

## ABNORMAL TEST RESULT

## OF MODEL KHEA30F/KHNA30F

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 : 2/17 ~ 14/17)

( Abnormal Test Result: 15/17 ~ 17/17)

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.

F M E A

Component	Mode		Comment	Output Voltage (V)
C101	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C106	Open		No Hazard.	AVR1:0
	Short		No Hazard.	AVR1:0
C161	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C201	Open		See 15 Page.	
	Short		See 15 Page.	
C202	Open		See 15 Page.	
	Short		No Hazard.	AVR1:0
C210	Open	only 24	Normal operation.	
	Short	only 24	Normal operation.	
C211	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C212	Open		See 15 Page.	
	Short		No Hazard.	AVR1:0
C213	Open		Normal operation.	
	Short		Output voltage decreased. No hazard.	AVR1:decreased
C214	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C215	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C216	Open		Normal operation.	
	Short		No Hazard.	AVR1:0

F M E A

Component	Mode		Comment	Output Voltage (V)
C217	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C218	Open		Output voltage increased. No hazard.	AVR1:Increased
	Short		No Hazard.	AVR1:0
C255	Open		Normal operation.	
	Short		Normal operation.	
C256	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C257	Open		Normal operation.	
	Short		Normal operation.	
C258	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C501	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C502	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C503	Open	except 12	Normal operation.	
	Short	except 12	No Hazard.	AVR1:0
C504	Open	only 24	Normal operation.	
	Short	only 24	No Hazard.	AVR1:0
C505	Open	except 24	Normal operation.	
	Short	except 24	No Hazard.	AVR1:0
C506	Open	except 24	Normal operation.	
	Short	except 24	No Hazard.	AVR1:0

F M E A

Component	Mode		Comment	Output Voltage (V)
C507	Open	only 5	Normal operation.	
	Short	only 5	No Hazard.	AVR1:0
C508	Open	only 5	Normal operation.	
	Short	only 5	No Hazard.	AVR1:0
C515	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
C601	Open	only 5	Normal operation.	
	Short	only 5	See 15 Page.	
C602	Open		See 15 Page.	
	Short		See 15 Page.	
C631	Open		Normal operation.	
	Short		Normal operation.	
C633	Open	except 5	Output voltage decreased. No hazard.	AVR1:decreased
	Short	except 5	Output voltage decreased. No hazard.	AVR1:decreased
C635	Open		Normal operation.	
	Short		Normal operation.	
C636	Open	only 5	Normal operation.	
	Short	only 5	Normal operation.	
C637	Open	only 5	Output voltage decreased. No hazard.	AVR1:decreased
	Short	only 5	Output voltage decreased. No hazard.	AVR1:decreased
D201	Open		Normal operation.	
	Short		See 15 Page.	
D202	Open		See 15 Page.	
	Short		See 15 Page.	

F M E A

Component	Mode		Comment	Output Voltage (V)
D203	Open		See 15 Page.	
	Short		See 15 Page.	
D204	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
D213	Open		Output voltage decreased. No hazard.	AVR1:decreased
	Short		Output voltage decreased. No hazard.	AVR1:decreased
D214	Open		No Hazard.	AVR1:0
	Short		No Hazard.	AVR1:0
D215	Open		No Hazard.	AVR1:0
	Short		Normal operation.	
D216	Open		Normal operation.	
	Short		Normal operation.	
D218	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
D219	Open	except 24	Normal operation.	
	Short	except 24	No Hazard.	AVR1:0
D221	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
D222	Open		Normal operation.	
	Short		Normal operation.	
D231	Open		Normal operation.	
	Short		Normal operation.	
D252	Open		Normal operation.	
	Short		No Hazard.	AVR1:0

