Product / Process Change Notice

No.: Z200-PCN-DM202601-03-A Date: January 21, 2026

Change Title : W25Q16RV "R-Series" (58nm) to replace W25Q16JV "J-Series" (58nm) 16Mb 3.3V SpiFlash® Memories industrial products

Change Classification: ☑ Major ☐ Minor with customer special request ☐ Minor with customer notification
Change item : ☐ DataSheet ☑ Design ☐ Raw Material ☐ Wafer FAB ☐ Assembly ☐ Testing ☐ Packing ☐ Manufacture site ☐ Others

Affected Product(s) :

Please refer to Table 1 in details.

Description of Change(s)

The W25Q16RV 16Mb SpiFlash® Memories use Winbond's 58nm Flash technology. It is function-compatible with W25Q16JV 58nm devices offering improved performance, features and availability. (Please refer the attachment II)

Reason for Change(s) :

Improve features and Command backward compatible(same Superset Instruction Set). (Please refer the attachment II)

Impact of Change(s) : (positive & negative)

Form : Change (The package size will be changed from USON8(2x3x0.6mm) to XSON8(2x3x0.4mm). Other sizes remain unchanged. Please refer to attachment I)

Fit : Change (The package size will be changed from USON8(2x3x0.6mm) to XSON8(2x3x0.4mm). Other sizes remain unchanged. Please refer to attachment I)

Function : No Concern (Please refer to attachment II)

Reliability : No Concern (Please refer to attachment III)

Hazardous Substances: No Change (Please refer to attachment IV)

Qualification Plan/ Results :

Based on the Winbond Reliability report, the new product meets our criteria and has no quality concern. (Please refer to attachment III)

Implementation Plan :

Please refer to attachment V for details.

☐ Date Code: _____ onward ☐ Lot No: _____ onward ☑ Proposed first ship date: January 30, 2026

Originator: (QA)	***H.Y. Huang***	***Approval: (QA Dept. Manager)***	***C.C. HE0***	***Approval: (QRA Director)***	***T.M. Kuo***	***Approval: (Quality Center Technology Executive)***	***W.P. CHANG***

Contact for Questions & Concerns	Name: Betty Huang TEL:886-3-5678168 (ext.76549) FAX: 886-3-5796124 Address : No. 8,Keya 1st Rd., Daya Dist., Central Taiwan Science Park, Taichung City 42881,Taiwan E-mail: Hyhuang8@winbond.com

Customer Comments:

*Note: Please sign this notice, and return to Winbond contact within **30** days. If no response is received within **30** days, this Change Request will be assumed to meet your approval.*

Major change: ☐ Approval ☐ Disapproval ☐ Conditional Approval : _____.

Minor with customer special request: ☐ Approval ☐ Disapproval ☐ Conditional Approval : _____.

Minor with customer notification: ☐ Recognition

Comment:

Date: _____

Dept. name: _____

Person in charge: _____

Table 1. The affected part no is listed below.

W25Q16JVSNIM	W25Q16JVSNIQ	W25Q16JVSNIQG	W25Q16JVSNJM	W25Q16JVSNJQ
W25Q16JVSSIM	W25Q16JVSSIQ	W25Q16JVSSIQG	W25Q16JVSSJM	W25Q16JVSSJQ
W25Q16JVZPIM	W25Q16JVZPIQ	W25Q16JVZPJM	W25Q16JVZPJQ	W25Q16JVUUIM
W25Q16JVUUIQ	W25Q16JVUUJM	W25Q16JVUUJQ	W25Q16JVUXIM	W25Q16JVUXIQ
W25Q16JVUXIQG	W25Q16JVUXJM	W25Q16JVUXJQ	W25Q16JVXHIQ	W25Q16JVXHJQ

Migration guide from W25Q16/32JV to W25Q16/32RV

1. INTRODUCTION

This application note provides guidance for a smooth transition from W25Q16/32JV to W25Q16/32RV. The newly designed W25Q16/32RV ensure compatibility with their predecessor while delivering enhanced performance. The guide includes specific details highlighting differences in each section. For comprehensive information, please refer to the respective datasheets.

2. "WRITE STATUS REGISTER" COMMAND CHANGED

The "Write Status Register-1" is still supported, but the "Write Status Register-1" only can write to the Status Register-1 by the first byte and cannot write to Status Register-2 by the second byte. If the programming to Status Register-2 is required, another "Write Status Register-2" command is required to program the content into the Status Register-2.

2.1 W25Q16/32RV do not support the "Write Status Register-1 (2Bytes data write)" command to simultaneously write Status Register-1 and Status Register-2. The second byte for Status Register-2 will be ignored.

2.2 Write Status Register-1 (1Bytes data write) of W25Q16/32JV are same with Write Status Register-1 of W25Q16/32RV.

2.3 Individual handling of Status Register-1 and 2 is achieved through the "Write Status Register-1 (01h)" and "Write Status Register-2 (31h)" commands, as illustrated in the table 1.

