ACE25QC256GC

256M Bit SPI Nor Flash

Description

The ACE25QC256GC is 256M-bit Serial Peripheral Interface (SPI) Flash memory, supports the Dual/Quad SPI: Serial Clock, Chip Select, Serial Data I/O0 (SI), I/O1 (SO), I/O2 (/WP), and I/O3 (/HOLD), Reset; and supports the QPI: Serial Clock, Chip Select, I/O0, I/O1, I/O2, and I/O3, Reset; The Dual I/O data is transferred with speed of 216Mbits/s and the Quad I/O & Quad output & QPI data is transferred with speed of 432Mbits/s. The Double Transfer Rate (DTR) Read is transferred with speed of 432Mbits/s. 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 512-bytes Security Registers.

In order to meet environmental requirements, offers 8-pin SOP 208mil, 8-pad WSON 5x6-mm, 8-pad WSON 6x8-mm,16-pin SOP 300mil.

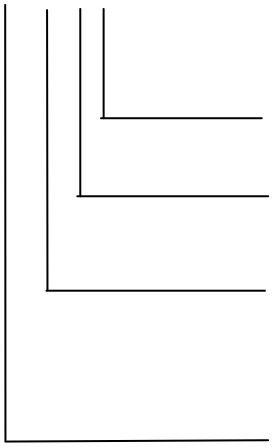
Features

- 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
  - 3 or 4-Byte Addressing Mode
- Read
  - Normal Read (Serial): 55MHz clock rate
  - Fast Read (Serial): 108MHz clock rate with 30PF load
  - Dual I/O data transfer up to 216Mbits/S
  - Quad I/O & QPI data transfer up to 432Mbits/S
  - DTR Quad I/O Data transfer up to 432Mbits/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

- Program/Erase Speed
  Page Program time: 0.6ms typical
  Sector Erase time: 50ms typical
  Block Erase time: 0.15/0.25s typical
  Chip Erase time: 80s typical
- Flexible Architecture
  Sector of 4K-byte
  Block of 32/64K-byte
- Low Power Consumption
  25mA maximum active current
  5uA maximum power down current
- Software/Hardware Write Protection
  3x512-Byte Security Registers with OTP Locks
  Discoverable Parameters (SFDP) register
  Enable/Disable protection with /WP Pin
  Top/Bottom, Complement array protection
  Advanced Block/Sector Protection (Solid and Password Protect)
- Single Supply Voltage
  Full voltage range: 2.7~3.6V
- Temperature Range
  Industrial (-40℃ to 85℃)
- Cycling Endurance/Data Retention
  Typical 100k Program-Erase cycles on any sector
  Typical 20-year data retention

Ordering information

ACE25QC256GC XXX + X H



Halogen-free

U: Tube
T: Tape and Reel

Pb - free

FML: SOP-8L (208mil)
MM: WSON-8 (5*6-mm)
MH: WSON-8 (6*8-mm)
FP: SOP-16

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 Electronics 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 shoes 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.