F M E A

Component	Mode		Comment	Output Voltage (V)
D253	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
D254	Open		Normal operation.	
	Short		Normal operation.	
D255	Open		Normal operation.	
	Short		Normal operation.	
D601	Open		See 15 Page.	
	Short		See 15 Page.	
D631	Open	only 5	Normal operation.	
	Short	only 5	Normal operation.	
D632	Open	only 5	Normal operation.	
	Short	only 5	Normal operation.	
D633	Open	only 5	Normal operation.	
	Short	only 5	No Hazard.	AVR1:0
IC201	Open	1	See 15 Page.	
		2	See 15 Page.	
		3	See 15 Page.	
		4	See 15 Page.	
		5	See 15 Page.	
		6	See 15 Page.	
		8	See 15 Page.	
	Short	1-2	See 15 Page.	
		2-3	See 15 Page.	
		3-4	See 15 Page.	

F M E A

Component	Mode		Comment	Output Voltage (V)
IC201	Short	5-6	See 16 Page.	
IC251	Open	1	Normal operation.	
		2	Normal operation.	
		3	Normal operation.	
		4	Normal operation.	
		5	Normal operation.	
	Short	1-2	Normal operation.	
		2-3	Normal operation.	
4-5		Normal operation.		
IC252	Open	1	Normal operation.	
		2	Normal operation.	
		3	Normal operation.	
		4	Normal operation.	
		5	Normal operation.	
	Short	1-2	Normal operation.	
		2-3	Normal operation.	
4-5		Normal operation.		
IC601	Open	2	See 16 Page.	
		3	See 16 Page.	
		4	See 16 Page.	
		5	See 16 Page.	
		6	See 16 Page.	
		7	See 16 Page.	
		8	See 16 Page.	

F M E A

Component	Mode		Comment	Output Voltage (V)
IC601	Short	2-3	See 16 Page.	
		5-6	See 16 Page.	
		6-7	See 16 Page.	
		7-8	See 16 Page.	
IC631	Open	1	Normal operation.	
		2	Normal operation.	
		3	No Hazard.	AVR1:0
		4	No Hazard.	AVR1:0
		5	No Hazard.	AVR1:0
	Short	1-2	Normal operation.	
		2-3	Normal operation.	
		4-5	No Hazard.	AVR1:0
	L101	Open		No Hazard.
Short		Normal operation.		
L601	Open		No Hazard.	AVR1:0
	Short		Normal operation.	
L603	Open		No Hazard.	AVR1:0
	Short		Normal operation.	
LED601	Open		Normal operation.	
	Short		Normal operation.	
PC211	Open	A, K	No Hazard.	AVR1:0
		C, E	No Hazard.	AVR1:0
	Short	A-K	No Hazard.	AVR1:0
		C-E	No Hazard.	AVR1:0



F M E A

Component	Mode		Comment	Output Voltage (V)
PC251	Open	A, K	Normal operation.	
		C, E	Normal operation.	
	Short	A-K	Normal operation.	
		C-E	No Hazard.	AVR1:0
SK101	Open		Normal operation.	
	Short		No Hazard.	AVR1:0
SS101	Open		No Hazard.	AVR1:0
	Short		No Hazard.	AVR1:0
T201	Open	1	Output voltage decreased. No hazard.	AVR1:decreased
		2	Output voltage decreased. No hazard.	AVR1:decreased
		3		
		4	No Hazard.	AVR1:0
		6	No Hazard.	AVR1:0
		7		
		8		
		9	No Hazard.	AVR1:0
		11	No Hazard.	AVR1:0
	Short	1-2	Output voltage decreased. No hazard.	AVR1:decreased
		2-3		
		3-4	No Hazard.	AVR1:0
		7-8	See 16 Page.	
		8-9	See 16 Page.	
TH101	Open		No Hazard.	AVR1:0
	Short		Normal operation.	

