



MODEL : NSD05-48S15

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 75 mVp-p (Max)	I/P: 48VDC O/P:FULL LOAD Ta:25°C	V1: 18.8 mVp-p (Max)	P
2	OUTPUT VOLTAGE TOLERANCE	V1: 2 %- -2 % (Max)	I/P: 18VDC / 72VDC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.04 %~ -0.04 %	P
3	LINE REGULATION	V1: 1%- -1 % (Max)	I/P: 18VDC ~ 72VDC O/P:FULL LOAD Ta:25°C	V1: 0 %~ -0.04 %	P
4	LOAD REGULATION	V1: 1 %- -1 % (Max)	I/P: 48VDC O/P:FULL -MIN LOAD Ta:25°C	V1: 0 %~ 0 %	P
6	OVER/UNDERSHOOT TEST	< ±5%	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	TEST: < 5%	P
7	DYNAMIC LOAD	V1: 1500 mVp-p	I/P: 48VDC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	157 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	18VDC~ 72 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	6.4 V - 72 V	P
			I/P: LOW-LINE-0.2V= 17.8 V HIGH-LINE+5%= 75.6 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	EFFICIENCY	85 % (TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	85.2 %	P
3	INPUT CURRENT	48 VDC/ 0.2A(TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	I = 0.112 A	P
4	SHUTDOWN IDLE CURRENT	5 mA / 48VDC	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	3.5mA / 48VDC	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	Above 105%	I/P: 48VDC O/P: TESTING Ta:25°C	193% / 48V Over power Limiting, recovers automatically after fault condition is removed	p
2	OVER VOLTAGE PROTECTION	CH1: 16.2 V~ 19.8V	I/P: DC SOURCE O/P: MIN LOAD Ta:25°C	18.3V / 0.053A Recovers automatically after fault condition is removed	p
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1hour NO DAMAGE	I/P: 72 VDC O/P: FULL LOAD Ta:25°C	NO DAMAGE Hiccup	p

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Logic "1" OPEN : ON Logic "0" GON : OFF	I/P: 48VDC O/P: FULL LOAD Ta:25°C	Logic "1" : POWER ON Logic "0" : POWER OFF	p

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																													
1	TEMPERATURE RISE TEST	MODEL : NSD05-48S12 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 48VDC O/P: FULL LOAD Ta= 9°C 2. HIGH AMBIENT BURN-IN : 1 HRS I/P: 48 VDC O/P: FULL LOAD Ta= °C																																																
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta= 30.4 °C</th> <th>HIGH AMBIENT Ta= 70.6 °C</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Q1</td> <td>MMBTA06 500mA/80V</td> <td>51.6°C</td> <td>83.9°C</td> </tr> <tr> <td>2</td> <td>C6</td> <td>224/100V</td> <td>52.7°C</td> <td>85.1°C</td> </tr> <tr> <td>3</td> <td>T1 COIL</td> <td>TS037</td> <td>56.7°C</td> <td>88.4°C</td> </tr> <tr> <td>4</td> <td>U1</td> <td>TL3843D</td> <td>57.2°C</td> <td>88.9°C</td> </tr> <tr> <td>5</td> <td>Q6</td> <td>IRFR220N 5A/200V</td> <td>56.3°C</td> <td>89.9°C</td> </tr> <tr> <td>6</td> <td>D100</td> <td>6CWQ04FN 7A/40V</td> <td>54.0°C</td> <td>85.9°C</td> </tr> <tr> <td>7</td> <td>C100</td> <td>33uF/25V</td> <td>53.1°C</td> <td>84.5°C</td> </tr> <tr> <td>8</td> <td>PCB</td> <td>TI 與 C31 間</td> <td>58.1°C</td> <td>88.7°C</td> </tr> </tbody> </table>		NO	Position	P/N	ROOM AMBIENT Ta= 30.4 °C	HIGH AMBIENT Ta= 70.6 °C	1	Q1	MMBTA06 500mA/80V	51.6°C	83.9°C	2	C6	224/100V	52.7°C	85.1°C	3	T1 COIL	TS037	56.7°C	88.4°C	4	U1	TL3843D	57.2°C	88.9°C	5	Q6	IRFR220N 5A/200V	56.3°C	89.9°C	6	D100	6CWQ04FN 7A/40V	54.0°C	85.9°C	7	C100	33uF/25V	53.1°C	84.5°C	8	PCB	TI 與 C31 間	58.1°C	88.7°C		p
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 48VDC O/P: 120 % LOAD Ta:25°C	TEST : OK	p																																													
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 48 VDC O/P: 80 % LOAD Ta= -25 °C	TEST : OK	p																																													
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60°C NO DAMAGE	I/P: 75 VDC O/P:FULL LOAD Ta= 60°C HUMIDITY= 95 %R.H	TEST : OK	p																																													
5	TEMPERATURE COEFFICIENT	± 0.03 %(0-60°C)	I/P: 48 VDC O/P:FULL LOAD	± 0.003 %(0-60°C)	p																																													
6	VIBRATION TEST	1 Carton & 1 Set (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: 1KVDC/min	I/P-O/P: 1.2KVDC/min Ta:25°C	I/P-O/P: 0.002 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P: 500 VDC Ta:25°C / 70% RH	I/P-O/P: 11.5GΩ NO DAMAGE	P
3	APPROVAL	TUV: Certificate NO : UL: File NO :			N



E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RADIATION	EN55022 CLASS B	I/P: 48VDC 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: 48 VDC O/P: FULL LOAD Ta: 25°C	CRITERIA A	p
3	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 48 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 914.4K HRS			p

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q6 Rated IRFR-220N : 5A/200V	I/P: High-Line +3V = 75 V O/P: (1) Full Load Turn on (2) Output Short Ta: 25°C	(1) 110 V (2) 116 V	p
2	Diode Peak Voltage	D100 Rated 6CWQ10FN 7A/100V	I/P: High-Line +3V = 75 V O/P: (1) Full Load Turn on (2) Output Short Ta: 25°C	(1) 73 V (2) 57 V	p
3	Input Capacitor Voltage	C5 Rated : 224 / 100V	I/P: High-Line +3V = 75 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) 75 V (2) 75 V (3) 75 V	p
4	Control IC Voltage Test	U1 Rated TL3843D : 30 V	I/P: High-Line +3V = 75 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) 10 V (2) 8.83 V (3) 10 V	p

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2007/6/20	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2007/8/3	PRODUCT SAMPLE W0707B35	PASS	VINCENT TSENG	MAX LIN
2008/4/17	PRODUCT SAMPLE W0803A44	PASS	Sanford Su	VINCENT TSENG

2003/12/12 A50-F023