



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- CH1 & CH2 can be adjusted from -5% ~ +10%
- With power good and fail signal output
- Built-in remote sense function for CH1 & CH2
- LED indicator for power on
- 100% full load burn-in test
- 20A peak load capability for 24V channel
- 3 years warranty

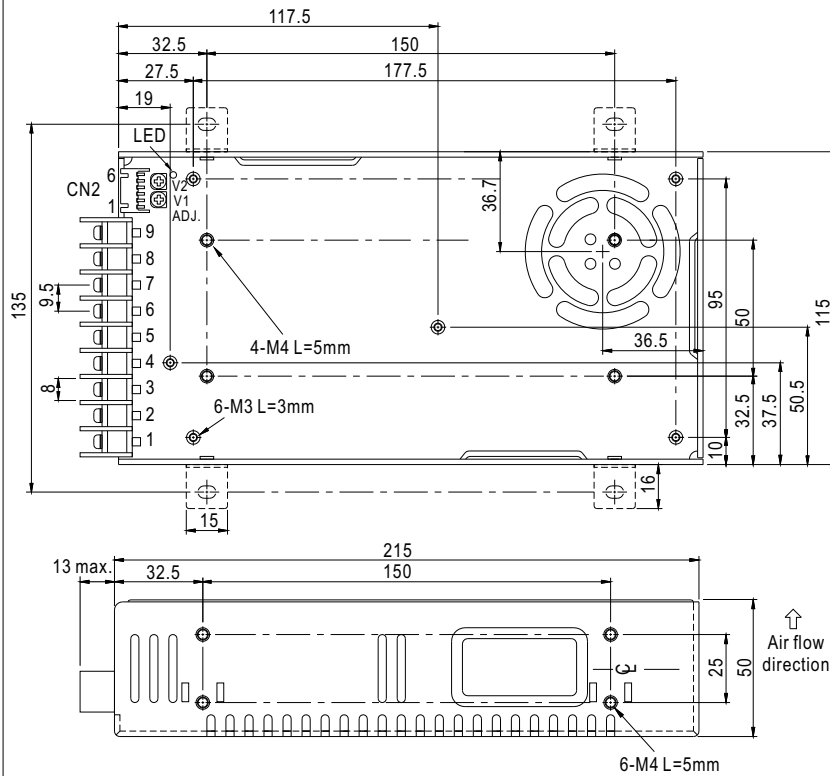


SPECIFICATION

MODEL		QP-320D				QP-320F			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	12V	24V	-12V	5V	15V	24V	-15V
	RATED CURRENT	20A	10A	3A	2A	20A	8A	3A	1.6A
	CURRENT RANGE	2.5 ~ 20A	0 ~ 10A	0.2 ~ 5A	0.2 ~ 2A	2.5 ~ 20A	0 ~ 10A	0.2 ~ 5A	0.2 ~ 1.6A
	PEAK CURRENT	20A	10A	20A, ≤1ms(Note5)	2A	20A	10A	20A, ≤1ms(Note5)	1.6A
	RATED POWER	316W							
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p	150mVp-p	100mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE	CH1,2:+10,-5%							
	VOLTAGE TOLERANCE Note.3	3.0%	3.0%	+10,-6%	10%	3.0%	3.0%	+10,-6%	10%
	LINE REGULATION	1.0%	2.0%	2.0%	3.0%	1.0%	2.0%	2.0%	3.0%
	LOAD REGULATION	2.0%	3.0%	6.0%	8.0%	2.0%	3.0%	6.0%	8.0%
	SETUP, RISE TIME	800ms, 50ms at full load							
HOLD UP TIME (Typ.)	16ms at full load								
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF>0.95/230VAC PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	83%							
	AC CURRENT (Typ.)	4A/115VAC 2A/230VAC							
	INRUSH CURRENT (Typ.)	25A/115VAC 45A/230VAC							
	LEAKAGE CURRENT	<2mA / 240VAC							
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Fold back current limiting, recovers automatically after fault condition is removed							
	OVER VOLTAGE	CH1:5.75 ~ 6.75V CH2:13.8 ~ 16.2V				CH1:5.75 ~ 6.75V CH2:17.25 ~ 20.25V Protection type : Shut down o/p voltage, re-power on to recover			
	OVER TEMPERATURE	95℃ 5℃ (TSW1)detect on heatsink of power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down							
	FUNCTION	POWER GOOD / POWER FAIL	10ms/1ms						
ENVIRONMENT	WORKING TEMP.	-10 ~ +70℃ (Refer to output load derating curve)							
	WORKING HUMIDITY	20 ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	0.03%/℃ (0 ~ 50℃)							
	VIBRATION	10 ~ 500Hz, 2G 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							
	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, light industry level, criteria A							
OTHERS	MTBF	213.5K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	215*115*50mm (L*W*H)							
	PACKING	1.2Kg; 12pcs/15.4Kg/0.92CUFT							
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. Every output channel can provide up to the maximum current, but total load can't exceed the rated output power. 5. CH3(24V) peak current 20A, ≤1ms, repeatable in every 100ms. CH3(24V) output must be above 16V in the period of peak current.								

