

# SERIAL PRESENCE DETECT

## M471B5673FH0-CF8/CH9/CK0

Organization : 256M x 64  
 Composition : 128M x 8 \* 16ea  
 Used component part # : K4B1G0846F-HCF8/CH9/CK0  
 # of rows in module : 2 Rows  
 # of banks in component : 8 Banks  
 Feature : 30mm height & double sided component  
 Refresh : 8K/64ms  
 Bin Sort : F8(DDR3 1066@CL=7), H9(DDR3 1333@CL=9), K0(DDR3 1600@CL=11)

Byte #	Function Described	Function Supported			Hex Value			Note
		CF8	CH9	CK0	CF8	CH9	CK0	
0	Number of Serial PD Bytes Written / SPD Device Size / CRC Coverage	CRC coverage 0~116Byte, SPD Byte Total :256Byte, SPD Byte Use : 176Byte			92h			
1	SPD Revision	Version 1.0			10h			
2	Key Byte / DRAM Device Type	DDR3 SDRAM			0Bh			
3	Key Byte / Module Type	Unbuffered SoDIMM			03h			
4	SDRAM Density and Banks	1Gb 8banks			02h			
5	SDRAM Addressing	Row : 14, Column : 10			11h			
6	Module Nominal Voltage, VDD	1.5V only			00h			
7	Module Organization	2Rank / x8			09h			
8	Module Memory Bus Width	Non ECC, 64bit			03h			
9	Fine Timebase Dividend and Divisor	2.5ps			52h			
10	Medium Timebase Dividend	1/8 (0.125ns)			01h			
11	Medium Timebase Divisor	1/8 (0.125ns)			08h			
12	SDRAM Minimum Cycle Time (tCKmin)	1.875ns	1.5ns	1.25ns	0Fh	0Ch	0Ah	
13	Reserved	Reserved			00h			
14	CAS Latencies Supported, Least Significant Byte	5, 6, 7, 8	5, 6, 7, 8, 9	5, 6, 7, 8, 9, 10, 11	1Eh	3Eh	FEh	
15	CAS Latencies Supported, Most Significant Byte	5, 6, 7, 8	5, 6, 7, 8, 9	5, 6, 7, 8, 9, 10, 11	00h			
16	Minimum CAS Latency Time(tAAmin)	13.125ns			69h			
17	Minimum Write Recovery Time (tWRmin)	15ns			78h			
18	Minimum RAS# to CAS# Delay Time (tRCDmin)	13.125ns			69h			
19	Minimum Row Active to Row Active Delay Time (tRRDmin)	7.5ns	6ns	6ns	3Ch	30h	30h	
20	Minimum Row Precharge Time (tRPmin)	13.125ns			69h			
21	Upper Nibbles for tRAS and tRC	-			11h			
22	Minimum Active to Precharge Time (tRASmin), Least Significant Byte	37.5ns	36ns	35ns	2Ch	20h	18h	
23	Minimum Active to Active/Refresh Time (tRCmin), Least Significant Byte	50.625ns	49.125ns	48.125ns	95h	89h	81h	
24	Minimum Refresh Recovery Time (tRFCmin), Least Significant Byte	110ns			70h			
25	Minimum Refresh Recovery Time (tRFCmin), Most Significant Byte	110ns			03h			
26	Minimum Internal Write to Read Command Delay Time (tWTRmin)	7.5ns			3Ch			
27	Minimum Internal Read to Precharge Command Delay Time (tRTPmin)	7.5ns			3Ch			
28	Upper Nibble for tFAW	37.5ns	30ns	30ns	01h	00h	00h	
29	Minimum Four Activate WIndow Delay Time (tFAWmin), Least Significant Byte	37.5ns	30ns	30ns	2Ch	F0h	F0h	
30	SDRAM Optional Features	DLL off Mode, RZQ/6, RZQ/7			83h			
31	SDRAM Thermal and Refresh Options	No ODTS, No ASR			01h			
32	Module Thermal Sensor	without TS			00h			
33	SDRAM Device Type	Standard Monolithic DRAM Device			00h			
34-59	Reserved, General Section	-			00h			
60	Module Nominal Height	30mm			0Fh			
61	Module Maximum Thickness	Planar Double sides			11h			
62	Reference Raw Card Used	R/C F, 2.0			45h			

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		CF8	CH9	CK0	CF8	CH9	CK0	
63	Address Mapping from Edge Connector to DRAM	standard			00h			
64~116	Reserved	-			00h			
117	Module Manufacturer ID Code, Least Significant Byte	Samsung			80h			
118	Module Manufacturer ID Code, Most Significant Byte	Samsung			CEh			
119	Module ID: Module Manufacturing Location	Onyang Korea			01h			
120	Module ID: Module Manufacturing Date	-			00h			
121	Module ID: Module Manufacturing Date	-			00h			
122~125	Module ID : Module Serial Number	-			00h			
126	Cyclical Redundancy Code	-	-		D3h	91h	A5h	
127	Cyclical Redundancy Code	-	-		26h	8Fh	50h	
128	Module Part Number	M			4Dh			
129	Module Part Number	4			34h			
130	Module Part Number	7			37h			
131	Module Part Number	1			31h			
132	Module Part Number	B			42h			
133	Module Part Number	5			35h			
134	Module Part Number	6			36h			
135	Module Part Number	7			37h			
136	Module Part Number	3			33h			
137	Module Part Number	F-die			46h			
138	Module Part Number	H			48h			
139	Module Part Number	0			30h			
140	Module Part Number	-			2Dh			
141	Module Part Number	C			43h			
142	Module Part Number	F	H	K	46h	48h	4Bh	
143	Module Part Number	8	9	0	38h	39h	30h	
144	Module Part Number	Blank			20h			
145	Module Part Number	Blank			20h			
146~147	Module Revision Code	-			00h			
148	SDRAM Manufacturer's JEDEC ID Code	Samsung			80h			
149	SDRAM Manufacturer's JEDEC ID Code	Samsung			CEh			
150~175	Manufacturer's Specific Data	-			00h			
176~255	Open for customer use	-			00h			