

Differences in FM25256 and FM25256B

256Kb 5V SPI FRAM Devices



DESCRIPTION

There are differences between the FM25256 and FM25256B 5V SPI 256Kb FRAM devices. As of March 2007, the FM25256 was declared “not recommended for new designs”, and the alternative device is the FM25256B device.

The command set (op-codes), the addressing, the write-protection scheme, the package/pinout are no different between the original and “B” part. For the rev “B” part, the ESD ratings have been improved on the Human Body Model (4kV) and Machine Model (200V). The data retention time remains the same on the “B” part at 10 years. Note that the V_{DD} Fall Time specification is changed to allow a faster V_{DD} fall time above 2V, but requires that V_{DD} does not fall too quickly below 2V.

The FM25256B device is offered only in the “green”/RoHS package. However, this lead-free package is compatible with standard tin-lead solder systems.

COMPARISON TABLE

Differences are highlighted in yellow.

	FM25256	FM25256B	Comments
Temp. Range	-40C to +85C	-40C to +85C	Same range
Operating Voltage Range	4.0 to 5.5V	4.0 to 5.5V	Same range
Package Outlines	SOIC-8	SOIC-8	Same outline and board footprint
Clock Freq	15 MHz	20 MHz	Improved
Active Supply Current	0.8mA @ 1MHz 5mA @ 15MHz	0.75mA @ 1MHz 15mA @ 20MHz	Higher current on rev “B”. At a nominal 5MHz, “B” part is 3.75mA and power is only 18.75mW.
Standby Current	150µA	150µA	Same
Package Types	-S, -G	-G	No leaded (Pb) package on rev “B”
V_{DD} Rise Time	50µs/V	50µs/V	Same
V_{DD} Fall Time	100µs/V	50µs/V ($V_{dd}>2V$) 1ms/V ($V_{dd}<2V$)	Rev “B” allows faster power down rates where it is most important.