Mechanical Specification

Case No. 912I Unit:mm



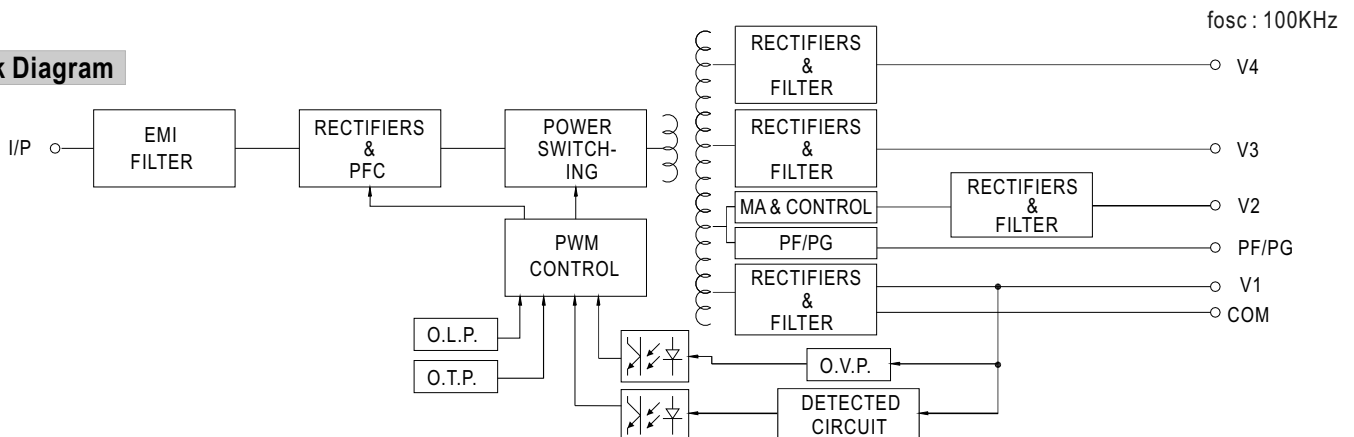
Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	AC/L	5	DC OUTPUT V3
2	AC/N	6	DC OUTPUT V1
3	FG $\perp$	7,8	DC OUTPUT COM
4	DC OUTPUT V4	9	DC OUTPUT V2

