



## Test report:MGR010-24F

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**Output function test**  
**Input function test**  
**Protection function test**  
**Environment test**  
**Safety test**  
**Componment stress tset**  
**E.M.C test**

**Output function test**

NO.	Test item	Specication	Test condition	Result	Verdict
1	Ripple & noise	V1:150mVp-p(Max)	I/P:230VAC O/P:Full load Ta:25°C	42mVp-p	P
2	Output voltage tolerance	V1:2%~-2%(Max)	I/P:100VAC/264VAC O/P:Full/min load Ta:25°C	V1:0.3%~-0.3%	P
3	Line regulation	V1:1%~-1%(Max)	I/P:100VAC~264VAC O/P:Full load Ta:25°C	V1:0.3%~-0.3%	P
4	Load regulation	V1:2%~-2%(Max)	I/P:230VAC O/P:Full/min load Ta:25°C	V1:0.3%~-0.3%	P
5	Set up time	230VAC/500ms(Max) 115VAC/1000ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	367ms/230VAC 735ms/115VAC	P
6	Rise time	230VAC/30ms(Max) 115VAC/30ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	7.1ms/230VAC 10ms/115VAC	P
7	Hold up time	230VAC/50ms(TYP) 115VAC/20ms(TYP)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	143ms/230VAC 31ms/115VAC	P
8	Over/undershoot test	< ±5%	I/P:230VAC O/P:Full load Ta:25°C	Test: < 5%	P

**Input function test**

NO.	Test item	Specication	Test condition	Result	Verdict
1	Input voltage range	85VAC~264VAC	I/P:Testing O/P:Full load Ta:25°C	53VAC – 264VAC	P
			I/P: Low-line-3V=82V High-line+15%=300V O/P:Full/min load ON:30Sec. OFF:30Se 10MIN (AC power ON/OFF NO	ok	
2	Input frequency range	47Hz~63Hz NO damage	I/P:85AC~264VAC O/P:Full/min load Ta:25°C	ok	P
3	Efficiency	83%(TYP)	I/P:230VAC O/P:Full load Ta:25°C	85.07%	P
4	Input current	230V/0.21A(TYP) 115V/0.33A(TYP)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=0.14A/230VAC I=0.23A/115VAC	P
5	Inrush current	230V/70A(TYP) 115V/35A(TYP) cold start	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=63A/230VAC I=31A/115VAC	P
6	Leakage current	< 1 mA / 230VAC	I/P:230VAC O/P:Min load Ta:25°C	L-FG: 0.58 mA N-FG:0.58 mA	P

**Protection function test**

NO.	Test item	Specication	Test condition	Result	Verdict
1	Over load protection	105%	I/P:230VAC I/P:115VAC O/P:Testing Ta:25°C	126%/115VAC 171%/230VAC Hiccup mode,	P
2	Over voltage protection	CH1:27.6V~32.4V	I/P:230VAC I/P:115VAC O/P:Min load Ta:25°C	31.4V/115VAC 31.4V/230VAC Shunt down Re-power ON	P
3	Short protection	Short every output 1 hour NO damage	I/P:264VAC O/P:Full load Ta:25°C	NO damage Hiccup mode,	P

**Environment test**

NO.	Test item	Specication	Test condition	Result	Verdict	
1	Temperature rise test	Model:MGR010-24F			P	
		1.Room ambient burn-in: 2HS				
		I/P:230VAC O/P:Full load Ta=27.5°C				
		2.High ambient burn-in: 2HS				
		I/P:230VAC O/P:Full load Ta=57.5°C				
		NO.	P/N	Room ambient Ta= 27.7°C		High ambient Ta= 57.7 °C
		1	U1	46.4		71
		2	C5	36.1		60.2
		3	BD1	37.5		62.9
		4	LF1	36		61.3
		5	D1	44.4		68.7
		6	Q1	53.7		78
		7	ZD1	41.4		65.8
		8	D100	57.8		81.7
9	C36	44.2	69			
10	C105	49.1	72.4			
11	L100	45.3	69.5			
12	D300	51.7	75			
13	Q302	44.1	68.8			
2	Over load burn-in test	NO damage 1 Hours(min)	I/P:230VAC O/P:177% load Ta:25°C	ok	P	
3	Low temperature turn on test	Turn-in after 2 hour	I/P:230VAC O/P:100% load Ta:-20°C	ok		
4	Vibration test	(1) Waveform: Sine wave (2) Frequency:10~500Hz (3) Sweep time:10min/sweep cycle (4) Acceleration:2G (5) Test time:1 hour in each axis (X.Y.Z) Ta:25°C		ok	P	

**Safety test**

NO.	Test item	Specication	Test condition	Result	Verdict
1	Withstand voltage	I/P-O/P:3.0KVAC/min I/P-FG:1.5KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P:3.6KVAC/min I/P-FG:1.8KVAC/min O/P-FG:0.6KVAC/min Ta:25°C	I/P-O/P:4.16mA I/P-FG:4.98mA O/P-FG:2.439mA No damage	P
2	Isolation resistance	I/P-O/P:500VDC>100M $\Omega$ I/P-FG:500VDC>100M $\Omega$ O/P-FG:500VDC>100M $\Omega$	I/P-O/P:500VDC I/P-FG:500VDC O/P-FG:500VDC Ta:25°C	I/P-O/P:30G $\Omega$ I/P-FG:2.19G $\Omega$ O/P-FG:30 $\Omega$ No damage	P

**Componment stress tset**

NO.	Test item	Specication	Test condition	Result	Verdict
1	Power transistor peak voltage	6A/600V	I/P:High-line +3V = 267V O/P:(1)Full load turn on (2)Output short Ta:25°C	558V 558V	P
2	Diode peak voltage	20A/300V	I/P:High-line +3V = 267V O/P:(1)Full load turn on (2)Output short Ta:25°C	294V 266V	P
3	Input capacitor voltage	33uF/400V	I/P:High-line +3V = 267V O/P:(1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Ta:25°C	390V 390V 390V	P
4	Control IC voltage test	IC:18V	I/P:High-line +3V = 267V O/P:(1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Ta:25°C	11.54V 10.63V 11.54V	P

E.M.C test

NO.	Test item	Specication	Test condition	Result	Verdict
1	HARMONIC	EN IEC 61000-3-2 CLASS A	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	/	P
2	CONDUCTION	EN 55032 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS	P
3	RADIATION	EN 55032 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	PASS	P
4	E.S.D	EN 61000-4-2 LIGHT INDUSTRY AIR:8KV	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN 61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	EN 61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE:2KV	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	CRITERIA A	P

Date	TEST	Check	Approver	Result
2023-9-6	JH HUANG	GL YAO	YX CHEN	PASS