

8 Mbit / 16 Mbit SPI Serial Flash

SST25VF080 / SST25VF016



Advance Information

FEATURES:

- **Single 2.7-3.6V Read and Write Operations**
- **Serial Interface Architecture**
 - SPI Compatible: Mode 0 and Mode 3
- **33 MHz Max High Speed Clock Frequency**
- **Superior Reliability**
 - Endurance: 100,000 Cycles (typical)
 - Greater than 100 years Data Retention
- **Low Power Consumption:**
 - Active Read Current: 10 mA (typical)
 - Standby Current: 3 μ A (typical)
- **Flexible Erase Capability**
 - Uniform 4 KByte sectors
 - Uniform 32 KByte overlay blocks
- **Fast Erase and Byte-Program:**
 - Chip-Erase Time: 28 ms (typical)
 - Sector- or Block-Erase Time: 7 ms (typical)
 - Byte-Program Time: 7 μ s (typical)
- **Auto Address Increment (AAI) Programming**
 - AAI programming allows for faster in system programming operations
- **End-of-Write Detection**
 - Software Status
- **Hold Pin (HOLD#)**
 - Suspends a serial sequence to the memory without deselecting the device
- **Write Protection (WP#)**
 - Enables/Disables the Lock-Down function of the status register
- **Software Write Protection**
 - Write protection through Block-Protection bits in status register
- **Packages Available**
 - 8-lead SOIC (SST25VF080 only)
 - 8-contact WSON

PRODUCT DESCRIPTION

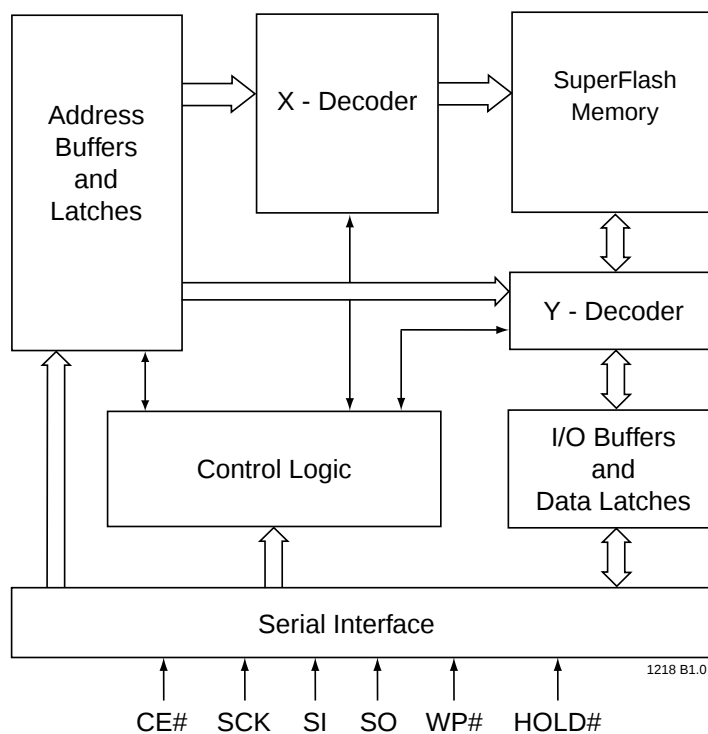
SST's serial flash family features a four-wire, SPI-compatible interface that allows for a low pin count package occupying less board space and ultimately lowering total system costs. SST25VFxxx SPI serial flash memories are manufactured with SST's proprietary, high performance CMOS SuperFlash Technology. The split-gate cell design and thick oxide tunneling injector attain better reliability and manufacturability compared with alternate approaches. The SST25VFxxx devices significantly improve performance and reliability, while lowering power consumption. The SST25VFxxx devices write (Program or Erase) with a single 2.7-3.6V power supply. It uses

less energy during Erase and Program operations than alternative flash memory technologies. The total energy consumed is a function of the applied voltage, current, and time of application. Since for any given voltage range, the SuperFlash technology uses less current to program and has a shorter erase time, the total energy consumed during any Erase or Program operation is less than alternative flash memory technologies.

The SST25VF080 device is offered in an 8-lead SOIC package. All densities are offered in the 8-contact WSON package. See Figure 1 for the pin assignments.