DC Output Connector (CN2) : JST S6B-XH-A-1 or equivalent

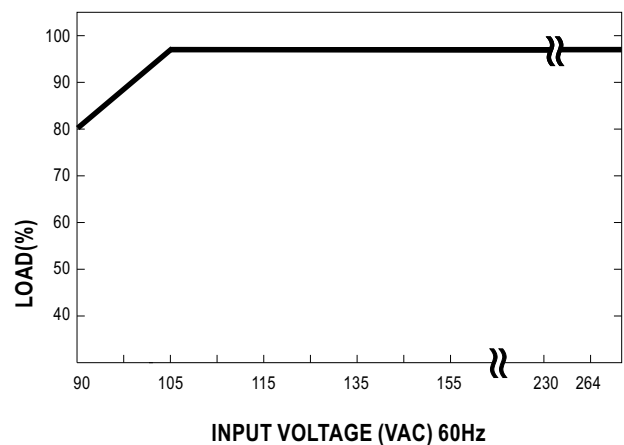
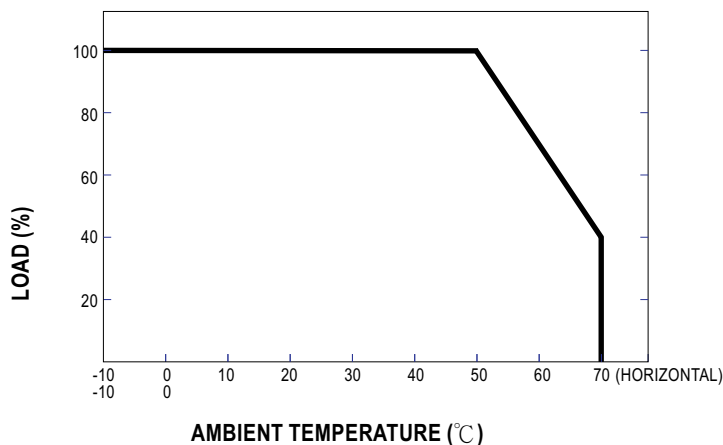
Pin No.	Assignment	Pin No.	Assignment	Mating Housing	Terminal
1	V1(+S)	4	V2(-S)	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	V1(-S)	5	PF/PG		
3	V2(+S)	6	GND		

