



Test report:MLR015-24F

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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	65.2mVp-p	P
2	Output voltage tolerance	V1:1%~-1%	I/P:85VAC/277VAC O/P:Full/min load Ta:25°C	V1:0.54%~0.04%	P
3	Line regulation	V1:1%~-1%	I/P:85VAC/277VAC O/P:Full load Ta:25°C	V1:0.25%~-0.04%	P
4	Load regulation	V1:1%~-1%	I/P:230VAC O/P:Full/min load Ta:25°C	V1:0.21%~-0.17%	P
5	Set up time	230VAC/2000ms(Max) 115VAC/2000ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	350.2ms/230VAC 995.2ms/115VAC	P
6	Rise time	230VAC/80ms(Max) 115VAC/80ms(Max)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	23.5ms/230VAC 25.2ms/115VAC	P
7	Hold up time	230VAC/30ms(Typ) 115VAC/12ms(Typ)	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	75.1ms/230VAC 16.9ms/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~277VAC 120VDC~390VDC	I/P:Testing O/P:Full load Ta:25°C	72.6–277VAC 102.2–390VDC	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~277VAC O/P:Full/min load Ta:25°C	ok	P
3	Efficiency	86%(TYP)	I/P:230VAC O/P:Full load Ta:25°C	87.00%	P
4	Input current	230V/0.25A 115V/0.5A	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=0.13A/230VAC I=0.23A/115VAC	P
5	Inrush current	230V/45A 115V/25A cold start	I/P:230VAC I/P:115VAC O/P:Full load Ta:25°C	I=40A/230VAC I=20A/115VAC	P

Protection function test

NO.	Test item	Specication	Test condition	Result	Verdict
1	Over load protection	110-145%	I/P:277VAC I/P:230VAC I/P:85VAC O/P:Testing Ta:25°C	127.2%/277VAC 127.3%/230VAC 122.9%/85VAC See specification	P
2	Over voltage protection	CH1:30V~36V	I/P:277VAC I/P:230VAC I/P:85VAC O/P:Min load Ta:25°C	34.1V/277VAC 34.1V/230VAC 34.1V/85VAC Shut off o/p voltage,clamping by zener diode	P
3	Short protection	Short every output 1 hour NO damage	I/P:277VAC I/P:85VAC 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:MLR015-24F			P	
		1.Room ambient burn-in: 2HS				
		I/P:230VAC O/P:Full load Ta=23.1°C				
		2.High ambient burn-in: 2HS				
		I/P:230VAC O/P:Full load Ta=48.5°C				
		NO.	P/N	Room ambient Ta= 23.1°C		High ambient Ta=48.5°C
		1	LF1	43.8		68.5
		2	C5	53.6		77.9
		3	Q1	72.5		96.9
		4	T1 coil	64.6		88.5
		5	T1 core	68.9		91.9
		6	C40	52.9		80.2
		7	C105	58.5		76.9
		8	D100	66.9		88.5
9	C106	44.9	69.7			
10	LF101	48.5	70.9			
11	U1	51.6	76.5			
12	BD1	55.4	79.5			
2	Over load burn-in test	NO damage 1 Hours(min)	I/P:230VAC O/P:116% load Ta:25°C	ok	P	
3	Low temperature turn on test	Turn-in after 2 hour	I/P:277VAC/100VAC O/P:100% load Ta:-30°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:4.0KVAC/min	I/P-O/P:4.4KVAC/min Ta:25°C	I/P-O/P:2.1mA No damage	P
2	Isolation resistance	I/P-O/P:500VDC>100M Ω	I/P-O/P:500VDC Ta:25°C/70%RH	I/P-O/P:9999M Ω No damage	P

Componment stress tset

NO.	Test item	Specication	Test condition	Result	Verdict
1	Power transistor peak voltage	4A/600V	I/P:280VAC O/P:(1)Full load turn on (2)Output short (3)Full load continue Ta:25°C	VIN: 281VAC VDS: 520V 393V 518V	P
2	Diode peak voltage	3A/200V	I/P:280VAC O/P:(1)Full load turn on (2)Output short (3)Full load continue Ta:25°C	129.2V 108.5V 127.5V	P
3	Input capacitor voltage	27uF/400V	I/P:280VAC O/P:(1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Ta:25°C	349V 347V 347V	P
4	Control IC voltage test	IC:35V (max) 9V (min)	I/P:280VAC O/P:(1)Full Load (2)Output short (3)Full Load /Min load (4)Low Line No Load Vo(min) Ta:25°C	21.3V 21.3V 21.3V 21.3V	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: 2KV	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 :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	GQ Z	YX CHEN	PASS