



MODEL : SDR-120-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 100 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 64 mVp-p (Max)	P
2	PEAK POWER	V1:180 W (>3sec.)	I/P: 230VAC O/P:180W Ta:25°C	Ok	P
3	OUTPUT VOLTAGE ADJUST RANGE	CH1: 12 V~ 24V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	11.546 V~ 14.590 V/ 230 VAC 11.544 V~ 14.589 V/ 115 VAC	P
4	OUTPUT VOLTAGE TOLERANCE	V1: 1 %~ -1 % (Max)	I/P: 100 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.31 %~ -0.31 %	P
5	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P: 100VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0.05 %~ -0.05 %	P
6	LOAD REGULATION	V1: 1 %~ -1 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.31 %~ -0.31 %	P
7	SET UP TIME	230VAC: 1500 ms (Max) 115 VAC: 3000 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 436 ms 115VAC/ 872 ms	P
8	RISE TIME	230VAC: 60 ms (Max) 115VAC: 60 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 33 ms 115VAC/ 33 ms	P
9	HOLD UP TIME	230VAC: 20 ms (TYP) 115VAC: 20 ms (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 31 ms 115 VAC 31 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: < 5 %	P
11	DYNAMIC LOAD	V1: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	358 mVp-p	P



INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	88VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	71V ~264V	P
			I/P: LOW-LINE-3V= 85V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P: 100 VAC ~ 264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.93 / 230 VAC(TYP) 0.96 / 115 VAC(TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	PF= 0.935 / 230 VAC PF= 0.992 / 115 VAC	P
4	EFFICIENCY	89% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	90.1%	P
5	INPUT CURRENT	230V/ 0.7 A (TYP) 115V/ 1.4 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.61 A/ 230 VAC I = 1.19 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 70 A (TYP) 115V/ 35 A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 50 A/ 230 VAC I = 25 A/ 115 VAC	P
7	LEAKAGE CURRENT	< 1 mA / 240 VAC	I/P: 264 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.52 mA N-FG: 0.54 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110%~ 150 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	113%/ 230 VAC 113%/ 115 VAC Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down o/p voltage >150% rated power, constant current limiting with auto-recovery within 3 seconds and more than 3 seconds shut down o/p voltage	P
2	OVER VOLTAGE PROTECTION	CH1: 14 V~ 17V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	15.74 V/ 230 VAC 15.8 V/ 115 VAC Shut down o/p voltage, re-power on to recover	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 95 ± 5°C O.T.P. NO DAMAGE	I/P: 230 VAC O/P:FULL LOAD	O.T.P. Active Shut down o/p voltage , recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE Shut down Re-power ON	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	DC OK REALY CONTACT RATINGS (max.)	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load	I/P: 230 VAC O/P:FULL LOAD	OK	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3 KVAC/min I/P-FG: 1.5 KVAC/min O/P-FG: 0.5 KVAC/min O/P-DC OK:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min O/P-DC OK: 0.6 KVAC/min Ta:25°C	I/P-O/P: 6.81 mA I/P-FG: 4.87 mA O/P-FG: 16.72 mA O/P-DC OK: 0.026 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C /70%RH	I/P-O/P: 30 GΩ I/P-FG: 30 GΩ O/P-FG: 21.6 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C / 70%RH	6 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50162435 UL: File NO : E215312			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2,-3 CLASS A CLASS D	I/P: 230/240/220 VAC/50HZ O/P:100/75/50/25%LOAD Ta:25°C	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	P
4	E.S.D	EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 INDUSTRY L-N :2KV L,N-PE:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
7	Test by certified Lab & Test Report Prepare				

M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SDR-120-24:SUPPOSE C105 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta=25°C LIFE TIME= 270723 HRS I/P: 230VAC O/P:FULL LOAD Ta=60°C LIFE TIME= 26568 HRS I/P: 230VAC O/P:75%OAD Ta= 60°C LIFE TIME= 39975 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 289.9 K HRS			P
3	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure : Above 30,000 hours @ TA 55°C			P



COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q 2 Rated STP14NM65N : 12A/650V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Output Short Ta:25°C	(1) 650 V (2) 604 V	P
2	Diode Peak Voltage	Q101 Rated IRFB4321PbF : 80A/75V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2)Output Short Ta:25°C	(1) 68.6 V (2) 49 V	P
3	Clamp Diode Peak Voltage	D3 Rated 1N5406:3A/600V	I/P : High-Line +3V = 267 V O/P : (1) Dynamic Load 90%Duty/1KHz Ta : 25°C	(1) 416 V	P
4	Input Capacitor Voltage	C5 Rated 100u/400V 105°C KMG	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta:25°C	(1) 380.4 V (2) 375 V (3) 375 V	P
5	Control IC Voltage Test	U1 Rated TEA1750T : 14V~38V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta:25°C	(1) 28.08 V (2) 27.9 V (3) 27.9 V	P
6	P.FC Transistor (D to S) or (C to E) Peak Voltage	Q 1 Rated IRFP460A: 20A/500V	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Output Short Ta:25°C	(1) 474 V (2) 378 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2009/6/16	RD SAMPLE	PASS	SANFORD SU	VINCENT TSENG
2009/7/22	PRODUCT SAMPLE W0907B49	PASS	SANFORD SU	VINCENT TSENG

2003/12/12 A50-F023