

S29WS064R

**64 Megabit (4M x 16-bit), CMOS 1.8 Volt-Only,
Simultaneous Read/Write, Multiplexed, Burst-Mode
MirrorBit® Flash Memory**



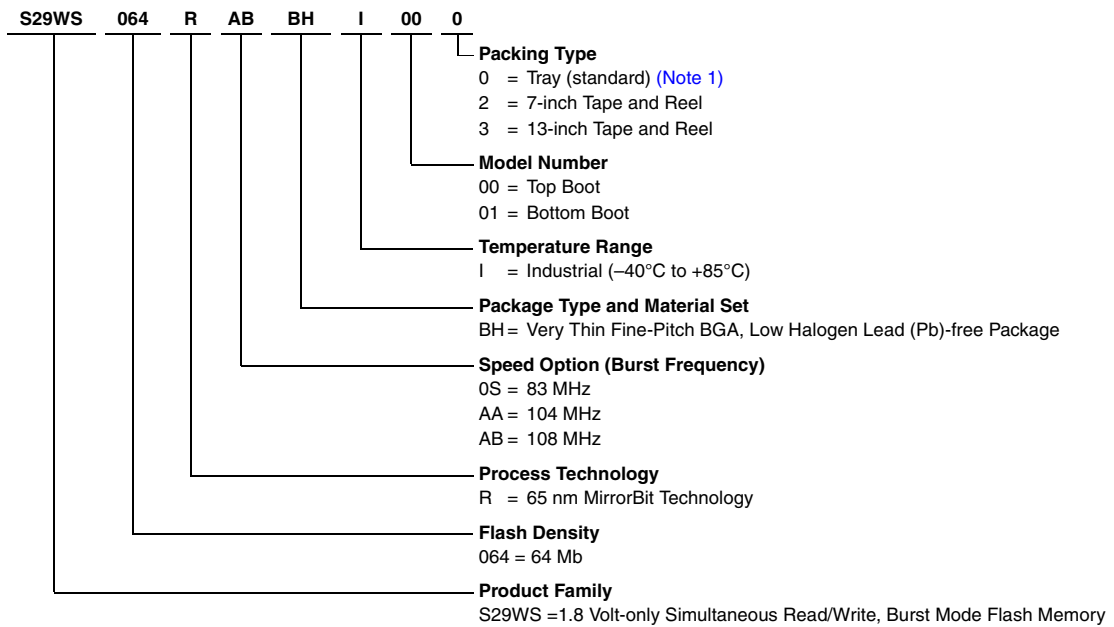
Supplement

This supplement contains information on the S29WS064R offerings for Industrial temperature range; -40°C to +85°C. Refer to the S29WS064R standard data sheet (Publication Number S29WS064R_00) for complete device specification.

General Description

The Spansion® S29WS064R is a burst-mode MirrorBit® flash product fabricated on 65 nm process technology. These products can operate up to 108 MHz using a V_{CC} range of 1.7V to 1.95V. when used in the Industrial temperature range, -40°C to +85°C.

1. Ordering Information for Industrial Temperature Range



Valid Combinations

Valid Combinations list configurations planned to be supported in volume for this device. Consult your local sales office to confirm availability of specific valid combinations and to check on newly released combinations.

S29WS-R Valid Combinations Notes (1), (2)						
Base OPN	Speed Option	Package Type and Material	Temperature Range	Model Type	Packing Type	Package Type (Note 2)
S29WS064R	OS	BH	I	00	0	11.6 mm x 8 mm, 84-ball
	AA			01	2	
	AB				3	

Notes:

- Type 0 is standard. Specify other options as required.
- BGA package marking omits leading "S29" and packing type designator from ordering part number.

2. Industrial Temperature Range Specification Exceptions

There are a few specification differences for the industrial temperature range devices when compared to the wireless temperature range devices. The differences apply to operation of the device between -40°C to -26°C, and are described below.

2.1 Programming Performance

Parameter		Typ (Note 1)	Max (Note 2)	Unit	Comments
Single Word Program Time (using Program Buffer)	V _{CC}	170	1600	μs	Excludes system level overhead (Note 3)
Total 32-Word Buffer Programming Time	V _{CC}	450	6000		

Notes:

1. Typical program time assumes the following conditions: 25°C, 1.8V V_{CC}, 10,000 cycles. Additionally, programming typically assumes a checkerboard pattern.
2. Under worst case conditions of -40°C, V_{CC} = 1.70V, 100,000 cycles.
3. System-level overhead is the time required to execute the bus-cycle sequence for the program command. Refer to Table 12.1 of the S29WS064R standard data sheet (Publication Number S29WS064R_00) for further information on command definitions.

3. Revision History

Section	Description
Revision 01 (December 6, 2010)	
	Initial release.

Colophon

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