | 133  | 133 | 133 |
| Dual I/O<br>with Double Transfer Rate |      |      |     |     |     |     |     | 264 | 320 | 320  | 320  | 264  | 264 | 264 |
|                                       |      |      |     |     |     |     |     | 66  | 80  | 80   | 80   | 66   | 66  | 66  |
| Quad I/O                              | 416  | 416  | 416 | 416 | 416 | 416 | 416 | 532 | 664 | 664  | 664  | 532  | 532 | 532 |
|                                       | 104  | 104  | 104 | 104 | 104 | 104 | 104 | 133 | 166 | 166  | 166  | 133  | 133 | 133 |
| Quad I/O<br>with Double Transfer Rate |      |      |     |     |     |     |     | 528 | 640 | 640  | 640  | 528  | 528 | 528 |
|                                       |      |      |     |     |     |     |     | 66  | 80  | 80   | 80   | 66   | 66  | 66  |

Throughput Unit: Mb/s

Clock Rate Unit: MHz