FUNCTIONAL BLOCK DIAGRAM





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PIN DESCRIPTION

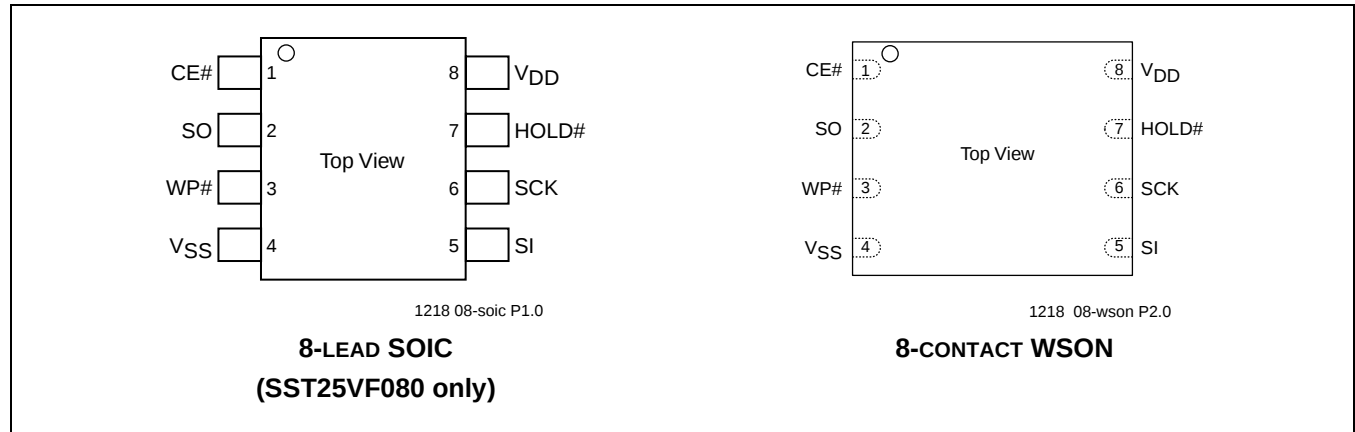


FIGURE 1: PIN ASSIGNMENTS

TABLE 1: PIN DESCRIPTION

Symbol	Pin Name	Functions
SCK	Serial Clock	To provide the timing of the serial interface. Commands, addresses, or input data are latched on the rising edge of the clock input, while output data is shifted out on the falling edge of the clock input.
SI	Serial Data Input	To transfer commands, addresses, or data serially into the device. Inputs are latched on the rising edge of the serial clock.
SO	Serial Data Output	To transfer data serially out of the device. Data is shifted out on the falling edge of the serial clock.
CE#	Chip Enable	The device is enabled by a high to low transition on CE#. CE# must remain low for the duration of any command sequence.
WP#	Write Protect	The Write Protect (WP#) pin is used to enable/disable BPL bit in the status register.
HOLD#	Hold	To temporarily stop serial communication with SPI Flash memory without resetting the device.
V _{DD}	Power Supply	To provide power supply (2.7-3.6V).
V _{SS}	Ground	

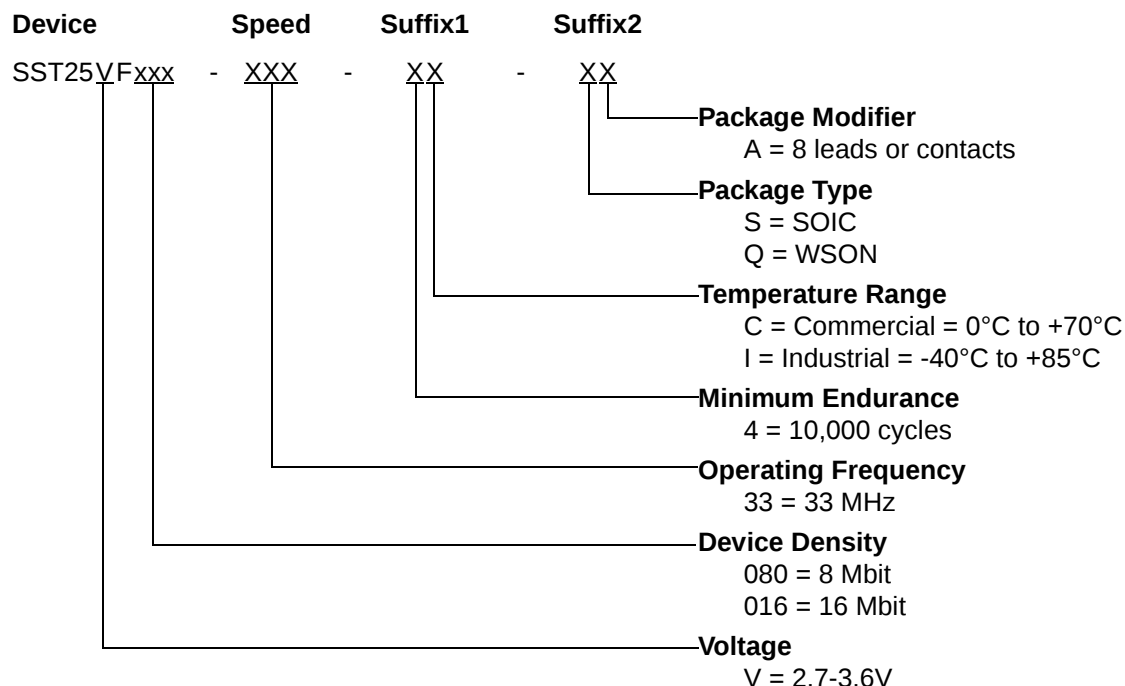
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PRODUCT ORDERING INFORMATION



