

FEATURE OVERVIEW:

PCB INFORMATION:

- Board size: 5250 x 1181 mil.
- Thickness: 50
- Panel: 5 pieces PCB per panel.
- 6-layer board.
- Impedance: 40/60(Single-ended) Ohm \pm 10%, 62/88(differential) Ohm \pm 15%.
- Pin count: 240 PIN.

IC INFORMATION:

- 64MBx8,
SAMSUNG, 10.0 x 11.5 mm,
QIMONDA, 10.0 x 16.0 mm,
ELPIDA, 9.8 x 10.8 mm,
1.5V, 8K Refresh, FBGA, 106(78+28) Ball, 8 BANKS DDRIII SDRAM based.
- 128MBx8,
MICRON, 9.0 x 15.5 mm,
12.5 x 22.1 mm (MAX),
1.5V, 8K Refresh, FBGA, 106(78+28) Ball, 8 BANKS DDRIII SDRAM based.

MODULE INFORMATION:

- PC3-6400U and PC3-8500U, PC3-10660U and PC3-12800U UNBUFFERED DDRIII SDRAM DIMM
- Assembled DIMM capacity: 1024MB, 2048MB.
- Non-ECC DIMM organizations: 128MBx64, 256MBx64.
- For PC3-6400U and PC3-8500U and PC3-10660U and PC3-12800U system.

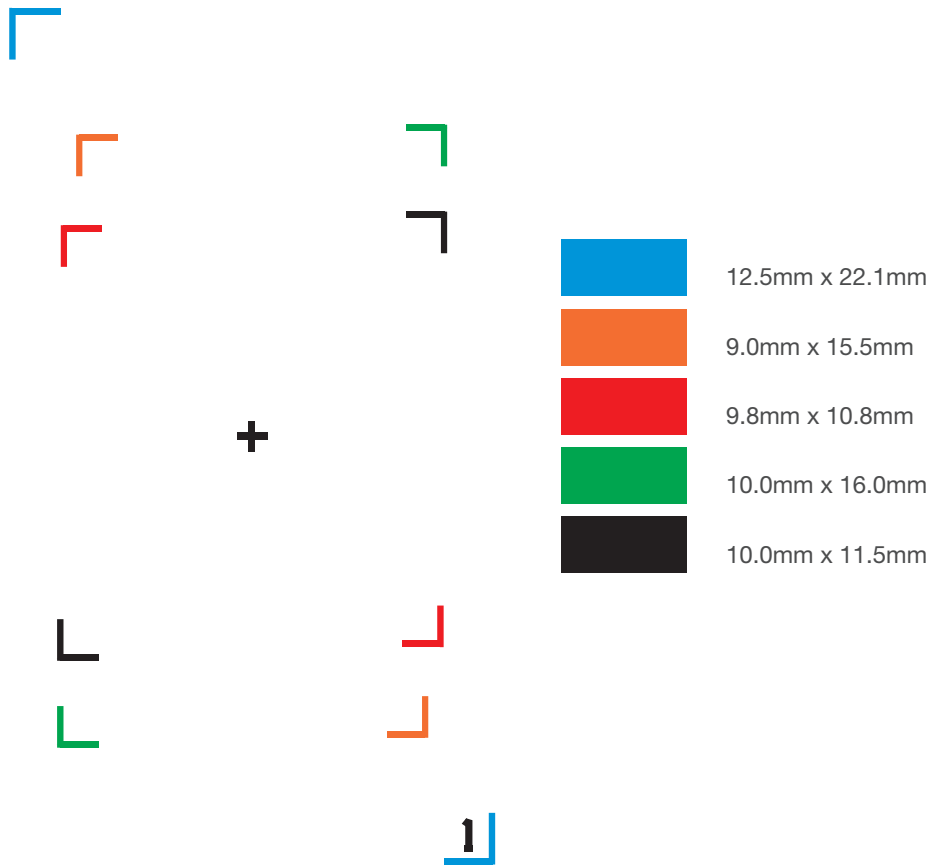
STENCIL INFORMATION:

- Top Side stencil: B63URCB 0.70.
- Top Side stencil: B63URCB 0.70.