Block Diagram



Derating Curve

Output Derating VS Input Voltage



MODEL : QP-320F

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1:100 mVp-p (Max) V2:150 mVp-p (Max) V3:150 mVp-p (Max) V4:150 mVp-p (Max)	I/P: 230VAC O/P:FULL LOAD Ta:25°C	V1: 85 mVp-p (Max) V2: 70 mVp-p (Max) V3: 43 mVp-p (Max) V4: 59 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 4.75V~ 5.5V CH2: 14.25V~ 16.5 V	I/P: 230 VAC O/P:MIN LOAD Ta:25°C	4.6 V~ 5.97 V/ CH1 13.01 V~ 17.78 V/ CH2	P
3	OUTPUT VOLTAGE TOLERANCE	V1: 3 %~ -3 % (Max) V2: 3 %~ -3 % (Max) V3: 10 %~ -6 % (Max) V4: 10 %~ -10 % (Max)	I/P: VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.8 %~ -0.8 % V2: 0.25 %~ -0.25 % V3: 2.6 %~ -2.6 % V4: 2.7 %~ -2.7 %	P
4	LINE REGULATION	V1: 1 %~ -1 % (Max) V2: 2 %~ -2 % (Max) V3: 2 %~ -2 % (Max) V4: 3 %~ -3 % (Max)	I/P: VAC ~ 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 % V2: 0 %~ 0 % V3: 0.03 %~ -0.03 % V4: 0.1 %~ -0.1 %	P
5	LOAD REGULATION	V1: 2 %~ -2 % (Max) V2: 3 %~ -3 % (Max) V3: 6 %~ -6 % (Max) V4: 8 %~ -8 % (Max)	I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.8 %~ -0.8 % V2: 0.25 %~ -0.25 % V3: 2.6 %~ -2.6 % V4: 1.4 %~ -1.4 %	P
6	CROSS REGULATION	V1: 2 %~ -2 % (Max) V2: 3 %~ -3 % (Max) V3: 6 %~ -6 % (Max) V4: 8 %~ -8 % (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0.25 %~ -0.25 % V2: 0.04 %~ -0.04 % V3: 2 %~ -2 % V4: 2.7 %~ -2.7 %	P
7	SET UP TIME	230VAC: 800 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC 527 ms	P
8	RISE TIME	230VAC: 50 ms (Max)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 26 ms	P
9	HOLD UP TIME	230VAC: 16 ms (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 21 ms	P
10	OVER/UNDERSHOOT TEST	< +5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: <5 %	P
11	DYNAMIC LOAD	V1: 1000 mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	346 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	90VAC~264 VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	67 V~264V	P
			I/P: LOW-LINE-3V= 97 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: 90 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	83% (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	84.6 %	P
5	INPUT CURRENT	230V/ 2.5 A (TYP) 115V/ 5 A (TYP)	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 1.7 A/ 230 VAC I = 3.5 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 45 A (TYP) 115V/ 25 A(TYP) COLD START	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	I = 38 A/ 230 VAC I = 19 A/ 115 VAC	P
7	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 254 VAC O/P:Min LOAD Ta:25°C	L-FG: 0.7 mA N-FG: 0.7 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105 %~ 150%	I/P: 230 VAC I/P: 115 VAC O/P:TESTING Ta:25°C	128 %/ 230 VAC 128 %/ 115 VAC Foldback Current Limiting	P
2	OVER VOLTAGE PROTECTION	CH1: 5.75 V~ 6.75 V CH2: 17.25 V~ 20.25 V	I/P: 230 VAC I/P: 115 VAC O/P:MIN LOAD Ta:25°C	CH1: 6 V/ 230 VAC 6 V/ 115 VAC CH2: 18.9 V/ 230 VAC 18.9 V/ 115 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1: 95 ± 5°C O.T.P. NO DAMAGE	I/P: 230 VAC O/P:FULL LOAD	O.T.P. Active Shut down o/p volotage , 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 Constant Current Limiting	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	FAN SPEED CONTROL	-----	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	Fan Voltage= 11.58 V	P
2	POWER GOOD SIGNAL	DELAY 10ms ~ 500ms	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	123 ms/ 230VAC 123 ms/ 115VAC	P
3	POWER FAIL SIGNAL	> 1ms	I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C	11 ms/ 230 VAC 11 ms/ 115 VAC	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																																
1	TEMPERATURE RISE TEST	MODEL : QP-320D 1. ROOM AMBIENT BURN-IN : 12 HRS I/P: 230VAC O/P: FULL LOAD Ta= 31 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P: 230VAC O/P: FULL LOAD Ta= 60.7 °C <table><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT Ta= 31 °C</th><th>HIGH AMBIENT Ta= 60.7 °C</th></tr><tr><td>1</td><td>LF1</td><td>TF-360</td><td>50.4°C</td><td>75.2°C</td></tr><tr><td>2</td><td>BD1</td><td>D10XB60 10A/600V</td><td>57.2°C</td><td>83.5°C</td></tr><tr><td>3</td><td>L1</td><td>TR-337</td><td>49.7°C</td><td>76.0°C</td></tr><tr><td>4</td><td>D3</td><td>BYC10-600 10A/600V</td><td>48.6°C</td><td>74.8°C</td></tr><tr><td>5</td><td>Q2</td><td>K2082 9A/900V</td><td>55.3°C</td><td>84.7°C</td></tr><tr><td>6</td><td>Q1</td><td>IRFP460A 20A/500V</td><td>45.3°C</td><td>72.4°C</td></tr><tr><td>7</td><td>C5</td><td>120U/400V NCC 105°C</td><td>43.5°C</td><td>69.7°C</td></tr><tr><td>8</td><td>U1</td><td>ML4800CP</td><td>50.6°C</td><td>77.9°C</td></tr><tr><td>9</td><td>T1 COIL</td><td>TF-1364</td><td>63.2°C</td><td>91.6°C</td></tr><tr><td>10</td><td>D4</td><td>HER208 2A/1KV</td><td>56.1°C</td><td>83.2°C</td></tr><tr><td>11</td><td>D101</td><td>S60SC4M 60A/40V</td><td>70.2°C</td><td>97.4°C</td></tr><tr><td>12</td><td>L200</td><td>TR-628</td><td>68.5°C</td><td>96.1°C</td></tr><tr><td>13</td><td>D401</td><td>YG805C10 20A/100V</td><td>61.3°C</td><td>88.4°C</td></tr><tr><td>14</td><td>D100</td><td>S60SC4M 60A/40V</td><td>70.6°C</td><td>97.6°C</td></tr><tr><td>15</td><td>L100</td><td>TR-629</td><td>56.1°C</td><td>83.9°C</td></tr></table>			NO	Position	P/N	ROOM AMBIENT Ta= 31 °C	HIGH AMBIENT Ta= 60.7 °C	1	LF1	TF-360	50.4°C	75.2°C	2	BD1	D10XB60 10A/600V	57.2°C	83.5°C	3	L1	TR-337	49.7°C	76.0°C	4	D3	BYC10-600 10A/600V	48.6°C	74.8°C	5	Q2	K2082 9A/900V	55.3°C	84.7°C	6	Q1	IRFP460A 20A/500V	45.3°C	72.4°C	7	C5	120U/400V NCC 105°C	43.5°C	69.7°C	8	U1	ML4800CP	50.6°C	77.9°C	9	T1 COIL	TF-1364	63.2°C	91.6°C	10	D4	HER208 2A/1KV	56.1°C	83.2°C	11	D101	S60SC4M 60A/40V	70.2°C	97.4°C	12	L200	TR-628	68.5°C	96.1°C	13	D401	YG805C10 20A/100V	61.3°C	88.4°C	14	D100	S60SC4M 60A/40V	70.6°C	97.6°C	15	L100	TR-629	56.1°C	83.9°C	P
