



■ Features :

- Universal AC input / Full range
- Built-in active PFC function
- High efficiency up to 90%
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage
- Protections: Over temperature (optional)
- Cooling by free air convection
- 1U low profile 38mm
- Built-in remote ON-OFF control
- No load power consumption<0.5W
- All using 105°C long life electrolytic capacitors
- 5 years warranty



SPECIFICATION

MODEL		HRP-100-3.3	HRP-100-5	HRP-100-7.5	HRP-100-12	HRP-100-15	HRP-100-24	HRP-100-36	HRP-100-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	36V	48V
	RATED CURRENT	20A	17A	13.5A	8.5A	7A	4.5A	2.9A	2.2A
	CURRENT RANGE	0 ~ 20A	0 ~ 17A	0 ~ 13.5A	0 ~ 8.5A	0 ~ 7A	0 ~ 4.5A	0 ~ 2.9A	0 ~ 2.2A
	RATED POWER	66W	85W	101.3W	102W	105W	108W	104.4W	105.6W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	80mVp-p	100mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	3.1 ~ 3.8V	4.75 ~ 5.8V	7.1 ~ 9V	11.4 ~ 13.8V	14.25 ~ 18V	22.8 ~ 28.8V	34.2 ~ 39.6V	45.6 ~ 55.2V
	VOLTAGE TOLERANCE Note.3	+2.5,-3.5%	±2.5%	±2.5%	±1.5%	±1.5%	±1.5%	±1.5%	±1.5%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.3%	±0.3%	±0.2%	±0.2%	±0.2%
	LOAD REGULATION	±2.0%	±2.0%	±1.5%	±0.8%	±0.8%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME	2500ms, 100ms/230VAC 2500ms, 100ms/115VAC at full load							
	HOLD UP TIME (Typ.)	50ms/230VAC 20ms/115VAC at full load							
INPUT	VOLTAGE RANGE Note.5	85 ~ 264VAC 120 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	78%	83%	84%	87.5%	88%	88.5%	89%	90%
	AC CURRENT (Typ.)	1.2A/115VAC 0.6A/230VAC							
	INRUSH CURRENT (Typ.)	35A/115VAC 65A/230VAC							
	LEAKAGE CURRENT	<1mA / 240VAC							
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Constant current limiting for Vo=50 ~ 100% of rated voltage, recovers automatically after fault condition is removed							
	OVER VOLTAGE	3.96 ~ 4.62V	6 ~ 7V	9.4 ~ 10.9V	14.4 ~ 16.8V	18.8 ~ 21.8V	30 ~ 34.8V	41.4 ~ 48.6V	57.6 ~ 67.2V
	OVER TEMPERATURE	90℃(3.3V ~ 7.5V) , 85℃(12V ~ 48V) (TSW1 : detect on heatsink Q101 of power transistor)(optional)							
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down							
FUNCTION	REMOTE CONTROL	RC+/RC- : 0 ~ 0.8V= power on ; 4 ~ 10V = power off							
ENVIRONMENT	WORKING TEMP.	-30 ~ +60℃ (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.04%/℃ (0 ~ 50℃)							
	VIBRATION	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes							
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 approved							
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH							
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B							
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3							
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024, EN61000-6-2, heavy industry level, criteria A							
OTHERS	MTBF	295.7K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	159*97*38mm (L*W*H)							
	PACKING	0.38Kg; 24pcs/ 10.1Kg/0.76CUFT							
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 5. Derating may be needed under low input voltages. Please check the derating curve for more details.								