X8 DEVICE BALL PATTERN

1		2		3		7		8		9	
NC	NC			NC		NC			NC	NC	
NC	NC			NC		NC			NC	NC	
NC	VSS	VDD		NC	A	NU/ TDQS-	VSS	VDD		NC	
	VSS	VSSQ	DQ0		B	DM/ TDQS-	VSSQ	VDDQ			
	VDDQ	DQ2	DQS		C	DQ1	DQ3	VSSQ			
	VSSQ	DQ6	DQS-		D	VDD	VSS	VSSQ			
	VREFDQ	VDDQ	DQ4		E	DQ7	DQ5	VDDQ			
	NC	VSS	RAS-		F	CK	VSS	NC			
	ODT	VDD	CAS-		G	CK-	VDD	CKE			
	NC	CS-	WE-		H	A10/AP	ZQ	NC			
	VSS	BA0	BA2		J	A15	VREFDQ	VSS			
	VDD	A3	A0		K	A12/BC-	BA1	VDD			
	VSS	A5	A2		L	A1	A4	VSS			
	VDD	A7	A9		M	A11	A6	VDD			
NC	VSS	RESET-	A13		N	A14	A8	VSS		NC	
NC	NC										
NC	NC										
NC	NC										

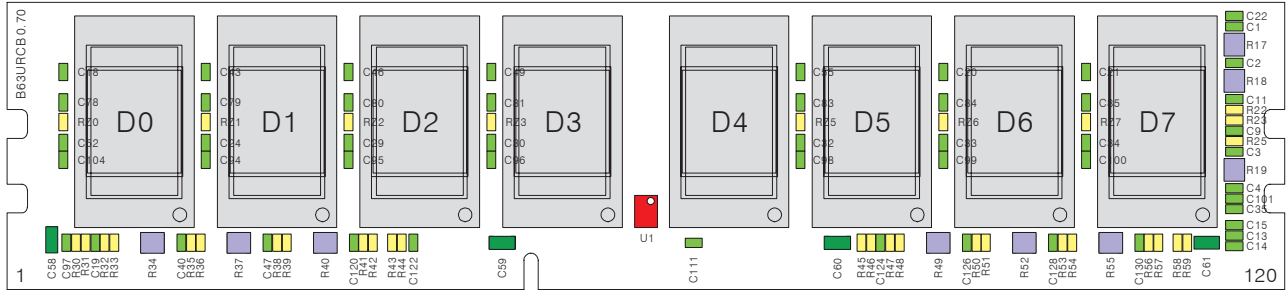
X8 DEVICE IC OUTLINE



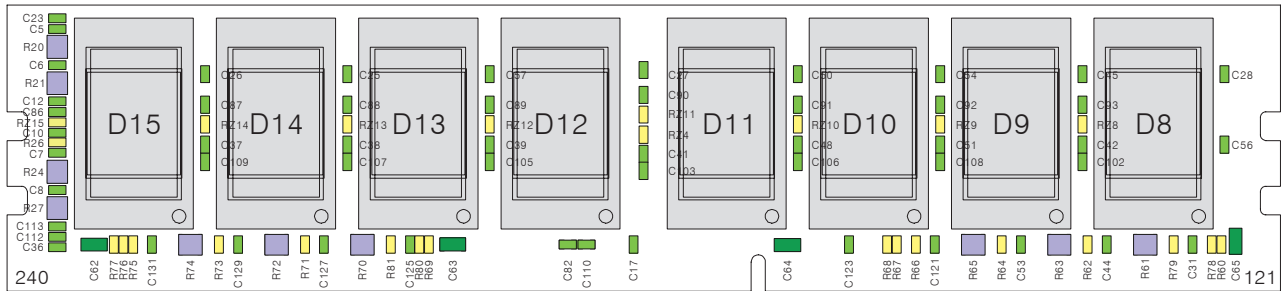
**64MBx64, 512MB, by 64MBx8 DDRIII SDRAM, 1-RANK, WITHOUT ECC;
128MBx64, 1024MB, by 128MBx8 DDRIII SDRAM, 1-RANK, WITHOUT ECC;**