Table 1. Status Register Write Command Comparison

Product	Command		Status Register-1	Status Register-2
W25Q16/32JV	Write Status Register-1 (1Bytes data Write)	01h	V	
	Write Status Register-1 (2Bytes data Write)	01h	V	V
	Write Status Register-2	31h	-	V
W25Q16/32RV	Write Status Register-1	01h	V	-
	Write Status Register-2	31h	-	V

3. SPECIFICATION COMPARISON

Please refer to the comparison tables of AC/DC parameters, major features.

Table 2. AC parameters

AC PARAMETERS		W25Q16/32JV	W25Q16/32RV
		Typ. / Max	Typ. / Max
Fast Read Speed	FR (MHz)	133 (3.0V-3.6V) 104 (2.7V-3.0V)	**133 (2.7V-3.6V)**
Normal Read Speed	fR (MHz)	50	**84 (16RV)** **66 (32RV)**
Page Program Time	tPP (ms)	0.4 / 3	**0.25 / 2**
4KB Sectors Erase Time	tSE (ms)	45 / 400	**30 / 240**
32KB Blocks Erase Time	tBE_1 (ms)	120 / 1,600	**80 / 800**
64KB Blocks Erase Time	tBE_2 (ms)	150 / 2,000	**120 / 1,200**
Chip Erase Time	tCE (s)	5 / 25 (16JV) 10 / 50 (32JV)	**3 / 20 (16RV)** **6 / 40 (32RV)**

Table 3. DC parameters

DC PARAMETERST		W25Q16/32JV	W25Q16/32RV
		Typ. / Max	Typ. / Max
Standby Current	ICC1 (uA)	10 / 50	**10 / 35 (16RV)** **10 / 60 (32RV)**
Power-down Current	ICC2 (uA)	1 / 15	**0.1 / 5 (16RV)** **0.1 / 8 (32RV)**
Read Current	ICC3 (mA)	8 /20 (104MHz)	**11 / 20 (133MHz)**
Page Program Current	ICC5 (mA)	20 / 25	**8 / 15**
Sector/Block Erase Current	ICC6 (mA)	20 / 25	**8 / 15**

4. OPERATION GUIDE

4.1 Command Set Table Comparison

Table 4. Command Table

Command Table	W25Q16/32JV	W25Q16/32RV
Write Enable	06h	06h
Write Disable	04h	04h
Read JEDEC ID	9Fh	9Fh
Write Enable for Volatile Status Register	50h	50h
Read Status Register-1	05h	05h
Write Status Register-1/2	**01h**	**-**
Write Status Register-1	01h	01h
Read Status Register-2	35h	35h
Write Status Register-2	31h	31h
Read Status Register-3	15h	15h
Write Status Register-3	11h	11h
Read Data	03h	03h
Fast Read	0Bh	0Bh
Burst Read with Wrap	0Ch	0Ch
Fast Read Dual I/O	BBh	BBh
Fast Read Dual Output	3Bh	3Bh
Fast Read Quad I/O	EBh	EBh
Fast Read Quad Output	6Bh	6Bh
Enable QPI Mode	38h	38h
Disable QPI Mode	FFh	FFh
Sector (4KB) Erase	20h	20h
Block (32KB) Erase	52h	52h
Block (64KB) Erase	D8h	D8h
Chip Erase	60/C7h	60/C7h
Erase/Program Suspend	75h	75h
Erase/Program Resume	7Ah	7Ah
Page Program	02h	02h
Quad Input Page Program	32h	32h
Power-down	B9h	B9h
Release Power-down / Device ID	ABh	ABh
Read Manufacturer / Device ID	90h	90h
Read Manufacturer / Device ID Dual I/O	92h	92h
Read Manufacturer / Device ID Quad	94h	94h
Erase Security Register	44h	44h
Program Security Register	42h	42h
Read Security Register	48h	48h
Read SFDP Register	5Ah	5Ah

Enable Reset	66h	66h
Reset	99h	99h
Set Read Parameters	C0h	C0h
Set Burst with Wrap	77h	77h
Read Unique ID Number	4Bh	4Bh

4.2 Part Number Comparison

Table 5. 16Mb Package Type

Package Type	W25Q16JV	W25Q16RV
SOP8 150mil (SN)	W25Q16JVSNIQ W25Q16JVSNIM W25Q16JVSNJQ W25Q16JVSNJM	W25Q16RVCNJQ W25Q16RVCNJM
SOP8 208mil (SS)	W25Q16JVSSIQ W25Q16JVSSIM W25Q16JVSSJQ W25Q16JVSSJM	W25Q16RVCSJQ W25Q16RVCSJM
WSON8 6x5mm (ZP)	W25Q16JVZPIQ W25Q16JVZPIM W25Q16JVZPJQ W25Q16JVZPJM	W25Q16RVCPJQ W25Q16RVCPJM
USON8 2x3x0.6mm (UX)	W25Q16JVUXIQ W25Q16JVUXIM W25Q16JVUXJQ W25Q16JVUXJM	-
USON8 2x3x0.4mm (XH)	-	W25Q16RVXHJQ W25Q16RVXHJM
USON-8 4x3mm (UU)	W25Q16JVUUIQ W25Q16JVUUIM W25Q16JVUUJQ W25Q16JVUUJM	W25Q16RVUUJQ W25Q16RVUUJM
TFBGA-24 8x6-mm (TB)	W25Q16JVTBIQ W25Q16JVTBIM	-