Mechanical Specification

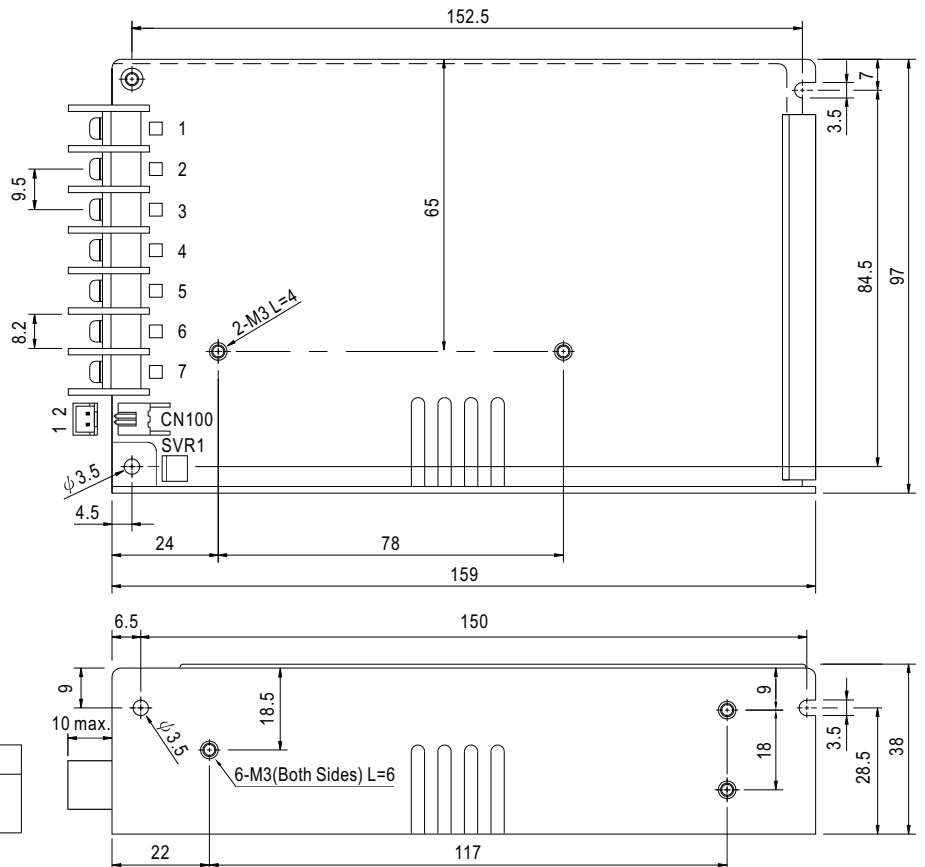
Case No.901I Unit:mm

Terminal Pin No. Assignment

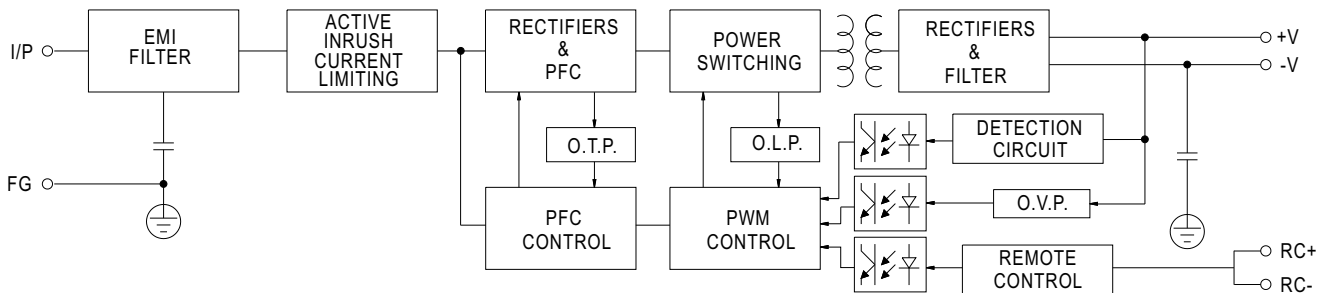
Pin No.	Assignment	Pin No.	Assignment
1	AC/L	4,5	DC OUTPUT -V
2	AC/N	6,7	DC OUTPUT +V
3	FG $\perp$		

Remote ON/OFF (CN100) : JST B-XH or equivalent

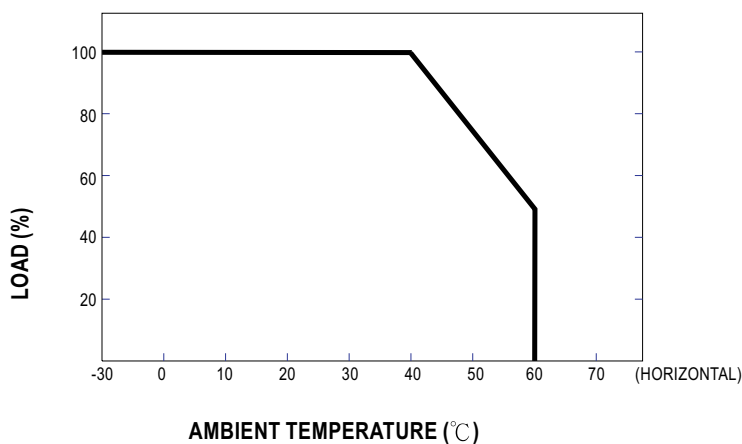
Pin No.	Assignment	Mating Housing	Terminal
1	RC-	JST XHP or equivalent	JST SXH-001T or equivalent
2	RC+		