Item#	Q'ty	Reference		Parts
		TOP	BOTTOM	
1	16	D0~D7	D8~D15	DDRIII SDRAM 64MBx8, SAMSUNG, 10.0 x 11.5 mm, QIMONDA, 10.0 x 16.0 mm, ELPIDA, 9.8 x 10.8 mm, 1.5V, 8K Refresh, FBGA, 106(78+28) Ball, 8 BANKS DDRIII SDRAM based. 128MBx8, MICRON, 9.0 x 15.5 mm, 12.5 x 22.1 mm (MAX), 1.5V, 8K Refresh, FBGA, 106(78+28) Ball, 8 BANKS DDRIII SDRAM based.
2	1	U1		EEPROM CAT34RC02VP2I-TE13 1.90 x 2.90 mm TDFN-8 Package.
3	2	C111	C110	Capacitor, 2.2pF, NPO ± 0.25pF, NPO, 0402 size, 50V.
4	102	C1~C4, C9, C11,C13, C14, C15, C18~C22, C24, C29, C30, C32~C35, C40, C43, C46, C47, C49, C52, C55, C78~C81, C83~C85, C94~C101, C104, C120, C122, C124, C126, C128, C130	C5~C8, C10, C12, C17, C23, C25~C28, C31, C36~C39, C41, C42, C44, C45, C48, C50, C51, C53, C54, C56, C57, C82, C86~C93, C102, C103, C105~C109, C112, C113, C121, C123, C125, C127, C129, C131	Capacitor, 100nF, +80%-20%,Y5V, 0402 size, 16V.
5	8	C58~C61	C62~C65	Capacitor, 2.2uF, +80%-20%, Y5V, 0603 size, 10V.
6	40	R30~R33, R35, R36, R38, R39, R41~R48, R50, R51, R53, R54, R56~R59	R60, R62, R64, R66~R69, R71, R73, R75~R81	Resistor, 15 Ohm, ± 5%, 1/16W, 0402 size.
7	4	R22, R23, R25	R26	Resistor, 39 Ohm, ± 5%, 1/16W, 0402 size.
8	16	RZ0~RZ3, RZ5~RZ7,	RZ4, RZ8~RZ15,	Resistor, 240 Ohm, ± 5%, 1/16W, 0402 size.
9	12	R34, R37, R40 R49, R52, R55	R61, R63, R65 R70, R72, R72	Resistor Array, 15 Ohm, ± 5%, 1/16W, 0402 8P4R size, (R-PACK)
10	1		R27	Resistor Array, 36 Ohm, ± 5%, 1/16W, 0402 8P4R size, (R-PACK)
11	6	R17~R19	R20, R21, R24	Resistor Array, 39 Ohm, ± 5%, 1/16W, 0402 8P4R size, (R-PACK)
12	1			P.C.B. B63URCB 0.70, 5250 x 1181 mil, 5 PCS/PNL

TOP SIDE 2-RANK WITHOUT ECC



BOTTOM SIDE 2-RANK WITHOUT ECC



UNBUFFERED DDRIII SDRAM DIMM MODULE 512M/1024M BYTE (MODULE SIZE BY 64MBx64, 128MBx64) BY 64MBx8, 128MBx8 DDRIII SDRAM CHIPS

COMPONENTS#:

Item#	64MBx8 DDRIII SDRAM	128MBx8 DDRIII SDRAM
MODULE SIZE	1024MB 128MBx64	2048MB 256MBx64
DDR III SDRAM	D0~D15 16 pieces	D0~D15 16 pieces
EEPROM	U1 1 piece	U1 1 piece
Capacitor, 2.2pF, 0402	C110, C111 2 pieces	C110, C111 2 pieces
Capacitor, 100nF, 0402	C1~C15, C17~C57, C78~C109, C112, C113, C120, C131 102 pieces	C1~C15, C17~C57, C78~C109, C112, C113, C120, C131 102 pieces
Capacitor, 2.2uF, 0603	C58~C65 8 pieces	C58~C65 8 pieces
Resistor, 15 Ohm, 0402	R30~R33, R35, R36, R38, R39, R41~R48, R50, R51, R53, R54, R56~R60, R62, R64, R66~R69, R71, R73, R75~R81 40 pieces	R30~R33, R35, R36, R38, R39, R41~R48, R50, R51, R53, R54, R56~R60, R62, R64, R66~R69, R71, R73, R75~R81 40 pieces
Resistor, 39 Ohm, 0402	R22, R23, R25, R26 4 pieces	R22, R23, R25, R26 4 pieces
Resistor, 240 Ohm, 0402	RZ0~RZ15 16 pieces	RZ0~RZ15 16 pieces
Resistor, Array 8P4R, 15 Ohm, 0402	R34, R37, R40, R49, R52, R55, R61, R63, R65, R70, R72, R74 12 pieces	R34, R37, R40, R49, R52, R55, R61, R63, R65, R70, R72, R74 12 pieces
Resistor, Array 8P4R, 36 Ohm, 0402	R27 1 piece	R27 1 piece
Resistor, Array 8P4R, 39 Ohm, 0402	R17~R21, R24 6 pieces	R17~R21, R24 6 pieces
PCB	1 piece	1 piece

B63URCB 0.70 1ST DQ MAP:

Description: DDRIII SDRAM, Double-Ranks, x8-FBGA106(78+28)-based, x64
Unbufferd, 240-pin DIMM 1.04

Component No.	Component DQ	Module DQ	Module Pin No.	Component No.	Component DQ	Module DQ	Module Pin No.
D0	0	2	9	D1	0	10	18
	1	5	123		1	13	132
	2	7	129		2	15	138
	3	1	4		3	9	13
	4	6	128		4	14	137
	5	4	122		5	12	131
	6	3	10		6	11	19
	7	0	3		7	8	12
D2	0	18	27	D3	0	26	36
	1	21	141		1	29	150
	2	23	147		2	31	156
	3	17	22		3	25	31
	4	22	146		4	30	155
	5	20	140		5	28	149
	6	19	28		6	27	37
	7	16	21		7	24	30
D4	0	34	87	D5	0	42	96
	1	37	201		1	45	210
	2	39	207		2	47	216
	3	33	82		3	41	91
	4	38	206		4	46	215
	5	36	200		5	44	209
	6	35	88		6	43	97
	7	32	81		7	40	90
D6	0	50	105	D7	0	58	114
	1	53	219		1	61	228
	2	55	225		2	63	234
	3	49	100		3	57	109
	4	54	224		4	62	233
	5	52	218		5	60	227
	6	51	106		6	59	115
	7	48	99		7	56	108

