

MODEL : SD-1000H-48

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 96 VDC O/P: FULL LOAD Ta: 25°C	V1: 13 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 46 V ~ 60 V	I/P: 96 VDC O/P: MIN LOAD Ta: 25°C	13.26 V ~ 61.4 V	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1% ~ -1% (Max)	I/P: 96 VDC / 144VDC O/P: FULL / MIN LOAD Ta: 25°C	V1: 0.05 % ~ -0.05 %	P
4	LINE REGULATION	V1: 0.5 % ~ -0.5 % (Max)	I/P: 96VDC ~ 144VDC O/P: FULL LOAD Ta: 25°C	V1: 0.02 % ~ -0.02 %	P
5	LOAD REGULATION	V1: 0.5 % ~ -0.5 % (Max)	I/P: 96 VDC O/P: FULL ~ MIN LOAD Ta: 25°C	V1: 0.02 % ~ -0.02 %	P
6	SET UP TIME	500 ms (Max)	I/P: 96 VDC O/P: FULL LOAD Ta: 25°C	135 ms	P
7	RISE TIME	50 ms (Max)	I/P: 96 VDC O/P: FULL LOAD Ta: 25°C	31 ms	P
8	OVER/UNDERSHOOT TEST	< ±5%	I/P: 96 VDC O/P: FULL LOAD Ta: 25°C	TEST: <5 %	P
9	DYNAMIC LOAD	V1: 4800 mVp-p	I/P: 96 VDC O/P: FULL / Min LOAD 90% DUTY / 1KHZ Ta: 25°C	768 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	72VDC~ 144VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	71 V~ 144V	P
			I/P: LOW-LINE-0.2V= 71.8V HIGH-LINE+5%= 151V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	EFFICIENCY	91 % (TYP)	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	92.7 %	P
3	INPUT CURRENT	11.6 A / 96 V(TYP)	I/P: 96VDC O/P:FULL LOAD Ta:25°C	I = 11.48 A	P
4	INRUSH CURRENT	100 A /96V (TYP) COLD START	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	I = 75 A	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 125 %	I/P: 96VDC O/P:TESTING Ta:25°C	113 % Constant Current Limiting, unit will shut down o/p voltage above 5sec Re-power on to recover	P
2	OVER VOLTAGE PROTECTION	CH1: 62V~ 68V	I/P: 96VDC O/P:MIN LOAD Ta:25°C	65.5 V Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: 75°C ± 5°C OT.P. (TSW1) 85°C ± 5°C OT.P. (TSW2) NO DAMAGE	I/P: 96 VDC O/P:FULL LOAD	O.T.P. Active Shut down o/p volotage , recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 144VDC O/P: FULL LOAD Ta:25°C	NO DAMAGE Constant Current Limiting, unit will shut down o/p voltage above 5sec Re-power on to recover	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	FAN SPEED CONTROL	0%LOAD=6V~8.5V 100%LOAD=11.8V~12.8V	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	Fan Voltage= 5.78 V/ NO LOAD Fan Voltage= 11.27 V/ 100%LOAD	P
2	REMOTE CONTROL	Rc+ / Rc- POWER ON:OPEN BETWEEN ON/OFF POWEROFF:SHORT BETWEEN ON/OFF (A) Using External Voltage Source (B) Using Internal 12V Auxiliary Output (C) Using Internal 12V Auxiliary Output (D)	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	(A)OK (B)OK (C)OK	P
3	REMOTE SENSE	>0.3V	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	>0.3 V	P
4	OUTPUT OK SIGNAL	OPEN COLLECTOR SIGNAL LOW WHEN PSU TURN ON,MAX.SINK CURRENT 10mA,external voltage is 13V 0~0.5V OUTPUT STATUS ON 12~13V OUTPUT STATUS OFF	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	SINK CURRENT: 10 mA OUTPUT STATUS ON= 0.06 V OUTPUT STATUS OFF= 12.43 V	P
5	FAN LOCK	SHUTDOWN RE-POWER ON	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	SHUTDOWN RE-POWER ON	P
6	AUX POWER	0~0.25A(10.8V~13.2V)	I/P: 96VDC Ta:25°C	13.04V/0A 13.09V/0.25A	P
7	DC I/P UVP	69V~71.6V	O/P:100% LOAD Ta:25°C	71 VDC	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 2 KVAC/min I/P-FG: 1.5 KVAC/min O/P-FG: 0.5 KVAC/min	I/P-O/P: 2.4 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C / 70%RH	I/P-O/P: 4.2 mA I/P-FG: 4.61 mA O/P-FG: 4.97 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	I/P-O/P: 11 GΩ I/P-FG: 12 GΩ O/P-FG: 8 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C / 70%RH	10mΩ	P
4	APPROVAL	TUV: Certificate NO : UL: File NO :			N/A

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RADIATION	EN55022 CLASS B	I/P: 96VDC O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	P
2	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	CRITERIA A	P
3	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 96VDC O/P:FULL LOAD Ta:25°C	CRITERIA A	P
4	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :0.5KV L,N-PE:0.5KV	I/P: 96 VDC O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	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	SD-1000H-24 : SUPPOSE C113 IS THE MOST CRITICAL COMPONENT I/P: 96VDC O/P:FULL LOAD Ta=25 °C LIFE TIME= 370952 HRS I/P: 96VDC O/P:FULL LOAD Ta=50 °C LIFE TIME= 91276 HRS			P
2	MTBF	Conducted by Parts Stress Analysis Prediction 898.2K hrs min. Telcordia SR-332 (Bellcore) ; 106.7K hrs min. MIL-HDBK-217F (25°C)			P



COMPONENT STRESS TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q 900 Rated IRFP460A 20A/500V	I/P:High-Line +3V = 147V O/P: (1)Full Load Turn on (2) Output Short Ta:25°C	(1) 378 V (2) 362 V	P
2	Diode Peak Voltage	D101 Rated ESAD92-02 20A/200V	I/P:High-Line +3V = 147 V O/P: (1)Full Load Turn on (2)Output Short Ta:25°C	(1) 157 V (2) 89 VV	P
3	Clamp Diode Peak Voltage	D 900 Rated S3L60 2.2A/600V	I/P:High-Line +3V = 147 V O/P: (1) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 336 V	P
4	Input Capacitor Voltage	C5 Rated 470u/200V 105°C	I/P:High-Line +3V = 147 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) 153 V (2) 153 V (3) 153 V	P
5	Control IC Voltage Test	U2 Rated UCC28220: 8V~14 V	I/P:High-Line +3V = 147 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) 13.44 V (2) 13.27 V (3) 13.44 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2007/9/14	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2007/11/16	PRODUCT SAMPLE W0710C50	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023