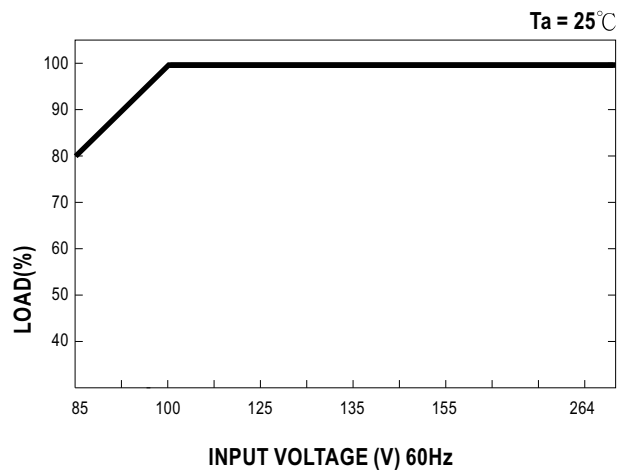
Block Diagram



Derating Curve



Output Derating VS Input Voltage





Test Report: HRP-100-5

100W Single Output with PFC Function

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY TEST

ENVIRONMENT TEST

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1 : 80 mVp-p (Max)	I/P : 230VAC O/P : FULL LOAD Ta : 25°C	V1 : 62 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1 : 4.75V ~ 5.8 V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	4.488 V ~ 5.895 V/ 230 VAC 4.488 V ~ 5.895 V/ 115 VAC	P
3	OUTPUT VOLTAGE TOLERANCE	V1 : 2.5 %~ -2.5 % (Max)	I/P : 100 VAC / 264 VAC O/P : FULL/ MIN LOAD Ta : 25°C	V1 : 1.4 %~ -1.4 %	P
4	LINE REGULATION	V1 : 0.5 %~ -0.5 % (Max)	I/P : VAC ~ 264 VAC O/P : FULL LOAD Ta : 25°C	V1 : 0.2 %~ -0.2 %	P
5	LOAD REGULATION	V1 : 2 %~ -2 % (Max)	I/P : 230 VAC O/P : FULL ~MIN LOAD Ta : 25°C	V1 : 1.4 %~ -1.4 %	P
6	SET UP TIME	230VAC : 2500 ms (Max) 115VAC : 2500 ms(Max)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 551 ms 115VAC/ 1102 ms	P
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°C	230VAC/ 11 ms 115VAC/ 10 ms	P
8	HOLD UP TIME	230VAC : 50 ms (TYP) 115VAC : 20 ms (TYP)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 64 ms 115VAC/ 23 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 : 1000 mVp-p	I/P : 230 VAC O/P : FULL /Min LOAD 90%DUTY/ 1KHZ Ta : 25°C	554 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	85VAC~264 VAC	I/P : TESTING O/P : FULL LOAD Ta : 25°C	72V~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	POWER FACTOR	0.95 / 230 VAC(TYP) 0.98 / 115 VAC(TYP)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF= 0.96 / 230 VAC PF= 0.99 / 115 VAC	P
4	EFFICIENCY	82.5 % (TYP)	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	82.56 %	P
5	INPUT CURRENT	230V/ 0.6 A (TYP) 115V/ 1.2 A (TYP)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I = 0.45 A/ 230 VAC I = 0.89 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 65 A (TYP) 115V/ 35 A (TYP) COLD START	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I = 33 A/ 230 VAC I = 17 A/ 115 VAC	P
7	LEAKAGE CURRENT	< 1 mA / 240 VAC	I/P : 264 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.29 mA N-FG : 0.26 mA	P
8	NO LOAD POWER CONSUMPTION	<0.5W	I/P : 240 VAC O/P : NO LOAD Ta : 25°C	0.34W	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 135 %	I/P : 230 VAC I/P : 115 VAC O/P : TESTING Ta : 25°C	124%/ 230 VAC 124%/ 115 VAC Constant current limiting, switch to hiccup mode for Vo<50% of rated voltage, recovers automatically after fault condition is removed	P
2	OVER VOLTAGE PROTECTION	CH1 : 6 V~ 7 V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	6.83V/ 230 VAC 6.84V/ 115 VAC Shut down Re- power ON	P
3	OVER TEMPERATURE PROTECTION (optional)	SPEC : TSW1 : 90 ± 5°C O.T.P. TSW1 : detect on heatsink Q101 of power transistor NO DAMAGE	I/P : 230 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 : 264 VAC O/P : FULL LOAD Ta : 25°C	NO DAMAGE Hiccup Mode	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Rc+ / Rc- 0 V~ 0.8 V POWER ON 4 V~ 10V POWER OFF	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	0 V~ 1.8 V POWER ON 1.9 V~ 10 V POWER OFF	P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q 3 Rated : 2SK3673-01MR 10A/700V	I/P : High-Line +3V = 267 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C	(1) 644 V (2) 560 V (3) 628 V	P
2	Diode Peak Voltage	Q101 Rated : IRF1405Z 75A/55V Q102 Rated : IRF1405Z 75A/55V	I/P : High-Line +3V = 267 V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C	(1) 54.4 V (2) 54.4 V (3) 25.8 V (1) 54.4 V (2) 52.6 V (3) 25.8 V	P
3	Clamp Diode Peak Voltage	D2 Rated : 3A/600V 1N5406	I/P : High-Line +3V = 267 V O/P : (1) Dynamic Load 90%Duty/1KHz (2)Full load continue Ta : 25°C	(1) 424 V (2) 422 V	P
4	Input Capacitor Voltage	C5 Rated : 100u/400V 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) 381.9 V (2) 375.5 V (3) 375.5 V	P
5	Control IC Voltage Test	U1 Rated : PFC FAN6921MR 30V(max) 7.8V(min) U101 Rated : TEA1761T 38V(max) 8.35V(min)	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) 20.32 V (2) 11.25 V (3) 11.23 V (1) 17.37 V (2) 12.31 V (3) 12.29 V	P
6	Power Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated : 2SK4106 12A/500V	I/P : High-Line +3V = 267 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C	(1) 470 V (2) 384 V (3) 428 V	P