B63URCB 0.70 1ST DQ MAP:

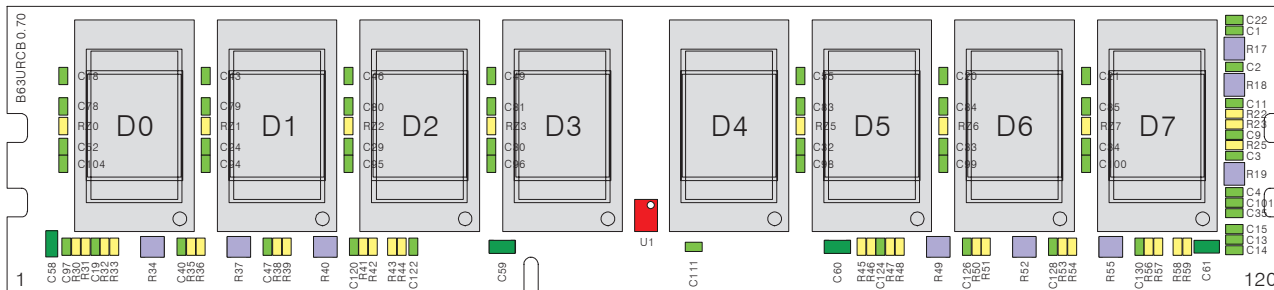
Description: DDRIII SDRAM, Double-Ranks, x8-FBGA106(78+28)-based, x64
Unbufferd, 240-pin DIMM 1.04

Component No.	Component DQ	Module DQ	Module Pin No.	Component No.	Component DQ	Module DQ	Module Pin No.
D8	0	5	123	D9	0	13	132
	1	2	9		1	10	18
	2	1	4		2	9	13
	3	7	129		3	15	138
	4	0	3		4	8	12
	5	3	10		5	11	19
	6	4	122		6	12	131
	7	6	128		7	14	137
D10	0	21	141	D11	0	29	150
	1	18	27		1	26	36
	2	17	22		2	25	31
	3	23	147		3	31	156
	4	16	21		4	24	30
	5	19	28		5	27	37
	6	20	140		6	28	149
	7	22	146		7	30	155
D12	0	37	201	D13	0	45	210
	1	34	87		1	42	96
	2	33	82		2	41	91
	3	39	207		3	47	216
	4	32	81		4	40	90
	5	35	88		5	43	97
	6	36	200		6	44	209
	7	38	206		7	46	215
D14	0	53	219	D15	0	61	228
	1	50	105		1	58	114
	2	49	100		2	57	109
	3	55	225		3	63	234
	4	48	99		4	56	108
	5	51	106		5	59	115
	6	52	218		6	60	227
	7	54	224		7	62	233

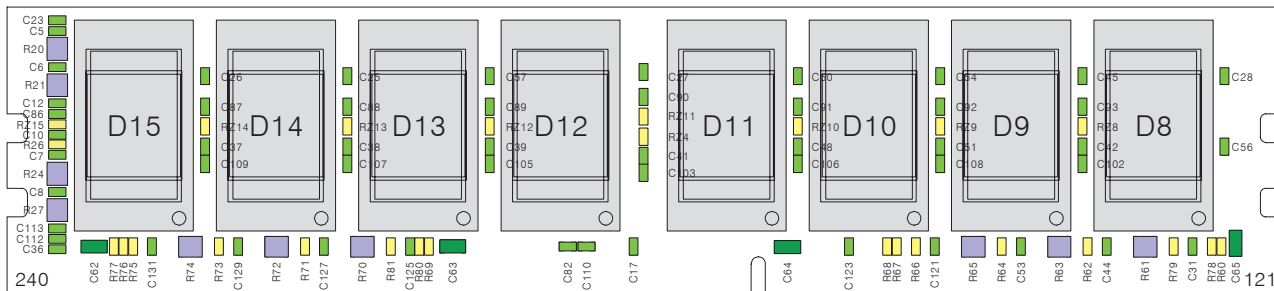
First check the SPD data and EEPROM. Then check the following components for other problem.

	Clock loading	Boot failure
2-RANK	C110, C111, RZ0~RZ15	SPD data, U1

TOP SIDE



BOTTOM SIDE



PART NUMBER DECODER

