MODEL：SE-350-24

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 150 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	V1:50 mVp-p (Max)	PASS
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 20V ~ 26.4V	I/P: 230 VAC I/P:115 VAC O/P:MIN LOAD Ta:25℃	17.370V~27.503V/230VAC 17.358V~27.503V//115VAC	PASS
3	OUTPUT VOLTAGE TOLERANCE	V1: -1.0 %~ +1.0 % (Max)	I/P: 180VAC / 264 VAC O/P:FULL/ 0% LOAD Ta:25℃	V1: -0.207%~ +0.470%	PASS
4	LINE REGULATION	V1: -0.5 %~ +0.5 % (Max)	I/P: 180 VAC ~ 264VAC O/P:FULL LOAD Ta:25℃	V1: 0 %~ 0.029 %	PASS
5	LOAD REGULATION	V1: -0.5 %~ +0.5 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25℃	V1: -0.207 %~ 0.182 %	PASS
6	SET UP TIME	230VAC/ 1000 ms (Max) 115VAC/ 1000 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230 VAC/ 95.553 ms 115 VAC/ 72.171 ms	PASS
7	RISE TIME	230VAC/ 50 ms (Max) 115VAC/ 50 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230 VAC/8.683ms 115 VAC/8.743ms	PASS
8	HOLD TIME	230VAC/ 20 ms (Typ) 115VAC/ 16 ms (Typ)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	230 VAC/28.739ms 115 VAC/23.811ms	PASS
9	OVER/UNDERSHOOT TEST	< ±5 %	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: ±1.250 %	PASS
10	DYNAMIC LOAD	V1: 2400 mVp-p	I/P: 230 VAC O/P: (1)FULL /Min LOAD 90%DUTY/1KHZ (2)FULL /Min LOAD 50%DUTY/120HZ Ta:25℃	(1) 400 mVp-p (2) 1048 mVp-p	PASS

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	180 VAC ~ 264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	180 V~ 264 V	PASS
			(1)I/P: LOW-LINE-3V= 177 V HIGH-LINE+15%= 300 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (2) I/P:230VAC ON: 0.5 Sec . OFF: 0.5 Sec 20MIN (AC POWER ON/OFF NO DAMAGE)	TEST: (1) OK (2) OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P: 180 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	PASS
3	EFFICIENCY	87 % (Typ)	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	88.43 %	PASS
4	INPUT CURRENT	230 V/ 4 A (Typ) 115 V/ 7 A (Typ)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I =3.606A/ 230VAC I =6.080/ 115VAC	PASS
5	INRUSH CURRENT	230 V/ 60 A 115 V/ 40 A COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25℃	I =51.25 A/ 230VAC I =35.640 A/ 115VAC	PASS

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105%~ 135 % RATED OUTPUT POWER	I/P: 264 VAC I/P: 230 VAC I/P: 180 VAC O/P:TESTING Ta:25℃	118.63 %/264VAC 118.42 %/ 230VAC 118.56 %/ 180 VAC Constant Current Limiting	PASS
2	OVER VOLTAGE PROTECTION	CH1: 27.6 V~ 32.4 V	I/P: 264 VAC I/P: 230 VAC I/P: 180 VAC O/P:MIN LOAD Ta:25℃	30.6 V/264VAC 30.6 V/ 230VAC 30.6 V/ 180VAC Shut off o/p voltage, Re- power ON to recover	PASS
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1= 75 ℃ ±5 ℃ O.T.P. NO DAMAGE	I/P: 230 VAC O/P:FULL LOAD	79.3 ℃/ 230 VAC O.T.P. Active Shut down o/p voltage，recovers automatically after temperature goes down	PASS
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264 VAC O/P: FULL LOAD Ta:25℃	NO DAMAGE Constant Current Limiting	PASS

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	FAN ON/OFF CONTROL	≥ 55 ℃ FAN ON ≤ 50 ℃ FAN OFF	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	58.3 ℃ FAN ON 48.2 ℃ FAN OFF	PASS

