



Test report:MGR100-24C

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	22mVp-p	P
2	Output voltage adjust range	CH1:24V~30V	I/P:230VAC I/P:115VAC O/P:Min load Ta:25°C	22.8-32V/230VAC 22.8-32V/115VAC	P
3	Output voltage tolerance	V1:1%~-1%(Max)	I/P:100VAC/264VAC O/P:Full/min load Ta:25°C	V1:0.3%~-0.3%	P
4	Line regulation	V1:1%~-1%(Max)	I/P:100VAC~264VAC O/P:Full load Ta:25°C	V1:0%~-0.03%	P
5	Load regulation	V1:1%~-1%(Max)	I/P:230VAC O/P:Full/min load Ta:25°C	V1:0.2%~-0.2%	P
6	Set up time	230VAC/3000ms(Max) 115VAC/3000ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	1390ms/230VAC 1390ms/115VAC	P
7	Rise time	230VAC/50ms(Max) 115VAC/50ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	16ms/230VAC 16ms/115VAC	P
8	Hold up time	230VAC/50ms(TYP) 115VAC/20ms(TYP)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	71ms/230VAC 22ms/115VAC	P
9	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	58VAC – 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	87%(TYP)	I/P:230VAC O/P:Full load Ta:25°C	87.00%	P
4	Input current	230V/0.8A(TYP) 115V/1.3A(TYP)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=0.45A/230VAC I=0.86A/115VAC	P
5	Inrush current	230V/60A(TYP) 115V/30A(TYP) cold start	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=54A/230VAC I=27.5A/115VAC	P
6	Leakage current	< 1 mA / 230 VAC	I/P: 230 VAC O/P:Min load Ta:25°C	L-FG: 0.75 mA N-FG: 0.75 mA	P

Protection function test

NO.	Test item	Specication	Test condition	Result	Verdict
1	Over load protection	105~150%	I/P:230VAC I/P:115VAC O/P:Testing Ta:25°C	125%/115VAC 123%/230VAC Constant current limiting	P
2	Over voltage protection	CH1:15.6V~18V	I/P:230VAC I/P:115VAC O/P:Min load Ta:25°C	35V/115VAC 35V/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 Constant current limiting	P

Environment test

NO.	Test item	Specication	Test condition	Result	Verdict	
1	Temperature rise test	Model: MGR100-24C			P	
		1.Room ambient burn-in: 2HRS				
		I/P:230VAC O/P:Full load Ta=24.8°C				
		2.High ambient burn-in: 2HRS				
		I/P:230VAC O/P:Full load Ta=41.1°C				
		NO.	P/N	Room ambient Ta=24.8°C		High ambient Ta= 41.1°C
		1	Q2	64.2		78.9
		2	D1	70.8		85.8
		3	Q1	77.5		91.9
		4	D2	94.8		110.8
		5	L1	50.8		63.2
		6	C55	84.9		101.8
		7	T1 COIL	94.5		110.9
		8	RTH2	72.5		87.5
		9	C5	68.9		82.4
		10	L2	56.9		71.5
		11	Q100	76.8		93.8
		12	L100	69.9		84.9
13	BD1	62.5	74.5			
14	C106	68.5	81.2			
15	LF2	46.9	60.8			
16	TA	51.8	65.4			
17	U2	96.8	112.5			
2	Over load burn-in test	NO damage 1 Hours(min)	I/P:230VAC O/P:118% 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:-10°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:5.8mA I/P-FG:5.3mA O/P-FG:2.75mA No damage	P
2	Isolation resistance	I/P-O/P:500VDC>100M Ω I/P-FG:500VDC>100M Ω O/P-FG:500VDC>100M Ω	I/P-O/P:500VDC I/P-FG:500VDC O/P-FG:500VDC Ta:25°C	I/P-O/P:30.2G Ω I/P-FG:3.5G Ω O/P-FG:31G Ω No damage	P

Componment stress tset

NO.	Test item	Specication	Test condition	Result	Verdict
1	Power transistor peak voltage	11A/650V	I/P:High-line +3V = 267V O/P:(1)Full load turn on (2)Output short Ta:25°C	600V 472V	P
2	Diode peak voltage	43A/150V	I/P:High-line +3V = 267V O/P:(1)Full load turn on (2)Output short Ta:25°C	124V 122V	P
3	Input capacitor voltage	100uF/400V	I/P:高压 +3V = 267V O/P:(1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Ta:25°C	388V 375V 388V	P
4	Control IC voltage test	IC:20V	I/P:高压 +3V = 267V O/P:(1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Ta:25°C	18V 18V 18.5V	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