

## ABNORMAL TEST RESULT

## OF MODEL MMC75B

1. Did Cheese Cloth or Paper Glow?

No.

2. Did Ground Fuse Open?

No.

3. Dielectric breakdown?

No.

4. Other Results?

See the following pages .

( FMEA : 2/15 ~ 13/15)

( Abnormal Test Result: 14/15 ~ 15/15)

There was no emission of flame, molten metal, ignition of cheesecloth, dielectric breakdown, opening of the ground fuse, other indication of a shock or fire hazard.

「\*」 shows no change of output voltage .

F M E A

Component	Mode	Comment	Output Voltage (V)
C1	Open	Normal operation.	
	Short	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
C2	Open	Normal operation.	
	Short	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
C5	Open	See 14 Page.	
	Short	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
C6	Open	Normal operation.	
	Short	No Hazard.	AVR1:0 AVR2:0 AVR3:0
C7	Open	Normal operation.	
	Short	Normal operation.	
C8	Open	Normal operation.	
	Short	Normal operation.	
C9	Open	Normal operation.	
	Short	Normal operation.	
C10	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	No Hazard.	AVR1:0 AVR2:0 AVR3:0
C11	Open	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
	Short	Normal operation.	
C12	Open	Normal operation.	
	Short	No Hazard.	AVR1:0 AVR2:0 AVR3:0
C13	Open	Normal operation.	
	Short	Normal operation.	
C51	Open	Normal operation.	
	Short	Normal operation.	

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Component	Mode	Comment	Output Voltage (V)
C53	Open	Normal operation.	
	Short	See 14 Page.	
C54	Open	Normal operation.	
	Short	See 14 Page.	
C55	Open	Normal operation.	
	Short	Normal operation.	
C59	Open	See 14 Page.	
	Short	See 14 Page.	
C60	Open	Normal operation.	
	Short	Normal operation.	
C61	Open	Normal operation.	
	Short	See 14 Page.	
C63	Open	See 14 Page.	
	Short	See 14 Page.	
C64	Open	Normal operation.	
	Short	Normal operation.	
C65	Open	Normal operation.	
	Short	Output voltage decreased. No hazard.	AVR1:* AVR2:* AVR3:0
C66	Open	Normal operation.	
	Short	See 14 Page.	
C67	Open	Normal operation.	
	Short	Normal operation.	
C68	Open	Normal operation.	
	Short	Normal operation.	

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Component	Mode	Comment	Output Voltage (V)
C69	Open	Normal operation.	
	Short	See 14 Page.	
C71	Open	See 14 Page.	
	Short	Output voltage decreased. No hazard.	AVR1:* AVR2:* AVR3:-2.6
C72	Open	Normal operation.	
	Short	Normal operation.	
C73	Open	Normal operation.	
	Short	Normal operation.	
C74	Open	Normal operation.	
	Short	Normal operation.	
C75	Open	Normal operation.	
	Short	Normal operation.	
C76	Open	Normal operation.	
	Short	Normal operation.	
C77	Open	Normal operation.	
	Short	Normal operation.	
C78	Open	Normal operation.	
	Short	Normal operation.	
C79	Open	Normal operation.	
	Short	Normal operation.	
D1	Open	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	Normal operation.	
D2	Open	Normal operation.	
	Short	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0

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Component	Mode	Comment	Output Voltage (V)
D3	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	No Hazard.	AVR1:0 AVR2:0 AVR3:0
D4	Open	Normal operation.	
	Short	Normal operation.	
D51	Open	See 14 Page.	
	Short	See 14 Page.	
D52	Open	Normal operation.	
	Short	Output voltage decreased. No hazard.	AVR1:* AVR2:* AVR3:0
IC1	Open	1	No Hazard. AVR1:0 AVR2:0 AVR3:0
		2	No Hazard. AVR1:0 AVR2:0 AVR3:0
		3	No Hazard. AVR1:0 AVR2:0 AVR3:0
		4	Normal operation.
		5	Normal operation.
		6	Normal operation.
		7	Normal operation.
		8	Normal operation.
		9	Normal operation.
		10	No Hazard. AVR1:0 AVR2:0 AVR3:0
		11	No Hazard. AVR1:0 AVR2:0 AVR3:0
		12	Output voltage decreased. No hazard. AVR1, AVR2, AVR3: decreased
		13	Output voltage decreased. No hazard. AVR1, AVR2, AVR3: decreased
		14	Normal operation.
		15	Normal operation.
		16	Normal operation.