Table 6. 32Mb Package Type

Package Type	W25Q32JV	W25Q32RV
SOP8 150mil (SN)	W25Q32JVSNIQ W25Q32JVSNIM W25Q32JVSNJQ W25Q32JVSNJM	W25Q32RVCNJQ W25Q32RVCNJM
SOP8 208mil (SS)	W25Q32JVSSIQ W25Q32JVSSIM W25Q32JVSSJQ W25Q32JVSSJM	W25Q32RVCSJQ W25Q32RVCSJM
SOP16 300mil (SF)	W25Q32JVSFIQ W25Q32JVSFIM	-
WSON8 6x5mm (ZP)	W25Q32JVZPIQ W25Q32JVZPIM W25Q32JVZPJQ W25Q32JVZPJM	W25Q32RVCPJQ W25Q32RVCPJM
USON8 2x3x0.6mm (UX)	W25Q32JVUXIQ W25Q32JVUXIM W25Q32JVUXJQ W25Q32JVUXJM	-
USON8 2x3x0.4mm (XH)	-	W25Q32RVXHJQ W25Q32RVXHJM
USON-8 4x3mm (UU)	W25Q32JVUUIQ W25Q32JVUUIM W25Q32JVUUJQ W25Q32JVUUJM	W25Q32RVUUJQ W25Q32RVUUJM
TFBGA-24 8x6-mm (TB)	W25Q32JVTBIQ W25Q32JVTBIM	-

4.3 Status Register Comparison

Table 7. Q part Status Register Read*

	W25Q16/32JV-Q									W25Q16/32RV-Q								
Bits	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**Default value**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**Default value**
Status Register-1	SRP	SEC	TB	BP2	BP1	BP0	WEL	BUSY	00h	SRP	SEC	TB	BP2	BP1	BP0	WEL	BUSY	00h
Status Register-2	SUS	CMP	LB3	LB2	LB1	-	QE	SRL	02h	SUS	CMP	LB3	LB2	LB1	**LB0**	QE	SRL	**06h**
Status Register-3	-	DRV1	DRV0	-	-	-	-	-	60h	-	DRV1	DRV0	-	-	-	-	-	**40h**

* Refer the datasheet for Status Register definition

Table 8. M part Status Register Read*

	W25Q16/32JV-M									W25Q16/32RV-M								
Bits	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**Default value**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	**Default value**
Status Register-1	SRP	SEC	TB	BP2	BP1	BP0	WEL	BUSY	00h	SRP	SEC	TB	BP2	BP1	BP0	WEL	BUSY	00h
Status Register-2	SUS	CMP	LB3	LB2	LB1	-	QE	SRL	00h	SUS	CMP	LB3	LB2	LB1	**LB0**	QE	SRL	**04h**
Status Register-3	-	DRV1	DRV0	-	-	-	-	-	60h	-	DRV1	DRV0	-	-	-	-	-	**40h**

*Refer the datasheet for Status Register definition

4.3.1 The W25Q16/32RV introduce the LB0 bit in Status Register-2, with a default value of 1 indicating that the SFDP Register is locked.

4.3.2 The default value of Status Register-2 is 06h for the W25Q16/32RV-Q and 02h for the W25Q16/32JV-Q.

4.3.3 The default value of Status Register-2 is 04h for the W25Q16/32RV-M and 00h for the W25Q16/32JV-M.

Table 9. Status Register Write

Product	Write Status Register-1/2/3	Byte 1	Byte 2	Byte 3
		Command input	Data input	Data input
W25Q16/32JV	Write Status Register-1 (2Bytes)	01h	(S7-S0)	-
	Write Status Register-1 (3Bytes)	01h	(S7-S0)	(S15-S8)
	Write Status Register-2	31h	(S15-S8)	-
	Write Status Register-3	11h	(S23-S16)	-
W25Q16/32RV	Write Status Register-1	01h	(S7-S0)	-
	Write Status Register-2	31h	(S15-S8)	-
	Write Status Register-3	11h	(S23-S16)	-

*Status Register-1: S7-0
*Status Register-2: S15-8
*Status Register-3: S23-16

4.3.4 Status Register-1 and 2 require individual writing using the commands "01h" and "31h," respectively in W25Q16/32RV.

5. REVISION HISTORY

Version	Date	Page	Description
1.0	01/10/2024		Initial release
1.1	02/15/2024	1, 6	Corrected the typo in State Register to Status Register
1.2	07/08/2025	4, 5	Update table 5 and table 6 information