SAFETY & E.M.C. TEST

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 : 3.79 mA I/P-FG : 2.838 mA O/P-FG : 2.053 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 /70%RH	I/P-O/P : 30 GΩ I/P-FG : 28.3 GΩ O/P-FG : 30 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta : 25°C / 70%RH	12 mΩ	P
4	APPROVAL	TUV : Certificate NO : R50171849 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 : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	PASS	P
2	CONDUCTION	EN55022 EN55011 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 EN55011 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 L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A	P
7	Test by certified Lab & Test Report Prepare				

RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																																																									
1.	THERMO TRACER TEST (ROOM AMBIENT)	MODEL:HRP-100-5 95020002, 181 (定點測溫) 116 107 97 88 78 69 59 50 40 30 21 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 座標: 206, 3 原資料溫度: 25.1℃(BD, 94) 放射率: 0.94 修正後溫度: 25.1℃(BD, 94) 環境溫度: 28.0℃ 最高溫(H): 85.9℃ 座標: 228, 109 最低溫(L): 23.0℃ 座標: 316, 0 全域放射率: 0.940 日期: 2009/5/2 時間: 10:15:49 p 1: 57.2℃ 59x, 60y p 2: 38.8℃ 108x, 55y p 3: 39.4℃ 136x, 55y p 4: 45.7℃ 176x, 45y p 5: 44.1℃ 238x, 51y p 6: 42.9℃ 302x, 72y p 7: 45.0℃ 304x, 102y p 8: 49.2℃ 265x, 105y p 9: 75.1℃ 195x, 137y p 10: 66.3℃ 220x, 126y p 11: 75.6℃ 216x, 180y p 12: 67.5℃ 137x, 166y p 13: 66.2℃ 109x, 104y p 14: 60.7℃ 62x, 147y p 15: 55.9℃ 121x, 191y <table><thead><tr><th></th><th>Position</th><th>Temp</th><th>VERDICT</th></tr></thead><tbody><tr><td>P1</td><td>Rth1</td><td>57.2℃</td><td>PASS</td></tr><tr><td>P2</td><td>LF1</td><td>38.8℃</td><td>PASS</td></tr><tr><td>P3</td><td>LF2</td><td>39.4℃</td><td>PASS</td></tr><tr><td>P4</td><td>BD</td><td>45.7℃</td><td>PASS</td></tr><tr><td>P5</td><td>L3-CORE</td><td>44.1℃</td><td>PASS</td></tr><tr><td>P6</td><td>D1</td><td>42.9℃</td><td>PASS</td></tr><tr><td>P7</td><td>Q1</td><td>45℃</td><td>PASS</td></tr><tr><td>P8</td><td>C5</td><td>49.2℃</td><td>PASS</td></tr><tr><td>P9</td><td>T1-COIL</td><td>75.1℃</td><td>PASS</td></tr><tr><td>P10</td><td>D2</td><td>66.3℃</td><td>PASS</td></tr><tr><td>P11</td><td>Cap-Vcc</td><td>75.6℃</td><td>PASS</td></tr><tr><td>P12</td><td>Q101</td><td>67.5℃</td><td>PASS</td></tr><tr><td>P13</td><td>C105</td><td>66.2℃</td><td>PASS</td></tr><tr><td>P14</td><td>L100</td><td>60.7℃</td><td>PASS</td></tr><tr><td>P15</td><td>Cap-Vb</td><td>55.9℃</td><td>PASS</td></tr></tbody></table>				Position	Temp	VERDICT	P1	Rth1	57.2℃	PASS	P2	LF1	38.8℃	PASS	P3	LF2	39.4℃	PASS	P4	BD	45.7℃	PASS	P5	L3-CORE	44.1℃	PASS	P6	D1	42.9℃	PASS	P7	Q1	45℃	PASS	P8	C5	49.2℃	PASS	P9	T1-COIL	75.1℃	PASS	P10	D2	66.3℃	PASS	P11	Cap-Vcc	75.6℃	PASS	P12	Q101	67.5℃	PASS	P13	C105	66.2℃	PASS	P14	L100	60.7℃	PASS	P15	Cap-Vb	55.9℃	PASS	P																																									
