ACE25GD256A

SPI 256K Bits Serial EEPROM

Description

The ACE25GD256A devices are Electrically Erasable Programmable Memory (EEPROM) organized as 32768*8 bits, accessed through the SPI bus. The ACE25GD256A can operate with a supply range from 1.7V to 5.5V.

Features

- Serial Peripheral Interface (SPI) data transfer protocol
- Memory array:
  256K bits (32 Kbytes) of EEPROM
  Page size: 64 bytes
- Single supply voltage and high speed:
  1.7V – 2.5V 5MHz
  2.5V – 5.5V 15MHz
- Random and sequential Read modes
- Write:
  Write within 3ms
  Partial Page Writes Allowed
- Write Protect: quarter, half or whole memory array
- High-reliability
  Endurance: 4 Million Write Cycles
  Data Retention: 100 Years
- Enhanced ESD/Latch-up protection
  HBM 8000V
- SOP-8/ TSSOP-8/ UDFN8 packages

Absolute Maximum Ratings

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Parameters	Ratings	Units
Storage Temperature	–65 to 150	°C
Voltage on any Pin with Respect to Ground (Note 1)	–0.5 to 6.5	V
VESD (HBM)	8000	V

Note:

1. The DC input voltage on any pin should not be lower than −0.5 V or higher than VCC + 0.5 V. During transitions, the voltage on any pin may undershoot to no less than −1.5 V or overshoot to no more than VCC + 1.5 V, for periods of less than 20 ns.

Reliability Characteristics (Note 1)

Parameters	Symbol	MIN	Units
Endurance	NEND (Note 2,3)	4,000,000	Program/Erase Cycles
Data Retention	TDR	100	Years

Note:

1. When not driven, the $\overline{WP}$ and $\overline{HOLD}$ inputs are pulled up to VCC internally. For noisy environments, when the pin is not used, it is recommended the $\overline{WP}$ and $\overline{HOLD}$ input to be tied to VCC, either directly or through a resistor.

2.Page Mode, VCC = 5V, 25°C.

3. These parameters are tested initially and after a design or process change that affects the parameter according to appropriate AEC−Q100 and JEDEC test methods.

Ordering Information

ACE25GD256A X XX + X H

- Halogen - free
- U: Tube
  T: Tape and Reel
- Pb - free
- FM: SOP-8
  TM: TSSOP-8
  UDF: UDFN8
- 1: -40°C~85°C
  3: -40°C~105°C
  4: -40°C~125°C

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 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.