

MODEL : DR-30-12

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 120 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 9 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 10.8 V- 13.2V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	10.27 V- 13.68 V/ 230 VAC 10.27 V- 13.68 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 1 %- -1 % (Max)	I/P: 85 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.05 %- -0.05 %	P
4	LINE REGULATION	V1: 1 %- -1 % (Max)	I/P: 85VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %- 0 %	P
5	LOAD REGULATION	V1: 1 %- -1 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.05 %- -0.05 %	P
6	SET UP TIME	230VAC: 100 ms (Max) 115 VAC: 100 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 22 ms 115VAC/ 13 ms	P
7	RISE TIME	230VAC: 30 ms (Max) 115VAC: 30 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 22 ms 115VAC/ 15 ms	P
8	HOLD UP TIME	230VAC: 50 ms (TYP) 115VAC: 18 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 185 ms 115VAC/ 38 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: <5 %	P
10	DYNAMIC LOAD	V1: 1200 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	92 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	85VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	63V~264V	P
			I/P: LOW-LINE-3V= 82 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P: 85 VAC ~ 264 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	81% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	83.9 %	P
4	INPUT CURRENT	230V/ 0.6 A (TYP) 115V/ 1.1 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 0.25 A/ 230 VAC I = 0.42 A/ 115 VAC	P
5	INRUSH CURRENT	230V/ 40 A (TYP) 115V/ 30 A (TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 29 A/ 230 VAC I = 15 A/ 115 VAC	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 160 %	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	126 %/ 230 VAC 145 %/ 115 VAC Fold back Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 13.8 V~ 16.2 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	15.3 V/ 230 VAC 15.3 V/ 115 VAC Shunt down Re- power ON	P
3	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE Constant Current Limiting	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT																																																							
1	TEMPERATURE RISE TEST	MODEL : DR-30-24 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P: 230VAC O/P: FULL LOAD Ta= 24.7 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 52.1 °C																																																										
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta= 24.7 °C</th> <th>HIGH AMBIENT Ta= 52.1 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF1</td><td>LF-158</td><td>52.5°C</td><td>73.8°C</td></tr> <tr><td>2</td><td>BD1</td><td>KBP208G 2A/800V</td><td>55.1°C</td><td>77.1°C</td></tr> <tr><td>3</td><td>C5</td><td>180U/400V RUB 105°C</td><td>47.7°C</td><td>70.4°C</td></tr> <tr><td>4</td><td>D1</td><td>EGP20J 2A/600V ZOW</td><td>63.4°C</td><td>86.2°C</td></tr> <tr><td>5</td><td>Q1</td><td>K2545 6A/600V TOS</td><td>55.5°C</td><td>79.1°C</td></tr> <tr><td>6</td><td>T1 COIL</td><td>TF-1225</td><td>61.3°C</td><td>84.2°C</td></tr> <tr><td>7</td><td>SCR1</td><td>TYN408G ST</td><td>57.1°C</td><td>79.3°C</td></tr> <tr><td>8</td><td>D100</td><td>FMX-12S 10A/200V</td><td>56.4°C</td><td>78.0°C</td></tr> <tr><td>9</td><td>C105</td><td>330U/35V NCC 105°C KY</td><td>47.8°C</td><td>70.1°C</td></tr> <tr><td>10</td><td>R115</td><td>1.2K/2W RMO</td><td>75.6°C</td><td>97.3°C</td></tr> </tbody> </table>	NO	Position	P/N	ROOM AMBIENT Ta= 24.7 °C	HIGH AMBIENT Ta= 52.1 °C	1	LF1	LF-158	52.5°C	73.8°C	2	BD1	KBP208G 2A/800V	55.1°C	77.1°C	3	C5	180U/400V RUB 105°C	47.7°C	70.4°C	4	D1	EGP20J 2A/600V ZOW	63.4°C	86.2°C	5	Q1	K2545 6A/600V TOS	55.5°C	79.1°C	6	T1 COIL	TF-1225	61.3°C	84.2°C	7	SCR1	TYN408G ST	57.1°C	79.3°C	8	D100	FMX-12S 10A/200V	56.4°C	78.0°C	9	C105	330U/35V NCC 105°C KY	47.8°C	70.1°C	10	R115	1.2K/2W RMO	75.6°C	97.3°C			P
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 120 % LOAD Ta:25°C	TEST : OK	P																																																							
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 230 VAC 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: 272 VAC O/P:FULL LOAD Ta= 50°C HUMIDITY= 95 %R.H	TEST : OK	P																																																							
5	TEMPERATURE COEFFICIENT	± 0.03 %(0-50°C)	I/P: 230 VAC O/P:FULL LOAD	± 0.01 %(0-50°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	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3 KVAC/min	I/P-O/P: 3.6 KVAC/min Ta:25°C	I/P-O/P: 1 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P: 500 VDC Ta:25°C	I/P-O/P: 15 GΩ NO DAMAGE	P
3	APPROVAL	TUV: Certificate NO : R50058736 UL: File NO : E183223			P

E.M.C TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS	P
2	CONDUCTION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 CLASS B	I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab	P
4	E.S.D	EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 INDUSTRY L-N :2KV	I/P: 230 VAC/50HZ 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	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C105 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 388877 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 97916 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 441.5K 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 K2545 : 600 V 6A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 506 V (2) 512 V (3) 428 V	P
2	Diode Peak Voltage	D100 Rated YG805C10 : 100 V 20 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 68 V (2) 69 V (3) 56 V	P
3	Clamp Diode Peak Voltage	D1 Rated EGP20J : 600V 2A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25°C	(1) 492 V (2) 490 V	P
4	Input Capacitor Voltage	C 5 Rated : 100u / 400 V/ 105°C	I/P:High-Line +3V = 267 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) 382 V (2) 382 V (3) 382 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/1/6	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2005/4/11	PRODUCT SAMPLE W0503B01	PASS	VINCENT TSENG	MAX LIN
	PRODUCT SAMPLE W0505A01	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023