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Component	Mode		Comment	Output Voltage (V)
IC1	Open	17	Normal operation.	
		18	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
		19	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
		20	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	1-2	Normal operation.	
		2-3	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		3-4	Normal operation.	
		4-5	Normal operation.	
		5-6	Normal operation.	
		6-7	Normal operation.	
		7-8	Normal operation.	
		8-9	Normal operation.	
		9-10	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		11-12	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		12-13	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		13-14	Output voltage decreased. No hazard..	AVR1, AVR2, AVR3: decreased
		14-15	Normal operation.	
		15-16	Normal operation.	
		16-17	Normal operation.	
		17-18	Normal operation.	
18-19	Normal operation.			
19-20	No Hazard.	AVR1:0 AVR2:0 AVR3:0		
IC50	Open	K	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		A	No Hazard.	AVR1:0 AVR2:0 AVR3:0



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Component	Mode		Comment	Output Voltage (V)
IC50	Open	R	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	A-K	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
		K-R	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
		R-A	No Hazard.	AVR1:0 AVR2:0 AVR3:0
IC51	Open	K	See 14 Page.	
		A	See 14 Page.	
		R	See 14 Page.	
	Short	A-K	See 14 Page.	
		K-R	See 14 Page.	
		R-A	See 14 Page.	
IC52	Open	1	No Hazard.	AVR1:* AVR2:* AVR3:0
		2	No Hazard.	AVR1:* AVR2:* AVR3:0
		3	No Hazard.	AVR1:* AVR2:* AVR3:0
	Short	1-2	Output voltage decreased. No hazard.	AVR1:0.7 AVR2:1.1 AVR3:*
		2-3	Output voltage decreased. No hazard.	AVR1:5 AVR2:12 AVR3:0
L1	Open		No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short		F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
L51	Open	7	No Hazard.	AVR1:* AVR2:* AVR3:0
		8	No Hazard.	AVR1:* AVR2:* AVR3:0
		10	No Hazard.	AVR1:0 AVR2:* AVR3:*
		11	Normal operation.	
		12	No Hazard.	AVR1:0 AVR2:* AVR3:*
	Short	7-8	No Hazard.	AVR1:* AVR2:0 AVR3:decreased
		10-11	Output voltage decreased. No hazard.	AVR1:0 AVR2:2.6 AVR3:0

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Component	Mode		Comment	Output Voltage (V)
L51	Short	11-12	No Hazard.	AVR1:0 AVR2:* AVR3:*
L54	Open		No Hazard.	AVR1:* AVR2:0 AVR3:*
	Short		No Hazard.	AVR1:* AVR3:* AVR2:decreased
L55	Open		No Hazard.	AVR1:* AVR2:0 AVR3:*
	Short		See 14 Page.	
LED51	Open		Normal operation.	
	Short		Normal operation.	
PC1	Open	A, K	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		C, E	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	A-K	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		C-E	No Hazard.	AVR1:0 AVR2:0 AVR3:0
PC2	Open	A, K	Normal operation.	
		C, E	Normal operation.	
	Short	A-K	Normal operation.	
		C-E	No Hazard.	AVR1:0 AVR2:0 AVR3:0
SCR1	Open	K	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		A	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		G	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	K-A	Normal operation.	
		K-G	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		A-G	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
SS1	Open	+	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		-	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		AC	No Hazard.	AVR1:0 AVR2:0 AVR3:0