ENVIRONMENT TEST

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECICATION</th><th>TEST CONDITION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>1</td><td>TEMPERATURE RISE TEST</td><td colspan="3">MODEL： SE-350-24
1. ROOM AMBIENT BURN-IN： 2 HRS
I/P: 230 VAC O/P: 100% LOAD Ta= 27.0 ℃
2. HIGH AMBIENT BURN-IN： 2 HRS
I/P: 230 VAC O/P: 100% LOAD Ta= 52.5 ℃
<table>
<tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 27.0 ℃</th><th>HIGH AMBIENT Ta= 52.5 ℃</th></tr>
<tr><td>1</td><td>LF1</td><td>LF-203</td><td>32.7℃</td><td>57.4℃</td></tr>
<tr><td>2</td><td>BD1</td><td>KBJ1008G</td><td>45.8℃</td><td>69.7℃</td></tr>
<tr><td>3</td><td>C6</td><td>680u/200V LP</td><td>40.0℃</td><td>61.1℃</td></tr>
<tr><td>4</td><td>Q1</td><td>SIHP18N50C</td><td>64.2℃</td><td>92.7℃</td></tr>
<tr><td>5</td><td>T1</td><td>TF6312</td><td>63.5℃</td><td>88.4℃</td></tr>
<tr><td>6</td><td>U1</td><td>TL3845P</td><td>46.8℃</td><td>71.3℃</td></tr>
<tr><td>7</td><td>L100</td><td>TR6066</td><td>63.4℃</td><td>87.5℃</td></tr>
<tr><td>8</td><td>D100</td><td>ESAD92-02A</td><td>61.1℃</td><td>84.1℃</td></tr>
<tr><td>9</td><td>RG1</td><td>L7812CV</td><td>53.4℃</td><td>79.7℃</td></tr>
<tr><td>10</td><td>C150</td><td>150u/35V KY</td><td>38.4℃</td><td>64.2℃</td></tr>
<tr><td>11</td><td>C106</td><td>1000u/35V YXG</td><td>36.9℃</td><td>60.5℃</td></tr>
<tr><td>12</td><td>Q2</td><td>SIHP18N50C</td><td>71.2℃</td><td>99.8℃</td></tr>
<tr><td>13</td><td>U100</td><td>OP HA17358B</td><td>43.6℃</td><td>72.8℃</td></tr>
<tr><td>14</td><td>D15</td><td>BYV26EGP</td><td>57.0℃</td><td>80.2℃</td></tr>
<tr><td>15</td><td>RTH2</td><td>NTC 5KΩ</td><td>55.4℃</td><td>86.2℃</td></tr>
</table></td><td>PASS</td></tr>
<tr><td>2</td><td>OVER LOAD BURN-IN TEST</td><td>NO DAMAGE
1 HOUR (MIN)</td><td>I/P: 230 VAC
O/P: 130% LOAD
Ta:25℃</td><td>TEST： OK</td><td>PASS</td></tr>
<tr><td>3</td><td>LOW TEMPERATURE
TURN ON TEST</td><td>TURN ON AFTER 2 HOUR</td><td>I/P: 264 VAC/180 VAC
O/P: 100% LOAD
Ta= -20 ℃</td><td>TEST： OK</td><td>PASS</td></tr>
<tr><td>4</td><td>HIGH HUMIDITY
HIGH TEMPERATURE
HIGH VOLTAGE
TURN ON TEST</td><td>AFTER 12 HOURS
IN CHAMBER ON
CONTROL 50 ℃
NO DAMAGE</td><td>I/P: 272 VAC
O/P:FULL LOAD
Ta= 50 ℃
HUMIDITY= 95 %R.H</td><td>TEST： OK</td><td>PASS</td></tr>
<tr><td>5</td><td>TEMPERATURE
COEFFICIENT</td><td>± 0.03 %(0~50℃)</td><td>I/P: 230 VAC
O/P:FULL LOAD</td><td>± 0.007 %(0~50℃)</td><td>PASS</td></tr>
<tr><td>6</td><td>STORAGE TEMPERATURE TEST</td><td colspan="2">1. Thermal shock Temperature： -40℃~ +90℃
2. Temperature change rate ：25℃ / MIN
3. Dwell time low and high temperature ： 30 MIN/EACH
4. Total test cycle：5 CYCLE
5. Input/Output condition： STATIC</td><td>TEST： OK</td><td>PASS</td></tr>
<tr><td>7.</td><td>THERMAL SHOCK TEST</td><td colspan="2">1. Thermal shock Temperature： - 25 ℃~ + 55 ℃
2. Temperature change rate ：25℃ / MIN
3. Dwell time low and high temperature ： 30 MIN/EACH
4. Total test cycle：10 CYCLE
5. Input/Output condition： 230VAC/Full Load 58SEC ON/2SEC OFF</td><td>TEST： OK</td><td>PASS</td></tr>
</table>

