



MODEL : NSD10-48D15

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 75 mVp-p (Max) V2: 75 mVp-p (Max)	I/P: 48VDC O/P:FULL LOAD Ta:25°C	V1: 23 mVp-p (Max) V2: 22 mVp-p (Max)	P
2	OUTPUT VOLTAGE TOLERANCE	V1: 2 %- -2 % (Max) V2: 2 %- -2 % (Max)	I/P: 22VDC / 72VDC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.9 %- -0.9 % V2: 0.9 %- -0.9 %	P
3	LINE REGULATION	V1: 1%- -1 % (Max) V2: 1%- -1% (Max)	I/P: 22VDC ~ 72VDC O/P:FULL LOAD Ta:25°C	V1: 0.05 %- -0.05 % V2: 0.1 %- -0.1 %	P
4	LOAD REGULATION	V1: 1%- -1 % (Max) V2: 1%- -1% (Max)	I/P: 48VDC O/P:FULL -MIN LOAD Ta:25°C	V1: 0.1 %- -0.1 % V2: 0.2 %- -0.2 %	P
5	CROSS REGULATION	V1: 1%- -1 % (Max) V2: 1%- -1% (Max)	I/P: 48V VDC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0.6 %- -0.6 % V2: 0.6 %- -0.6 %	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	219 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	22VDC~ 72 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	15.1 V~ 72 V	P
			I/P: LOW-LINE-0.2V= 21.8 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	77 % (TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	77.6%	P
3	INPUT CURRENT	48 VDC/ 0.4A(TYP)	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	I = 0.28 A	P
4	SHUTDOWN IDLE CURRENT	20 mA / 48VDC	I/P: 48 VDC O/P:FULL LOAD Ta:25°C	18 mA / 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	167 % Over power Limiting, recovers automatically after fault condition is removed	P
2	OVER VOLTAGE PROTECTION	CH1: 17.3 V~ 22.5V CH2: -17.3 V~ -22.5V	I/P: DC SOURCE O/P: MIN LOAD Ta: 25°C	21.4 V / CH1 / 0.38A 21.4 V / CH2 / 0.38A Recovers automatically after fault condition is removed	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 60 SECOND NO DAMAGE	I/P: 72 VDC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Constant Current Limiting	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	SPECICATION	TEST CONDITION	RESULT	VERDICT																																																												
1	TEMPERATURE RISE TEST	MODEL : NSD10-48D5 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 48VDC O/P: FULL LOAD Ta= 25.9℃ 2. HIGH AMBIENT BURN-IN : 1 HRS I/P: 48 VDC O/P: FULL LOAD Ta= 59.2 ℃			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℃	TEST : OK	P																																																												
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 48VDC O/P: 100 % LOAD Ta= -25 ℃	TEST : OK	P																																																												
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60 ℃ NO DAMAGE	I/P: 75VDC O/P:FULL LOAD Ta= 60 ℃ HUMIDITY= 95 %R.H	TEST : OK	P																																																												
5	TEMPERATURE COEFFICIENT	± 0.03 %(0~60℃)	I/P: 48 VDC O/P:FULL LOAD	± 0.012 %(0~60℃)	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℃		TEST : OK	P																																																												

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 1.5KVDC/min	I/P-O/P: 1.8KVDC/min Ta:25℃	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℃ / 70% RH	I/P-O/P: 30G Ω NO DAMAGE	P
3	APPROVAL	TUV: Certificate NO : UL: File NO : E183223			P



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
7	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: 1878.5K 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	Q2 Rated IRFR220N 5A/200V	I/P: High-Line +3V = 75 V O/P: (1) Full Load Turn on (2) Output Short Ta: 25°C	(1) 154 V (2) 122 V	P
2	Diode Peak Voltage	D100 Rated EC11FS2-TE12L 1A/200V D200 Rated EC11FS2-TE12L 1A/200V	I/P: High-Line +3V = 75 V O/P: (1) Full Load Turn on (2) Output Short Ta: 25°C	(1) 138 V (2) 31 V (1) 137 V (2) 26 V	P
3	Input Capacitor Voltage	C5 Rated : 474 / 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) 74.1 V (2) 74.2 V (3) 74.2 V	P
4	Control IC Voltage Test	U1 Rated TL3843D : 20 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) 16.84 V (2) 9.92 V (3) 16.84 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2007/1/11	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2007/3/5	PRODUCT SAMPLE W0702A48	PASS	VINCENT TSENG	MAX LIN
2007/5/24	PRODUCT SAMPLE W0705B71	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023