

MODEL : SD-350B-5

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 100 mVp-p (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	V1 : 17 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 4.5 V~ 5.5 V	I/P: 24 VDC O/P:MIN LOAD Ta:25°C	4.23V~ 5.68V	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 2 %~ -2 % (Max)	I/P:24VDC / 36 VDC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.7 %~ -0.7 %	P
4	LINE REGULATION	V1: 0.5 %~ -0.5 % (Max)	I/P:24 VDC / 36 VDC O/P:FULL LOAD Ta:25°C	V1: 0.12 %~ -0.12 %	P
5	LOAD REGULATION	V1: 1 %~ -1 % (Max)	I/P: 24 VDC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.7 %~ -0.7 %	P
6	SET UP TIME	300 ms (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	46 ms	P
7	RISE TIME	50 ms (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	18 ms	P
8	OVER/UNDERSHOOT TEST	< ±5%	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	TEST: <5 %	P
9	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 24 VDC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	411 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	19VDC- 36 VDC	I/P: TESTING O/P: FULL LOAD Ta: 25°C	16V- 36 V	P
			I/P: LOW-LINE-0.2V= 18.8 V HIGH-LINE+5%= 37.8 V O/P: FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	EFFICIENCY	74% (TYP)	I/P: 24 VDC O/P: FULL LOAD Ta: 25°C	74.3 %	P
3	INPUT CURRENT	14.4A (TYP)	I/P: 24 VDC O/P: FULL LOAD Ta: 25°C	I = 13.5 A	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %- 135 %	I/P: 24 VDC O/P: TESTING Ta: 25°C	119 % Shunt down Re-power ON	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75 V- 6.75 V	I/P: 24 VDC O/P: MIN LOAD Ta: 25°C	6.3 V Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: 95 ± 5 °C O.T.P. NO DAMAGE	I/P: 24 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: 24 VDC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Shunt down Re-power ON	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	FAN SPEED CONTROL	-----	I/P: 24 VDC O/P: FULL LOAD Ta: 25°C	Fan Voltage= 11.92V	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : SD-350B-12 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 24 VDC O/P: FULL LOAD Ta= 30.2 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P: 24 VDC O/P: FULL LOAD Ta= 52.4 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 24 VDC O/P: 116 % LOAD Ta:25°C	TEST : OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 24 VDC O/P: 100 % LOAD Ta= -20 °C	TEST : OK	P
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE	I/P: 36VDC O/P:FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK	P
5	TEMPERATURE COEFFICIENT	± 0.03 %(0-50°C)	I/P: 24 VDC O/P:FULL LOAD	± 0.01 %(0-50°C)	P
6	VIBRATION TEST	1 Carton & 1 Set Operating at I/P: 24 VDC NO LOAD (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) (6) Ta:25°C		TEST : OK	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 1.5 KVAC/min I/P-FG: 1.5 KVAC/min O/P-FG: 0.5 KVAC/min	I/P-O/P: 1.8 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P: 5.05mA I/P-FG: 5.25 mA O/P-FG: 7.97mA 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: 2 G Ω I/P-FG: 2 G Ω O/P-FG: 2 G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	13 mΩ	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: 24 VDC O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	P
2	E.S.D	EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	CRITERIA A	P
3	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	CRITERIA A	P
4	Test by certified Lab & Test Report Prepare				



M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 113 IS THE MOST CRITICAL COMPONENT I/P: 24VDC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 1515165 HRS I/P: 24VDC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 80687 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 209.4K HRS			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 1 Rated PSMN009 : 100V 100A	I/P:High-Line +3V = 39 VDC O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 96.8 V (2) 99.2 V (3) 40.8 V	P
2	Diode Peak Voltage	D 100 Rated MBR1545WT : 45 V 60 A	I/P:High-Line +3V = 39 VDC O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 37.6 V (2) 42.8 V (3) 0 V	P
3	Input Capacitor Voltage	C 8 Rated : 3300 u / 50V /105°C	I/P:High-Line +3V = 39 VDC O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change (4)Burn-IN Hour Ta:25°C	(1) 37.8 V (2) 39 V (3) 38.4 V	P
4	Control IC Voltage Test	U 1 Rated SG3525 : 35 V	I/P:High-Line +3V = 39 VDC O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change (4) Output Short Ta:25°C	(1) 14.1 V (2) 13.5 V (3) 13.5 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/6/7	RD SMAPLE	PASS	VINCENT TSENG	MAX LIN
2004/8/20	PRODUCT SMAPLE A407A23	PASS	VINCENT TSENG	MAX LIN
2004/11/25	PRODUCT SMAPLE W0411A25	PASS	VINCENT TSENG	MAX LIN

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