8	VIBRATION TEST	1 Carton & 1 Set (1) Waveform: Sine Wave (2) Frequency:10~500Hz (3) Sweep Time:10min/sweep cycle (4) Acceleration:3G (5) Test Time:1 hour in each axis (X.Y.Z) (6) Ta:25℃	TEST： OK	PASS
9	CAPACITOR LIFE CYCLE	SUPPOSE C106 IS THE MOST CRITICAL COMPONENT (1) I/P: 230 VAC O/P:FULL LOAD Ta= 25 ℃ LIFE TIME= 976986 HRS (2) I/P: 230 VAC O/P:FULL LOAD Ta= 50 ℃ LIFE TIME= 197004 HRS (3) I/P: 230 VAC O/P:75% LOAD Ta= 50 ℃ LIFE TIME= 215575 HRS (4) I/P: 230 VAC O/P:50% LOAD Ta= 50 ℃ LIFE TIME= 239224 HRS		PASS
10	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 234.3K HRS		PASS
11	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 20,000 hours @ Ta 50℃		PASS

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-FG: 1.5 KVAC/min I/P-O/P: 3.0 KVAC/min O/P-FG: 0.5 KVAC/min EN 60950	I/P-FG: 1.8 KVA©C/min I/P-O/P: 3.6 KVAC/min O/P-FG: 0.6 KVAC/min Ta:25℃	I/P-FG: 3.703 mA I/P-O/P: 3.884 mA O/P-FG: 4.99 mA NO DAMAGE	PASS
2	ISOLATION RESISTANCE	I/P-FG: 500VDC>100MΩ I/P-O/P:500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-FG: 500 VDC I/P-O/P: 500 VDC O/P-FG: 500 VDC Ta:25℃	I/P-FG: ＞9999 MΩ I/P-O/P: ＞9999 MΩ O/P-FG: ＞9999 MΩ NO DAMAGE	PASS
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ EN 60950	40 A / 2 min Ta:25℃	3 mΩ	PASS
4	LEAKAGE CURRENT	< 3.5 mA / 240VAC EN 60950	I/P: 264 VAC O/P:NO LOAD Ta:25℃	L-FG: 0.7855 mA N-FG: 0.8212 mA	PASS

E.M.C TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	PASS
2	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	PASS
3	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE:2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A	PASS

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 FMH07N90E : 900 V 7 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2)Output Short (3)Dynamic Load 50% Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz Ta:25℃	(1) 868 V (2) 784 V (3) 776 V (4) 888 V	PASS
2	Diode **Peak Voltage**	D 100 Rated ESAD92-02A : 200 V 20 A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2)Output Short (3)Dynamic Load 50% Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz Ta:25℃	(1) 196 V (2) 186 V (3) 155 V (4) 169 V	PASS
3	**Control IC Voltage Test**	U 1 Rated TL3845P : 30 V	I/P:High-Line +3V =267 V O/P: (1) Output Short (2)O.L.P (3)O.V.P (4)NO LOAD VR 下限 LOW LINE Ta:25℃	(1) 15.3 V (2) 15.2 V (3) 14.0 V (4) 13.9 V	PASS

2007/3/20 A50-S014

SAMPLE	TESTER	APPROVAL
PRODUCT SAMPLE	FRANK	WANGDE