Valid combinations for SST25VF080

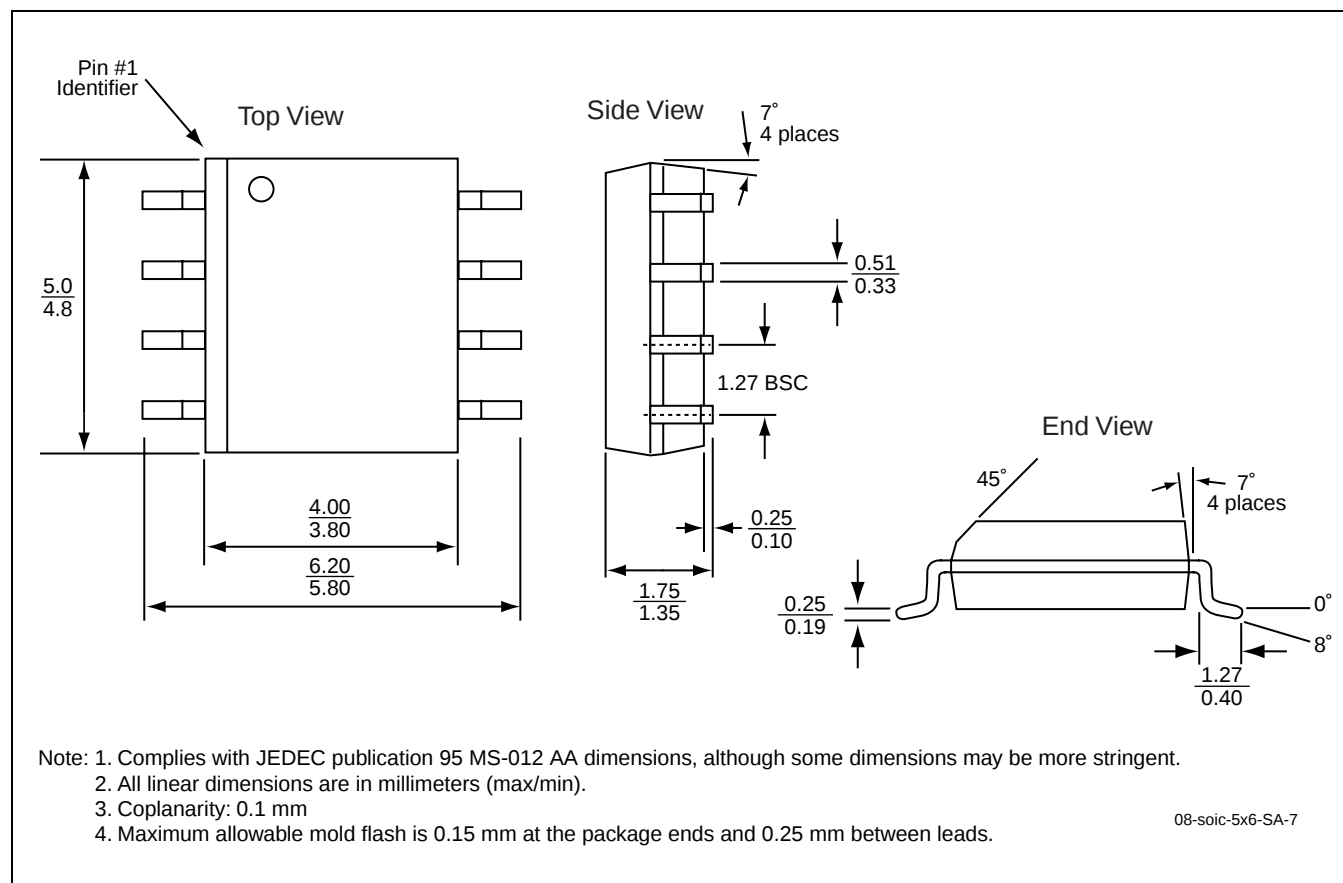
SST25VF080-33-4C-SA SST25VF080-33-4C-QA

Valid combinations for SST25VF016

SST25VF016-33-4C-QA

Note: Valid combinations are those products in mass production or will be in mass production. Consult your SST sales representative to confirm availability