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Component	Mode		Comment	Output Voltage (V)
SS1	Short	+AC	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		AC-AC	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		--AC	F1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
SS51	Open	Cathode	No Hazard.	AVR1:0 AVR2:* AVR3:*
		Anode (for)	No Hazard.	AVR1:0 AVR2:* AVR3:*
		Anode (fly)	No Hazard.	AVR1:decreased AVR2:* AVR3:*
	Short	Cathode -Anode (for)	No Hazard.	AVR1:0 AVR2:* AVR3:*
		Cathode -Anode (fly)	No Hazard.	AVR1:0 AVR2:* AVR3:*
SS52	Open	Cathode	No Hazard.	AVR1:* AVR2:0 AVR3:*
		Anode (for)	No Hazard.	AVR1:* AVR2:0 AVR3:*
		Anode (fly)	No Hazard.	AVR1:* AVR3:0 AVR2:decreased
	Short	Cathode -Anode (for)	No Hazard.	AVR1:* AVR2:0 AVR3:*
		Cathode -Anode (fly)	No Hazard.	AVR1:* AVR2:0 AVR3:*
SS53	Open	Cathode	No Hazard.	AVR1:* AVR2:* AVR3:0
		Anode (for)	No Hazard.	AVR1:* AVR2:* AVR3:0
		Anode (fly)	No Hazard.	AVR1:* AVR2:* AVR3:decreased
	Short	Cathode -Anode (for)	No Hazard.	AVR1:* AVR2:* AVR3:0
		Cathode -Anode (fly)	No Hazard.	AVR1, AVR2:decreased AVR3:0
T1	Open	1	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		2	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		3	Normal operation.	
		4	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		5	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		6	No Hazard.	AVR1:0 AVR2:0 AVR3:0

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Component	Mode		Comment	Output Voltage (V)
T1	Open	A	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		7	No Hazard.	AVR1:0 AVR2:* AVR3:*
		8	No Hazard.	AVR1:0 AVR2:* AVR3:*
		9	No Hazard.	AVR1:* AVR2:0 AVR3:*
		10	No Hazard.	AVR1:* AVR2:0 AVR3:*
		11	No Hazard.	AVR1:* AVR2:* AVR3:0
		12	No Hazard.	AVR1:* AVR2:* AVR3:0
	Short	1-2	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		2-3	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		3-4	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		4-5	R1 opened, No hazard.	AVR1:0 AVR2:0 AVR3:0
		5-6	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		5-A	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		6-A	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		7-8	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		8-9	Normal operation.	
		9-10	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		10-11	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		11-12	No Hazard.	AVR1:* AVR2:* AVR3:0
		TR1	Open	D
S	See 14 Page.			
G	See 14 Page.			
Short	D-S		See 14 Page.	
	S-G		See 15 Page.	

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Component	Mode		Comment	Output Voltage (V)
TR1	Short	G-D	See 15 Page.	
TR52	Open	C	See 15 Page.	
		E	See 15 Page.	
		B	See 15 Page.	
	Short	C-E	See 15 Page.	
		E-B	See 15 Page.	
		B-C	See 15 Page.	
VR51	Open	brush	No Hazard.	AVR1:0 AVR2:0 AVR3:0
			Output voltage decreased. No hazard.	AVR1:decreased AVR2:decreased
	Short		Output voltage increased. No hazard.	AVR1:increased AVR2:* AVR3:*
ZD1	Open		Normal operation.	
	Short		No Hazard.	AVR1:0 AVR2:0 AVR3:0
ZD51	Open		Normal operation.	
	Short		No Hazard.	AVR1:0 AVR2:0 AVR3:0
R1	Open		Normal operation.	
R2	Open		Normal operation.	
R3	Open		Normal operation.	
R4	Open		No Hazard.	AVR1:0 AVR2:0 AVR3:0
R5	Open		Normal operation.	
R6	Open		No Hazard.	AVR1:0 AVR2:0 AVR3:0
R7	Open		Normal operation.	
R8	Open		No Hazard.	AVR1:0 AVR2:0 AVR3:0
R9	Open		No Hazard.	AVR1:0 AVR2:0 AVR3:0
R10	Open		Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased

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Component	Mode	Comment	Output Voltage (V)
R11	Open	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
R12	Open	Normal operation.	
R13	Open	Normal operation.	
R14	Open	See 15 Page.	
R15	Open	See 15 Page.	
R16	Open	Normal operation.	
R17	Open	Normal operation.	
R18	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0
R19	Open	Normal operation.	
R20	Open	Normal operation.	
R21	Open	Normal operation.	
R22	Open	Normal operation.	
R23	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0
R24	Open	Normal operation.	
R25	Open	Normal operation.	
R26	Open	Normal operation.	
R27	Open	Normal operation.	
R28	Open	Normal operation.	
R51	Open	Normal operation.	
R52	Open	Normal operation.	
R53	Open	Normal operation.	
R54	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0
R55	Open	Output voltage decreased. No hazard.	AVR1:4.4 [V] AVR2:* AVR3:*
R56	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0

