



ACE25QC640GF

64M BIT SPI NOR FLASH

Description

The ACE25QC640GF is 64M-bit Serial Peripheral Interface (SPI) Flash memory, and support the standard Serial Peripheral Interface (SPI), Dual/Quad I/O SPI as well as 2-clocks instruction cycle Quad Peripheral Interface (QPI): Serial Clock, Chip Select, Serial Data I/O0 (DI), I/O1 (DO), I/O2 (/WP), and I/O3 (/HOLD). SPI clock frequencies of up to 133MHz are supported allowing equivalent clock rates of 266MHz (133MHz x 2) for Dual I/O and 532MHz (133MHzx4) for Quad I/O when using the Fast Read Dual/Quad and QPI instructions. The Double Transfer Rate (DTR) Read is transferred with speed of 672Mbits/s. These transfer rates can outperform standard Asynchronous 8 and 16-bit Parallel Flash memories. The Continuous Read Mode allows for efficient memory access with as few as 8-clocks of instruction-overhead to read a 24-bit address, allowing true XIP (execute in place) operation. The device uses a single low voltage power supply, ranging from 2.7 Volt to 3.6 Volt. Additionally, the device supports JEDEC standard manufacturer and device ID and three 1024bytes Security Registers.

Features

- Serial Peripheral Interface
 - Standard SPI: SCLK, /CS, SI, SO, /WP, /HOLD
 - Dual SPI: SCLK, /CS, IO0, IO1, /WP, /HOLD
 - Quad SPI: SCLK, /CS, IO0, IO1, IO2, IO3
 - QPI: SCLK, /CS, IO0, IO1, IO2, IO3
 - DTR (Double Transfer Rate) Read
- Read
 - Normal Read (Serial): 88MHz clock rate
 - Fast Read (Serial): 133MHz clock rate with 30PF load
 - Dual I/O data transfer up to 266Mbits/S
 - Quad I/O data transfer up to 532Mbits/S
 - QPI data transfer up to 532Mbits/S
 - DTR Quad I/O Data transfer up to 672Mbits/s
 - Allows XIP (execute in place) Operation: Continuous Read with 8/16/32/64-byte Wrap
- Program
 - Serial-input Page Program up to 256bytes
 - Program Suspend and Resume
- Erase
 - Block Erase (64/32 KB)
 - Sector Erase (4 KB)
 - Chip Erase
 - Erase Suspend and Resume



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- Program/Erase Speed
 - Page Program time: 0.16ms typical
 - Sector Erase time: 25ms typical
 - Block Erase time: 0.06/0.12s typical
 - Chip Erase time: 15s typical
- Flexible Architecture
 - Sector of 4K-byte
 - Block of 32/64K-byte
- Low Power Consumption
 - 9 μ A typical stand-by current
 - 1 μ A typical power-down current
- Software/Hardware Write Protection
 - 3x1024-Byte Security Registers with OTP Locks
 - Discoverable Parameters (SFDP) register
 - Enable/Disable protection with WP Pin
 - Write protect all/portion of memory via software
 - Top or Bottom, Sector or Block selection
- Single Supply Voltage: Full voltage range: 2.7V~3.6V
- Temperature Range: Industrial (-40°C to 85°C)
- Cycling Endurance/Data Retention
 - Typical 100k Program-Erase cycles on any sector
 - Typical 20 year data retention

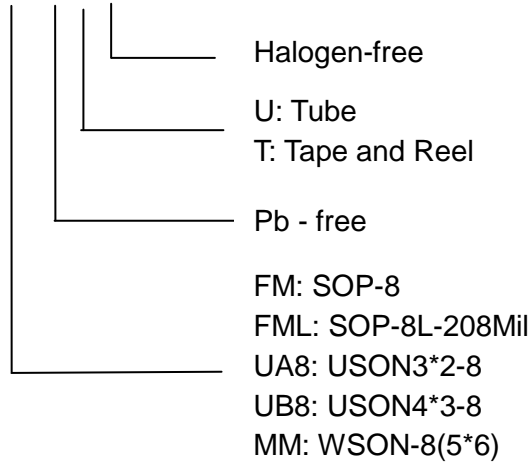


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Ordering Information

ACE25QC640GF XXX + X H





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Notes

ACE does not assume any responsibility for use as critical components in life support devices or systems without the express written approval of the president and general counsel of ACE Technology Co., LTD. As sued herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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