NO	Position	P/N	ROOM AMBIENT Ta= 31 °C	HIGH AMBIENT Ta= 60.7 °C																																																																																	
1	LF1	TF-360	50.4°C	75.2°C																																																																																	
2	BD1	D10XB60 10A/600V	57.2°C	83.5°C																																																																																	
3	L1	TR-337	49.7°C	76.0°C																																																																																	
4	D3	BYC10-600 10A/600V	48.6°C	74.8°C																																																																																	
5	Q2	K2082 9A/900V	55.3°C	84.7°C																																																																																	
6	Q1	IRFP460A 20A/500V	45.3°C	72.4°C																																																																																	
7	C5	120U/400V NCC 105°C	43.5°C	69.7°C																																																																																	
8	U1	ML4800CP	50.6°C	77.9°C																																																																																	
9	T1 COIL	TF-1364	63.2°C	91.6°C																																																																																	
10	D4	HER208 2A/1KV	56.1°C	83.2°C																																																																																	
11	D101	S60SC4M 60A/40V	70.2°C	97.4°C																																																																																	
12	L200	TR-628	68.5°C	96.1°C																																																																																	
13	D401	YG805C10 20A/100V	61.3°C	88.4°C																																																																																	
14	D100	S60SC4M 60A/40V	70.6°C	97.6°C																																																																																	
15	L100	TR-629	56.1°C	83.9°C																																																																																	
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 115 % 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= -10 °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	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: 5.92 mA I/P-FG: 4.79 mA O/P-FG: 5.33 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: 30 GΩ I/P-FG: 30 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	3 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50073099 UL: File NO : E183223			P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS D	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 LIGHT 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 LIGHT INDUSTRY INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 LIGHT INDUSTRY L-N :1KV L,N-PE: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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 110 IS THE MOST CRITICAL COMPONENT I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 474329 HRS I/P: 230VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 106138 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 213.5 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	Q2 Rated 2SK2082 : 900 V 9A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 760 V (2) 760 V (3) 844 V	P
2	Diode Peak Voltage	D100 Rated S60SC4M : 40V 60A D200 Rated KCH30A10 : 100V 30A D300 Rated F20NC15 : 150V 20A D400 Rated YG805C10 : 120V 20A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 24 V (2) 21.4 V (3) 22.4 V (1) 68.4 V (2) 70.4 V (3) 55.2 V (1) 86.8 V (2) 92.8 V (3) 62 V (1) 59.6 V (2) 58.4 V (3) 37.6 V	P
3	Clamp Diode Peak Voltage	D4 Rated HER208 : 1KV 2A	I/P:High-Line +3V = 267 V O/P: (1)Full Load (2) Dynamic Load 90%Duty/1KHz Ta:25℃	(1) 784 V (2) 760 V	P
4	Input Capacitor Voltage	C5 Rated : 150u / 400V/ 105℃	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 (4)Burn in 1hour Ta:25℃	(1) 364 V (2) 392 V (3) 386 V (4) 386 V	P
5	Control IC Voltage Test	U1 Rated ML4800 : 18V	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℃	(1) 14.5 V (2) 15.4 V (3) 14.8 V	P
6	P.F.C Power Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated IRFP460A : 500 V 20A	I/P:High-Line +3V = 267 V O/P: (1)Full Load Turn on (2) Full Load (3)Output Short Ta:25℃	(1) 444 V (2) 440 V (3) 440 V	P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2005/11/4	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2005/12/2	PRODUCT SAMPLE W0510C53	PASS	VINCENT TSENG	MAX LIN
2005/12/26	PRODUCT SAMPLE W0512B52	PASS	VINCENT TSENG	MAX LIN

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