

MODEL : DRT-240-24

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 80 mVp-p (Max)	I/P: 400 VAC O/P:FULL LOAD Ta:25°C	V1: 16 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 24 V~ 28 V	I/P: 400 VAC O/P:MIN LOAD Ta:25°C	21.5V~ 29.67V/ 400VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -1 %~ 1 % (Max)	I/P: 340 VAC / 550 VAC O/P:FULL / MIN 0 % LOAD Ta:25°C	V1: 0.15 %~ -0.15 %	P
4	LINE REGULATION	V1: -0.5 %~ 0.5 % (Max)	I/P: 340 VAC ~ 550 VAC O/P:FULL LOAD Ta:25°C	V1: 0.15 %~ -0.15 %	P
5	LOAD REGULATION	V1: -0.5 %~ 0.5 % (Max)	I/P: 400 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.15 %~ -0.15 %	P
6	SET UP TIME	400 VAC/ 1200 ms (Max) 500 VAC/ 800 ms (Max)	I/P: 400 VAC I/P: 500 VAC O/P:FULL LOAD Ta:25°C	400 VAC/ 624 ms 500 VAC/ 492 ms	P
7	RISE TIME	400 VAC/ 40 ms (Max) 500 VAC/ 40 ms (Max)	I/P: 400 VAC I/P: 500 VAC O/P:FULL LOAD Ta:25°C	400 VAC/ 17 ms 500 VAC/ 17 ms	P
8	HOLD UP TIME	400 VAC/ 20 ms (TYP) 500 VAC/ 40 ms (TYP)	I/P: 400 VAC I/P: 500 VAC O/P:FULL LOAD Ta:25°C	400 VAC/ 102 ms 500 VAC/ 102 ms	P
9	OVER/UNDERSHOOT TEST	< ±5%	I/P: 400 VAC O/P:FULL LOAD Ta:25°C	TEST: < 5 %	P
10	DYNAMIC LOAD	V1: 2400 mVp-p	I/P: 400 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	657 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	340VAC~ 550 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	250 V~ 550 V	P
			I/P: LOW-LINE-3V= 337 V HIGH-LINE+10V= 560 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST: OK	
2	EFFICIENCY	89 % (TYP)	I/P: 400 VAC O/P:FULL LOAD Ta:25°C	89.3 %	P
3	INPUT CURRENT	400 V/ 0.95 A(TYP) 500 V/ 0.75 A(TYP)	I/P: 400 VAC I/P: 500 VAC O/P:FULL LOAD Ta:25°C	I = 0.8 A/ 400 VAC I = 0.6 A/ 500 VAC	P
4	INRUSH CURRENT	400 V/ 50 A (TYP) COLD START	I/P: 400 VAC O/P:FULL LOAD Ta:25°C	I = 16 A/ 400 VAC	P
5	LEAKAGE CURRENT	< 3.5 mA / 530 VAC	I/P: 562 VAC O/P:Min LOAD Ta:25°C	L1-FG: 0.8 mA L2-FG: 0.8 mA L3-FG: 0.8 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %- 150 %	I/P: 400 VAC I/P: 500 VAC O/P:TESTING Ta:25°C	120 %/ 400 VAC 124 %/ 500 VAC Constant Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 30 V~ 36 V	I/P: 400 VAC I/P: 500 VAC O/P:MIN LOAD Ta:25°C	36 V/ 400 VAC 36 V/ 500 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: 100±5 °C O.T.P. NO DAMAGE	I/P: 400 VAC O/P:FULL LOAD	O.T.P. Active Shut down o/p voltage , recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 550 VAC O/P: Full LOAD Ta:25°C	NO DAMAGE Constant Current Limiting	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : DRT-240-24 1. ROOM AMBIENT BURN-IN : 1 HRS I/P: 400 VAC O/P: FULL LOAD Ta=32.4 °C 2. HIGH AMBIENT BURN-IN : 1.5 HRS I/P: 400 VAC O/P: FULL LOAD Ta= 51.1 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 400 VAC O/P: 118 % LOAD Ta:25°C	TEST : OK	P
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P: 400 VAC O/P: 100 % LOAD Ta= -30 °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: 567 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: 400 VAC O/P:FULL LOAD	± 0.01 %(0-50°C)	P
6	VIBRATION TEST	1 Carton & 1 Set Operating at I/P: 400 VAC 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	N/A

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P: 3 KVAC/min I/P-FG: 1.5 KVAC/min O/P-FG: 0.5 KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 1.8 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25°C	I/P-O/P: 4.44 mA I/P-FG: 3.24 mA O/P-FG: 7.04 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: 11 G Ω I/P-FG: 12 G Ω O/P-FG: 7 G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta:25°C	14 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50046131 UL: File NO : E183223			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A	I/P: 400 VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS	P
2	CONDUCTION	EN55011 CLASS B	I/P: 400 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab	P
3	RADIATION	EN55011 CLASS B	I/P: 400 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: 400 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT: 2KV	I/P: 400 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 INDUSTRY L-N :2KV L,N-PE:4KV	I/P: 400 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 C 53 IS THE MOST CRITICAL COMPONENT I/P: 400 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 1032823 HRS I/P: 400 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 186385 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 114.6K 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 2SK2850 : 900 V 6 A	I/P:High-Line +3V = 553 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 280 V (2) 562 V (3) 808 V	P
2	Diode Peak Voltage	D 54 Rated D9202 : 200 V 20 A	I/P:High-Line +3V = 553 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25°C	(1) 138 V (2) 206 V (3) 219 V	P
3	Input Capacitor Voltage	C 5 Rated HITACH : 150 u / 400 V 105°C	I/P:High-Line +3V = 553 V O/P: (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change (4)Burn-IN 1 Hour Ta:25°C	(1) 360 V (2) 342V (3) 378V (4) 384V	P
4	Control IC Voltage Test	U 1 Rated 2842 : 30 V	I/P:High-Line +3V = 553 V 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) 18.8 V (2) 20.9 V (3) 18.7 V (4) 16.7 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2004/2/11	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2004/5/5	PRODUCT SAMPLE A403A03	PASS	VINCENT TSENG	MAX LIN
2004/8/30	PRODUCT SAMPLE A408A02	PASS	VINCENT TSENG	MAX LIN
2004/10/27	PRODUCT SAMPLE W0410A03	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023