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2	TEMPERATURE RISE TEST	MODEL : HRP-100-5 1. ROOM AMBIENT BURN-IN : 3 HRS I/P : 230VAC O/P : FULL LOAD Ta= 27.1 °C 2. HIGH AMBIENT BURN-IN : 5 HRS I/P : 230VAC O/P : FULL LOAD Ta= 43.1 °C <table><thead><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 27.1 °C</th><th>HIGH AMBIENT Ta= 43.1 °C</th></tr></thead><tbody><tr><td>1</td><td>D2</td><td>3A/600V 1N5406 DO-201</td><td>97.8℃</td><td>112.1℃</td></tr><tr><td>2</td><td>D30</td><td>1A/1KV 1N4007</td><td>102.4℃</td><td>119.1℃</td></tr><tr><td>3</td><td>D150</td><td>1A/1KV 1N4007</td><td>84.5℃</td><td>99.3℃</td></tr><tr><td>4</td><td>LF2</td><td>TR653-R2</td><td>52.2℃</td><td>68.4℃</td></tr><tr><td>5</td><td>BD1</td><td>6A/800V US6KB80R-7000</td><td>60.2℃</td><td>76.0℃</td></tr><tr><td>6</td><td>L1</td><td>TR654-R4</td><td>51.0℃</td><td>66.7℃</td></tr><tr><td>7</td><td>L3</td><td>TF1965</td><td>54.8℃</td><td>69.7℃</td></tr><tr><td>8</td><td>C11</td><td>474/450V 10% P=10 MMX</td><td>57.5℃</td><td>73.1℃</td></tr><tr><td>9</td><td>D1</td><td>BYV29X-600 7A/600V</td><td>50.9℃</td><td>67.2℃</td></tr><tr><td>10</td><td>Q1</td><td>2SK4106 12A/500V</td><td>54.7℃</td><td>71.2℃</td></tr><tr><td>11</td><td>Q3</td><td>2SK3673-01MR 10A/700V</td><td>62.2℃</td><td>79.3℃</td></tr><tr><td>12</td><td>C5</td><td>100u/400V 105℃ 18*25 KMG</td><td>70.4℃</td><td>85.9℃</td></tr><tr><td>13</td><td>T1</td><td>TF1958</td><td>85.5℃</td><td>102.8℃</td></tr><tr><td>14</td><td>C18</td><td>47u/50V 6.3*11 YXF</td><td>83.0℃</td><td>100.1℃</td></tr><tr><td>15</td><td>C61</td><td>47u/50V 6.3*11 KY</td><td>67.4℃</td><td>83.4℃</td></tr><tr><td>16</td><td>C150</td><td>47u/50V 6.3*11 YXF</td><td>74.9℃</td><td>90.6℃</td></tr><tr><td>17</td><td>C105</td><td>3900u/10V UL10Kh 12.5*25 ZLH</td><td>71.7℃</td><td>88.8℃</td></tr><tr><td>18</td><td>C108</td><td>3900u/10V UL10Kh 12.5*25 ZLH</td><td>71.3℃</td><td>88.3℃</td></tr><tr><td>19</td><td>Q101</td><td>IRF1405Z 75A/55V</td><td>75.2℃</td><td>92.8℃</td></tr><tr><td>20</td><td>TSW1</td><td>ST-22W-R3 90℃ 130mm</td><td>63.6℃</td><td>80.4℃</td></tr></tbody></table>			NO	Position	P/N	ROOM AMBIENT Ta= 27.1 °C	HIGH AMBIENT Ta= 43.1 °C	1	D2	3A/600V 1N5406 DO-201	97.8℃	112.1℃	2	D30	1A/1KV 1N4007	102.4℃	119.1℃	3	D150	1A/1KV 1N4007	84.5℃	99.3℃	4	LF2	TR653-R2	52.2℃	68.4℃	5	BD1	6A/800V US6KB80R-7000	60.2℃	76.0℃	6	L1	TR654-R4	51.0℃	66.7℃	7	L3	TF1965	54.8℃	69.7℃	8	C11	474/450V 10% P=10 MMX	57.5℃	73.1℃	9	D1	BYV29X-600 7A/600V	50.9℃	67.2℃	10	Q1	2SK4106 12A/500V	54.7℃	71.2℃	11	Q3	2SK3673-01MR 10A/700V	62.2℃	79.3℃	12	C5	100u/400V 105℃ 18*25 KMG	70.4℃	85.9℃	13	T1	TF1958	85.5℃	102.8℃	14	C18	47u/50V 6.3*11 YXF	83.0℃	100.1℃	15	C61	47u/50V 6.3*11 KY	67.4℃	83.4℃	16	C150	47u/50V 6.3*11 YXF	74.9℃	90.6℃	17	C105	3900u/10V UL10Kh 12.5*25 ZLH	71.7℃	88.8℃	18	C108	3900u/10V UL10Kh 12.5*25 ZLH	71.3℃	88.3℃	19	Q101	IRF1405Z 75A/55V	75.2℃	92.8℃	20	TSW1	ST-22W-R3 90℃ 130mm	63.6℃	80.4℃	P
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3	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 123 % LOAD Ta : 25℃	TEST : OK	P																																																																																																									