F M E A

Component	Mode		Comment	Output Voltage (V)
TR201	Open	D	See 16 Page.	
		S	See 16 Page.	
		G	See 16 Page.	
	Short	D-S	See 16 Page.	
		S-G	See 16 Page.	
		G-D	See 16 Page.	
TR202	Open	D	See 16 Page.	
		S	See 16 Page.	
		G	See 16 Page.	
	Short	D-S	See 16 Page.	
		S-G	See 17 Page.	
		G-D	See 17 Page.	
TR211	Open	C	Output voltage decreased. No hazard.	AVR1:decreased
		E	Output voltage decreased. No hazard.	AVR1:decreased
		B	Output voltage decreased. No hazard.	AVR1:decreased
	Short	C-E	Normal operation.	
		E-B	Normal operation.	
		B-C	Normal operation.	
TR231	Open	1	No Hazard.	AVR1:0
		2	No Hazard.	AVR1:0
		3		
		4	No Hazard.	AVR1:0
		5	No Hazard.	AVR1:0
		6	No Hazard.	AVR1:0

F M E A

Component	Mode		Comment	Output Voltage (V)
TR231	Short	1-2	No Hazard.	AVR1:0
		2-3	Normal operation.	
		4-5	No Hazard.	AVR1:0
		5-6	No Hazard.	AVR1:0
TR232	Open	3	Normal operation.	
		4	Normal operation.	
		5	Normal operation.	
	Short	4-5	Normal operation.	
TR601	Open	D	See 17 Page.	
		S	See 17 Page.	
		G	See 17 Page.	
	Short	D-S	See 17 Page.	
		S-G	See 17 Page.	
		G-D	See 17 Page.	
VR601	Open	Output voltage decreased. No hazard.	AVR1:decreased	
	Short	No Hazard.	AVR1:0	
ZD211	Open	Normal operation.		
	Short	Output voltage decreased. No hazard.	AVR1:decreased	
ZD231	Open	No Hazard.	AVR1:0	
	Short	Normal operation.		
ZD252	Open	Normal operation.		
	Short	Normal operation.		
ZD253	Open	Normal operation.		
	Short	Normal operation.		



F M E A

Component	Mode	Comment	Output Voltage (V)
ZD611	Open	Normal operation.	
	Short	Normal operation.	
ZD621	Open	Normal operation.	
	Short	No Hazard.	AVR1:0
R102	Open	Normal operation.	
R103	Open	Normal operation.	
R104	Open	Normal operation.	
R105	Open	Normal operation.	
R106	Open	Normal operation.	
R161	Open	Normal operation.	
R162	Open	Normal operation.	
R163	Open	Normal operation.	
R164	Open	Normal operation.	
R165	Open	Normal operation.	
R166	Open	Normal operation.	
R201	Open	Normal operation.	
R202	Open	Normal operation.	
R205	Open	Normal operation.	
R206	Open	Normal operation.	
R207	Open	Normal operation.	
R211	Open	Normal operation.	
R213	Open	No Hazard.	AVR1:0
R214	Open	No Hazard.	AVR1:0
R215	Open	No Hazard.	AVR1:0

F M E A

Component	Mode		Comment	Output Voltage (V)
R216	Open		Output voltage decreased. No hazard.	AVR1:decreased
R217	Open		Output voltage decreased. No hazard.	AVR1:decreased
R218	Open		Output voltage decreased. No hazard.	AVR1:decreased
R219	Open		Output voltage increased. No hazard.	AVR1:Increased
R221	Open		No Hazard.	AVR1:0
R222	Open		No Hazard.	AVR1:0
R223	Open		Normal operation.	
R224	Open		No Hazard.	AVR1:0
R231	Open		Normal operation.	
R232	Open		No Hazard.	AVR1:0
R233	Open		Normal operation.	
R241	Open		No Hazard.	AVR1:0
R252	Open		Normal operation.	
R253	Open		Normal operation.	
R254	Open		Normal operation.	
R255	Open		Normal operation.	
R256	Open		Normal operation.	
R257	Open		Normal operation.	
R258	Open		No Hazard.	AVR1:0
R259	Open		No Hazard.	AVR1:0
R503	Open	except 24	Normal operation.	
R601	Open		Normal operation.	
R602	Open		See 17 Page.	
R604	Open		See 17 Page.	

