SERIAL PRESENCE DETECT

M392B2G70AM0-CF804/CH904

Organization : 2G x 72
Composition : 2G x 4 * 18ea
Used component part # : K4B8G0446A-HCF8/HCH9
# of rows in module : 2 Rows
# of banks in component : 8 Banks
Feature : 18.75mm height & double sided component
Refresh : 8K/64ms
Bin Sort : F8(DDR3 1066@CL=7), H9(DDR3 1333@CL=9)
RCD Vendor and Revision : IDT LVDDR3 B0

Byte #	Function Described	Function Supported		Hex Value		Note
		CF804	CH904	CF804	CH904	
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	Registered DIMM		01h		
4	SDRAM Density and Banks	4Gb 8banks		04h		
5	SDRAM Addressing	Row : 16, Column : 11		22h		
6	Module Nominal Voltage, VDD	1.5V only		00h		
7	Module Organization	2Rank / x4		08h		
8	Module Memory Bus Width	ECC, 64bit		0Bh		
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	0Fh	0Ch	
13	Reserved	Reserved		00h		
14	CAS Latencies Supported, Least Significant Byte	6, 7, 8	6, 7, 8, 9	1Ch	3Ch	
15	CAS Latencies Supported, Most Significant Byte	6, 7, 8	6, 7, 8, 9	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	3Ch	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	2Ch	20h	
23	Minimum Active to Active/Refresh Time (tRCmin), Least Significatn Byte	50.625ns	49.125ns	95h	89h	
24	Minimum Refresh Recovery Time (tRFCmin), Least Significant Byte	300ns		60h		
25	Minimum Refresh Recovery Time (tRFCmin), Most Significant Byte	300ns		09h		
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	01h	00h	
29	Minimum Four Activate WIndow Delay Time (tFAWmin), Least Significant Byte	37.5ns	30ns	2Ch	F0h	
30	SDRAM Output Drivers supported	DLL off Mode, RZQ/6, RZQ/7		83h		
31	SDRAM Thermal and Refresh Options	No ODTS, No ASR		01h		
32	Module Thermal Sensor	with TS		80h		
33	SDRAM Device Type	Non-Standard Device		80h		
34~59	Reserved, General Section	-		00h		
60	Module Nominal Height	18.75mm		04h		
61	Module Maximum Thickness	DDP Double sides(With Flat Type H/S)		33h		
62	Reference Raw Card Used	R/C N, 0.0		0Ch		
63	DIMM Module Attributes	1 Row of DRAM / 1 Register used		05h		

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Byte #	Function Described	Function Supported		Hex Value		Note
		CF804	CH904	CF804	CH904	
64	Heat Spreader Solution	with HS		80h		
65	Register vendor ID code(LSB)	IDT		80h		
66	Register vendor ID code(MSB)	IDT		B3h		
67	Register Revision Number	IDT LV-DDR3 B		61h		
68	Register Type	SSTE32882		00h		
69	Register Control Word Functions(RC0/RC1)	Default		00h		
70	Register Control Word Functions(RC2/RC3)	R/C N		A0h		
71	Register Control Word Functions(RC4/RC5)	R/C N		55h		
72	Register Control Word Functions(RC6/RC7)	Default		00h		
73	Register Control Word Functions(RC8/RC9)	Default		00h		
74	Register Control Word Function(RC10, RC11)	Default		00h		
75	Register Control Word Function(RC12, RC13)	Default		00h		
76	Register Control Word Function(RC14, RC15)	Default		00h		
77~116	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	-		D4h	96h	
127	Cyclical Redundancy Code	-		B0h	19h	
128	Module Part Number	M		4Dh		
129	Module Part Number	3		33h		
130	Module Part Number	9		39h		
131	Module Part Number	2		32h		
132	Module Part Number	B		42h		
133	Module Part Number	2		32h		
134	Module Part Number	G		47h		
135	Module Part Number	7		37h		
136	Module Part Number	0		30h		
137	Module Part Number	A-die		41h		
138	Module Part Number	M		4Dh		
139	Module Part Number	0		30h		
140	Module Part Number	-		2Dh		
141	Module Part Number	C		43h		
142	Module Part Number	F	H	46h	48h	
143	Module Part Number	8	9	38h	39h	
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		