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Component	Mode	Comment	Output Voltage (V)
R57	Open	Output voltage decreased. No hazard.	AVR1, AVR2, AVR3: decreased
R58	Open	Normal operation.	
R59	Open	Normal operation.	
R60	Open	Normal operation.	
R61	Open	Output voltage increased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
R62	Open	See 15 Page.	
R63	Open	See 15 Page.	
R65	Open	See 15 Page.	
R66	Open	See 15 Page.	
R68	Open	Normal operation.	
R69	Open	Normal operation.	
R70	Open	Normal operation.	
R71	Open	See 15 Page.	
R72	Open	Normal operation.	
R73	Open	Normal operation.	
R74	Open	Normal operation.	
R75	Open	Normal operation.	
R76	Open	Normal operation.	
R77	Open	Normal operation.	
R78	Open	Normal operation.	
R79	Open	Output voltage increased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
R80	Open	Normal operation.	
R81	Open	No Hazard.	AVR1:0 AVR2:0 AVR3:0

ABNORMAL TEST RESULT

Component	Mode		Comment	Output Voltage (V)
C5	Open		Output voltage decreased. No hazard.	AVR1:0.9 AVR2:3.1 AVR3:-1.0
C53	Short		Output voltage decreased. No hazard.	AVR1:0 AVR2:2.6 AVR3:0
C54	Short		Output voltage decreased. No hazard.	AVR1:0 AVR2:2.6 AVR3:0
C59	Open		Normal operation.	AVR1:* AVR2:* AVR3:*
	Short		Output voltage decreased. No hazard.	AVR1:4.4 AVR2:* AVR3:*
C61	Short		Output voltage decreased. No hazard.	AVR1:0.7 AVR2:0 AVR3:0
C63	Open		Normal operation.	
	Short		Output voltage decreased. No hazard.	AVR1:* AVR2:0.7 AVR3:*
C66	Short		Output voltage decreased. No hazard.	AVR1:* AVR2:* AVR3:0
C69	Short		Output voltage decreased. No hazard.	AVR1:0.7 AVR2:1.1 AVR3:0
C71	Open		Normal operation.	
D51	Open		Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
	Short		Normal operation.	
IC51	Open	K	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
		A	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
		R	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
	Short	A-K	Output voltage decreased. No hazard.	AVR1:* AVR2:0.7 AVR3:*
		K-R	Output voltage decreased. No hazard.	AVR1:* AVR2:2.6 AVR3:*
		R-A	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
L55	Short		Output voltage increased. No hazard.	AVR1:* AVR2:16.9 AVR3:*
TR1	Open	D	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		S	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		G	No Hazard.	AVR1:0 AVR2:0 AVR3:0
	Short	D-S	No Hazard.	AVR1:0 AVR2:0 AVR3:0

ABNORMAL TEST RESULT

Component	Mode		Comment	Output Voltage (V)
TR1	Short	S-G	No Hazard.	AVR1:0 AVR2:0 AVR3:0
		G-D	No Hazard.	AVR1:0 AVR2:0 AVR3:0
TR52	Open	C	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
		E	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
		B	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
	Short	C-E	Normal operation.	
		E-B	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9
		B-C	Output voltage decreased. No hazard.	AVR1:* AVR2:0.8 AVR3:*
R14	Open	Output voltage decreased. No hazard.	AVR1:1.0 AVR2:3.1 AVR3:-0.8	
R15	Open	Output voltage decreased. No hazard.	AVR1:1.0 AVR2:3.1 AVR3:-0.8	
R62	Open	Output voltage decreased. No hazard.	AVR1:* AVR2:7.2 AVR3:*	
R63	Open	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9	
R65	Open	Output voltage decreased. No hazard.	AVR1:3.9 AVR2:12.9 AVR3:-11.9	
R66	Open	Output voltage decreased. No hazard.	AVR1:* AVR2:3.7 AVR3:*	
R71	Open	Output voltage decreased. No hazard.	AVR1:* AVR2:10.8 AVR3:*	