EEPROM Series

Opcode, Address, and Page Configuration for SPI BUS EEPROM

Opcode and Address

The 4th bit of Opcode (OP3) configuration has a difference depending on memory capacity.

・OP3 of 1Kbit and 2Kbit products are * (Don't care)

・OP3 of 4Kbit product is also * (Don't care) for commands that do not specify the address, but (READ/WRITE) commands use it as an extended address bit for A8.

・OP3 of 8Kbit and higher capacity products are fixed to "0"

Capacity	Opecode								Address																							
	OP7	OP6	OP5	OP4	OP3	OP2	OP1	OP0																								
1K	0	0	0	0	*	0	1	0	*	A6	A5	A4	A3	A2	A1	A0																
2K	0	0	0	0	*	0	1	0	A7	A6	A5	A4	A3	A2	A1	A0																
4K	0	0	0	0	*/A8	0	1	0	A7	A6	A5	A4	A3	A2	A1	A0																
8K	0	0	0	0	0	0	1	0	*	*	*	*	*	*	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
16K	0	0	0	0	0	0	1	0	*	*	*	*	*	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
32K	0	0	0	0	0	0	1	0	*	*	*	*	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
64K	0	0	0	0	0	0	1	0	*	*	*	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
128K	0	0	0	0	0	0	1	0	*	*	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
256K	0	0	0	0	0	0	1	0	*	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
512K	0	0	0	0	0	0	1	0	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0								
1M	0	0	0	0	0	0	1	0	*	*	*	*	*	*	*	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0

In the table above, the setting of the lower 3 bits of the Opcode is an example of a 'write' command.

Page

There are differences in the number of addresses (bytes) per page and total number of pages depending on memory capacity.

Total number of pages and addresses per page*1

Capacity	Number of Addresses	Number of Pages	Number of Add. per Page	total bit
	A[byte]	P[page]	A/P[byte]	A*8[bit]
1K	128	8	16	1024
2K	256	16	16	2048
4K	512	32	16	4096
8K	1024	32	32	8192
16K	2048	64	32	16384
32K	4096	128	32	32768
64K	8192	256	32	65536
128K	16384	256	64	131072
256K	32768	512	64	262144
512K	65536	512	128	524288
1M	131072	512	256	1048576

Details of pages and addresses*1

memory capacity	1K	2K	4K	8K	16K
total page	8	16	32	32	64
address par page	16	16	16	32	32
page number	address location	address location	address location	address location	address location
0	00h ~ 0Fh	00h ~ 0Fh	00h ~ 0Fh	00h ~ 1Fh	00h ~ 1Fh
1	10h ~ 1Fh	10h ~ 1Fh	10h ~ 1Fh	20h ~ 3Fh	20h ~ 3Fh
2	20h ~ 2Fh	20h ~ 2Fh	20h ~ 2Fh	40h ~ 5Fh	40h ~ 5Fh
3	30h ~ 3Fh	30h ~ 3Fh	30h ~ 3Fh	60h ~ 7Fh	60h ~ 7Fh
4	40h ~ 4Fh	40h ~ 4Fh	40h ~ 4Fh	80h ~ 9Fh	80h ~ 9Fh
5	50h ~ 5Fh	50h ~ 5Fh	50h ~ 5Fh	A0h ~ BFh	A0h ~ BFh
6	60h ~ 6Fh	60h ~ 6Fh	60h ~ 6Fh	C0h ~ DFh	C0h ~ DFh
7	70h ~ 7Fh	70h ~ 7Fh	70h ~ 7Fh	E0h ~ FFh	E0h ~ FFh
8		80h ~ 8Fh	80h ~ 8Fh	100h ~ 11Fh	100h ~ 11Fh
9		90h ~ 9Fh	90h ~ 9Fh	120h ~ 13Fh	120h ~ 13Fh
10		A0h ~ AFh	A0h ~ AFh	140h ~ 15Fh	140h ~ 15Fh
11		B0h ~ BFh	B0h ~ BFh	160h ~ 17Fh	160h ~ 17Fh
12		C0h ~ CFh	C0h ~ CFh	180h ~ 19Fh	180h ~ 19Fh
13		D0h ~ DFh	D0h ~ DFh	1A0h ~ 1BFh	1A0h ~ 1BFh
14		E0h ~ EFh	E0h ~ EFh	1C0h ~ 1DFh	1C0h ~ 1DFh
15		F0h ~ FFh	F0h ~ FFh	1E0h ~ 1FFh	1E0h ~ 1FFh
16			100h ~ 10Fh	200h ~ 21Fh	200h ~ 21Fh
17			110h ~ 11Fh	220h ~ 23Fh	220h ~ 23Fh
18			120h ~ 12Fh	240h ~ 25Fh	240h ~ 25Fh
19			130h ~ 13Fh	260h ~ 27Fh	260h ~ 27Fh
20			140h ~ 14Fh	280h ~ 29Fh	280h ~ 29Fh
21			150h ~ 15Fh	2A0h ~ 2BFh	2A0h ~ 2BFh
22			160h ~ 16Fh	2C0h ~ 2DFh	2C0h ~ 2DFh
23			170h ~ 17Fh	2E0h ~ 2FFh	2E0h ~ 2FFh
24			180h ~ 18Fh	300h ~ 31Fh	300h ~ 31Fh
25			190h ~ 19Fh	330h ~ 33Fh	330h ~ 33Fh
26			1A0h ~ 1AFh	340h ~ 35Fh	340h ~ 35Fh
27			1B0h ~ 1BFh	360h ~ 37Fh	360h ~ 37Fh
28			1C0h ~ 1CFh	380h ~ 39Fh	380h ~ 39Fh
29			1D0h ~ 1DFh	3A0h ~ 3BFh	3A0h ~ 3BFh
30			1E0h ~ 1EFh	3C0h ~ 3DFh	3C0h ~ 3DFh
31			1F0h ~ 1FFh	3E0h ~ 3FFh	3E0h ~ 3FFh
32					. . .
33					

*1 Products with 1Kbit to 16Kbit of memory capacity are examples from BR25H-2C series while 32Kbit and higher memory capacity are examples from BR25G-3 series. Please see each datasheet.

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