F M E A

Component	Mode	Comment	Output Voltage (V)
R605	Open	No Hazard.	AVR1:0
R606	Open	See 17 Page.	
R611	Open	Normal operation.	
R612	Open	Normal operation.	
R622	Open	Normal operation.	
R623	Open	Normal operation.	
R633	Open	Normal operation.	
R634	Open	No Hazard.	AVR1:0
R635	Open	No Hazard.	AVR1:0
R636	Open	No Hazard.	AVR1:0
R637	Open	Output voltage decreased. No hazard.	AVR1:decreased
R638	Open	No Hazard.	AVR1:0
R639	Open	No Hazard.	AVR1:0
R640	Open	Output voltage decreased. No hazard.	AVR1:decreased
R641	Open	only 5 Normal operation.	
R642	Open	No Hazard.	AVR1:0

ABNORMAL TEST RESULT

Component	Mode		Comment	Output Voltage (V)
C201	Open		Normal operation.	
	Short		Normal operation.	
C202	Open		Normal operation.	
C212	Open		Normal operation.	
C601	Short	only 5	Normal operation.	
C602	Open		Normal operation.	
	Short		Normal operation.	
D201	Short		Normal operation.	
D202	Open		Normal operation.	
	Short		Normal operation.	
D203	Open		Normal operation.	
	Short		Normal operation.	
D601	Open		Normal operation.	
	Short		Normal operation.	
IC201	Open	1	No Hazard.	AVR1:0
		2	Output voltage increased. No hazard.	AVR1:Increased
		3	No Hazard.	AVR1:0
		4	F101 opened, No hazard.	AVR1:0
		5	No Hazard.	AVR1:0
		6	No Hazard.	AVR1:0
		8	Normal operation.	
	Short	1-2	No Hazard.	AVR1:0
		2-3	No Hazard.	AVR1:0
		3-4	F101 opened, No hazard.	AVR1:0

ABNORMAL TEST RESULT

Component	Mode		Comment	Output Voltage (V)	
IC201	Short	5-6	No Hazard.	AVR1:0	
IC601	Open	2	No Hazard.	AVR1:0	
		3	No Hazard.	AVR1:0	
		4	No Hazard.	AVR1:0	
		5	Normal operation.		
		6	No Hazard.	AVR1:0	
		7	Normal operation.		
		8	Normal operation.		
		Short	2-3	Normal operation.	
	5-6		Normal operation.		
	6-7		Normal operation.		
	7-8		No Hazard.	AVR1:0	
	T201	Short	7-8	Normal operation.	
			8-9	No Hazard.	AVR1:0
TR201	Open	D	No Hazard.	AVR1:0	
		S	No Hazard.	AVR1:0	
		G	F101 opened, No hazard.	AVR1:0	
	Short	D-S	F101 opened, No hazard.	AVR1:0	
		S-G	No Hazard.	AVR1:0	
		G-D	F101 opened, No hazard.	AVR1:0	
TR202	Open	D	Normal operation.		
		S	Normal operation.		
		G	Normal operation.		
	Short	D-S	No Hazard.	AVR1:0	





ABNORMAL TEST RESULT

Component	Mode		Comment	Output Voltage (V)
TR202	Short	S-G	Normal operation.	
		G-D	No Hazard.	AVR1:0
TR601	Open	D	No Hazard.	AVR1:0
		S	No Hazard.	AVR1:0
		G	Normal operation.	
	Short	D-S	No Hazard.	AVR1:0
		S-G	Normal operation.	
		G-D	No Hazard.	AVR1:0
R602	Open		Normal operation.	
R604	Open		Normal operation.	
R606	Open		Normal operation.	