4	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/100VAC O/P : 100 % LOAD Ta= -40 °C	TEST : OK	P
5	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 40 °C NO DAMAGE	I/P : 272 VAC O/P : FULL LOAD Ta= 40°C HUMIDITY= 95 %R.H	TEST : OK	P
6	TEMPERATURE COEFFICIENT	± 0.04 %(0~50°C)	I/P : 230 VAC O/P : FULL LOAD	± 0 %(0~50°C)	P
7	STORAGE TEMPERATURE TEST	1. Thermal shock Temperature : -45°C ~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 5 CYCLE 5. Input/Output condition : STATIC		OK	P
8.	THERMAL SHOCK TEST	1. Thermal shock Temperature : -40°C ~ +45°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : 230VAC/Full Load		OK	P
9	VIBRATION TEST	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 5G (5) Test Time : 60min in each axis (X.Y.Z) (6) Ta : 25°C		TEST : OK	P
10	CAPACITOR LIFE CYCLE	HRP-100-5: SUPPOSE C 105 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta= 25 °C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta= 40 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 40 °C LIFE TIME		(1) 142932.7HRS (2) 46824.9HRS (3) 102498.6HRS	P
11	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE : 295.7K HRS			P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2009/11/4	RD SAMPLE	PASS	SANFORD SU	VINCENT TSENG
2009/11/27	RD SAMPLE(2)	PASS	SANFORD SU	VINCENT TSENG
2010/1/15	PRODUCT SAMPLE W0912D11	PASS	SANFORD SU	VINCENT TSENG

2003/12/12 A50-F023