of valid combinations and to determine availability of new combinations.

PACKAGING DIAGRAMS

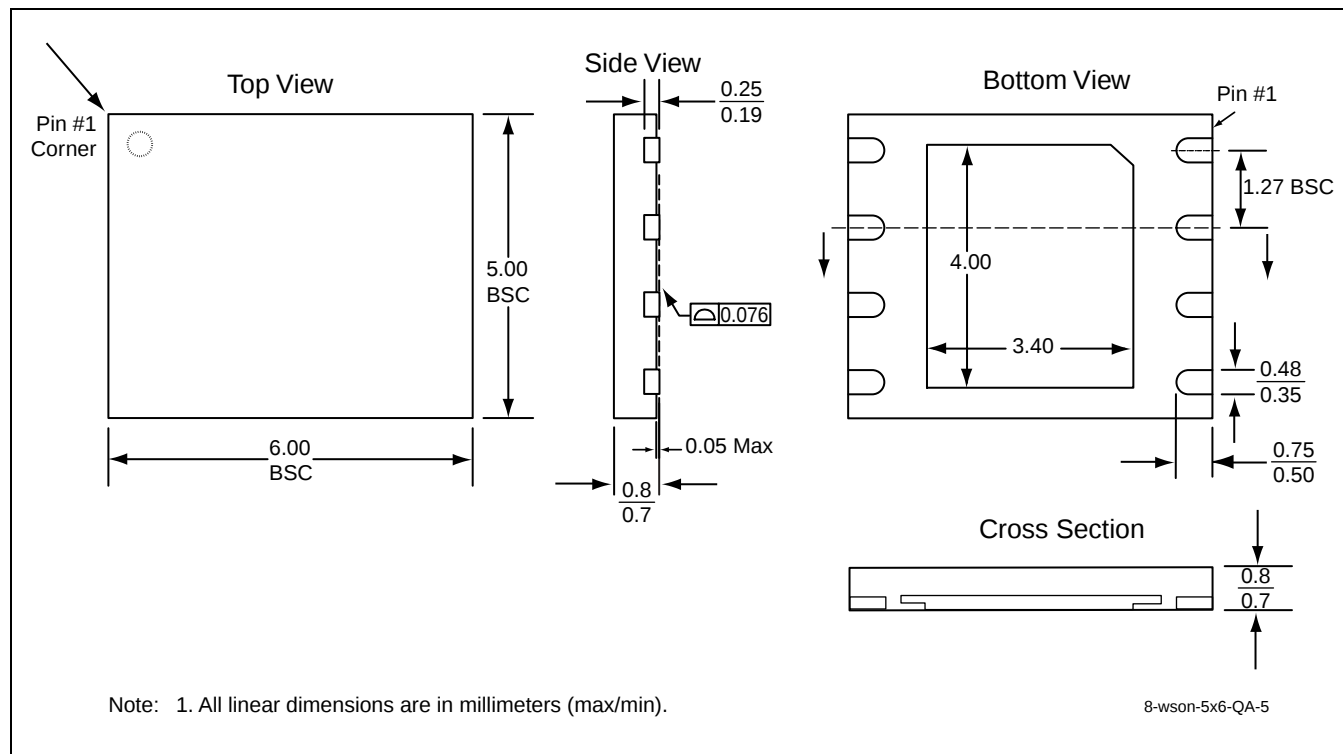


8-LEAD SMALL OUTLINE INTEGRATED CIRCUIT (SOIC) SST PACKAGE CODE: SA



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8-CONTACT ULTRA-THIN SMALL OUTLINE NO-LEAD (WSON)
SST PACKAGE CODE: QA