

MODEL : SD-350B-24

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	V1 : 15 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 23 V~ 30 V	I/P: 24 VDC O/P:MIN LOAD Ta:25°C	22.02V ~ 33.04 V	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1%~ -1% (Max)	I/P:24VDC / 36 VDC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.06%~ -0.06%	P
4	LINE REGULATION	V1: 0.2%~ -0.2% (Max)	I/P:24 VDC / 36 VDC O/P:FULL LOAD Ta:25°C	V1: 0.03%~ -0.03%	P
5	LOAD REGULATION	V1: 1%~ -1% (Max)	I/P: 24 VDC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.03%~ -0.03%	P
6	SET UP TIME	300 ms (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	47 ms	P
7	RISE TIME	50 ms (Max)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	19 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: 2400 mVp-p	I/P: 24 VDC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	204 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	20VDC~ 36 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	19.8 V~ 36 V	P
			I/P: LOW-LINE-0.2V= 19.8 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	80 % (TYP)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	81 %	P
3	INPUT CURRENT	17.6A (TYP)	I/P: 24 VDC O/P:FULL LOAD Ta:25°C	I = 17.2 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	120% Shunt down Re-power ON	P
2	OVER VOLTAGE PROTECTION	CH1: 16 31.5V~ 37.5 V	I/P: 24 VDC O/P:MIN LOAD Ta:25°C	35 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= 11.96 V	P

**ENVIRONMENT TEST**

NO	TEST ITEM	SPECICATION	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																																																																																
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta= 30.2 °C</th> <th>HIGH AMBIENT Ta= 52.4 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>Q4</td><td>IRFP460A 20A/500V IR</td><td>84.6°C</td><td>95.9°C</td></tr> <tr><td>2</td><td>Q1</td><td>IRFP460A 20A/500V IR</td><td>67.1°C</td><td>90.3°C</td></tr> <tr><td>3</td><td>TSW1</td><td>ST-95°C</td><td>70.4°C</td><td>88.7°C</td></tr> <tr><td>4</td><td>C7</td><td>3300U/50V RUB YXA 105°C</td><td>42.2°C</td><td>57.6°C</td></tr> <tr><td>5</td><td>C5</td><td>3300U/50V RUB YXA 105°C</td><td>44.0°C</td><td>62.0°C</td></tr> <tr><td>6</td><td>U1</td><td>SG3525</td><td>55.3°C</td><td>74.6°C</td></tr> <tr><td>7</td><td>C25</td><td>100U/25V RUB 105°C</td><td>50.0°C</td><td>70.8°C</td></tr> <tr><td>8</td><td>Q5</td><td>C4242 7A/400V FUJI</td><td>51.2°C</td><td>72.0°C</td></tr> <tr><td>9</td><td>RG1</td><td>7815 1A/15V ON</td><td>56.7°C</td><td>77.1°C</td></tr> <tr><td>10</td><td>D100</td><td>30CPQ150 30A/150V IR</td><td>71.6°C</td><td>85.0°C</td></tr> <tr><td>11</td><td>D101</td><td>30CPQ150 30A/150V IR</td><td>56.4°C</td><td>81.0°C</td></tr> <tr><td>12</td><td>T1 CORE</td><td>TF-945B</td><td>76.4°C</td><td>95.4°C</td></tr> <tr><td>13</td><td>L100</td><td>TR-382</td><td>57.4°C</td><td>80.4°C</td></tr> <tr><td>14</td><td>C113</td><td>2200U/25V NCC 105°C KY</td><td>40.6°C</td><td>60.7°C</td></tr> <tr><td>15</td><td>LF1</td><td>TR-348</td><td>51.4°C</td><td>71.4°C</td></tr> </tbody> </table>	NO	Position		P/N	ROOM AMBIENT Ta= 30.2 °C	HIGH AMBIENT Ta= 52.4 °C	1	Q4	IRFP460A 20A/500V IR	84.6°C	95.9°C	2	Q1	IRFP460A 20A/500V IR	67.1°C	90.3°C	3	TSW1	ST-95°C	70.4°C	88.7°C	4	C7	3300U/50V RUB YXA 105°C	42.2°C	57.6°C	5	C5	3300U/50V RUB YXA 105°C	44.0°C	62.0°C	6	U1	SG3525	55.3°C	74.6°C	7	C25	100U/25V RUB 105°C	50.0°C	70.8°C	8	Q5	C4242 7A/400V FUJI	51.2°C	72.0°C	9	RG1	7815 1A/15V ON	56.7°C	77.1°C	10	D100	30CPQ150 30A/150V IR	71.6°C	85.0°C	11	D101	30CPQ150 30A/150V IR	56.4°C	81.0°C	12	T1 CORE	TF-945B	76.4°C	95.4°C	13	L100	TR-382	57.4°C	80.4°C	14	C113	2200U/25V NCC 105°C KY	40.6°C	60.7°C	15	LF1	TR-348	51.4°C	71.4°C		
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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: 4.72 mA I/P-FG: 4.9 mA O/P-FG: 7.56 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: 8 G Ω I/P-FG: 6 G Ω O/P-FG: 5 G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	10 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 PSWN009 100W : 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) 43.6 V (2) 86 V (3) 38.8 V	P
2	Diode Peak Voltage	D 101 Rated S20LC20U : 200 V 20 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) 61.2 V (2) 189 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)Bum-IN Hour Ta:25°C	(1) 38.2 V (2) 39.6 V (3) 39 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) 14.2 V (2) 14.2 V (3) 14.2 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/6/7	RD SMAPLE	PASS	VINCENT TSENG	MAX LIN
2004/8/19	PRODUCT SMAPLE A407A23	PASS	VINCENT TSENG	MAX LIN
2004/9/2	PRODUCT SMAPLE A408B24	PASS	VINCENT TSENG	MAX LIN
2004/11/25	PRODUCT SMAPLE W0411A25	PASS	VINCENT TSENG	MAX LIN

2003/12/12

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