



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH3,4 are isolated from other outputs and the polarity can be reversed
- No minimum load requirement for CH2,3,4
- All output can be adjustable from -5~+10%
- With power good and fail signal output
- Built-in remote ON-OFF control
- Fixed switching frequency at 100KHz
- 3 years warranty



SPECIFICATION

MODEL		QP-375-5A				QP-375-5B				QP-375-5C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4
	DC VOLTAGE	5V	+12V	12V	12V	+5V	+12V	12V	5V	5V	+12V	15V	15V
	RATED CURRENT	30A	10A	6A	3A	30A	10A	6A	3A	30A	9A	4A	4A
	CURRENT RANGE	3.5 ~ 40A	0 ~ 16A	0 ~ 6A	0 ~ 3A	3.5 ~ 40A	0 ~ 16A	0 ~ 6A	0 ~ 3A	3.5 ~ 40A	0 ~ 16A	0 ~ 4A	0 ~ 4A
	RATED POWER(max.)	378W				357W				378W			
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	150mVp-p	50mVp-p	100mVp-p	120mVp-p	120mVp-p	50mVp-p	100mVp-p	150mVp-p	150mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	11.4 ~ 13.2V	11.4 ~ 13.2V	11.4 ~ 13.2V	4.75 ~ 5.5V	11.4 ~ 13.2V	11.4 ~ 13.2V	-----	4.75 ~ 5.5V	11.4 ~ 13.2V	14.3 ~ 16.5V	14.3 ~ 16.5V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%
SETUP, RISE TIME	800ms, 50ms at full load												
HOLD UP TIME (Typ.)	36ms at full load												
INPUT	VOLTAGE RANGE Note.7	85 ~ 264VAC		120 ~ 370VDC									
	FREQUENCY RANGE	47 ~ 63Hz											
	POWER FACTOR (Typ.)	PF>0.95/230VAC				PF>0.98/115VAC at full load							
	EFFICIENCY (Typ.)	77%					77%				77%		
	AC CURRENT (Typ.)	6A/115VAC		3A/230VAC									
	INRUSH CURRENT (Typ.)	COLD START 45A											
	LEAKAGE CURRENT	<2mA / 240VAC											
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed											
	OVER VOLTAGE	CH1:5.75 ~ 6.75V Protection type : Shut down o/p voltage, re-power on to recover											
	OVER TEMPERATURE	80°C ±5°C (TSW1) Detect on heatsink of Q1,Q2 power transistor) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down											
FUNCTION	POWER GOOD / POWER FAIL(OPTIONAL)	10ms/1ms											
	REMOTE CONTROL	RC+/RC-:0 ~ 0.8V POWER ON; 4V ~ 10V POWER OFF											
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)											
	WORKING HUMIDITY	20 ~ 90% RH non-condensing											
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH											
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)											
	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											
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A											
	MTBF	75.9K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	280*127*63.5mm (L*W*H)											
NOTE	PACKING	2.4Kg; 6pcs/14.8Kg/1.45CUFT											
<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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.</p> <p>5. Peak current can not exceed 60 sec.</p> <p>6. Isolated CH3 & CH4 maybe series connected or can be used as positive or negative outputs.</p> <p>7. Derating may be needed under low input voltages. Please check the derating curve for more details.</p>													



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- Fixed switching frequency at 100KHz
- 3 years warranty

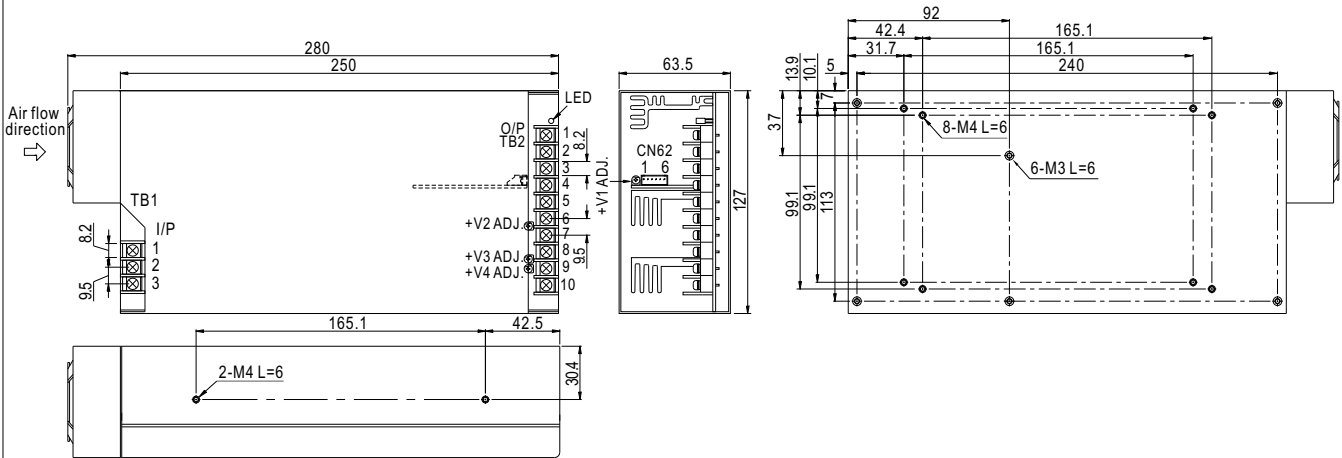


SPECIFICATION

MODEL		QP-375-5D				QP-375-5E				
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	
	DC VOLTAGE	+5V	+12V	12V	24V	+5V	+12V	24V	24V	
	RATED CURRENT	30A	9A	4A	3A	30A	9A	3A	2A	
	CURRENT RANGE	3.5 ~ 40A	0 ~ 16A	0 ~ 6A	0 ~ 3A	3.5 ~ 40A	0 ~ 16A	0 ~ 4A	0 ~ 3A	
	RATED POWER(max.)	378W				378W				
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p	120mVp-p	240mVp-p	100mVp-p	120mVp-p	120mVp-p	240mVp-p	
	VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	11.4 ~ 13.2V	11.4 ~ 13.2V	22.8 ~ 26.4V	4.75 ~ 5.5V	11.4 ~ 13.2V	22.8 ~ 26.4V	22.8 ~ 26.4V	
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	
	SETUP, RISE TIME	800ms, 50ms at full load								
HOLD UP TIME (Typ.)	36ms at full load									
INPUT	VOLTAGE RANGE Note.7	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%				78%				
	AC CURRENT (Typ.)	6A/115VAC		3A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 45A								
	LEAKAGE CURRENT	<2mA / 240VAC								
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE	CH1: 5.75 ~ 6.75V Protection type : Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE	80°C ±5°C (TSW1): Detect on heatsink of Q1, Q2 power transistor Protection type : Shut down o/p voltage, recovers automatically after temperature goes down								
FUNCTION	POWER GOOD / POWER FAIL (OPTIONAL)	10ms/1ms								
	REMOTE CONTROL	RC+/RC-: 0 ~ 0.8V POWER ON; 4V ~ 10V POWER OFF								
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes								
SAFETY & EMC (Note 5)	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								
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11; ENV50204, EN55024, Light industry level, criteria A								
	MTBF	75.9K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	280*127*63.5mm (L*W*H)								
	PACKING	2.4Kg; 6pcs/14.8Kg/1.45CUFT								
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. Peak current can not exceed 60 sec. 6. Isolated CH3 & CH4 maybe series connected or can be used as positive or negative outputs. 7. Derating may be needed under low input voltages. Please check the derating curve for more details. 									

Mechanical Specification

Case No. 927A Unit:mm



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG

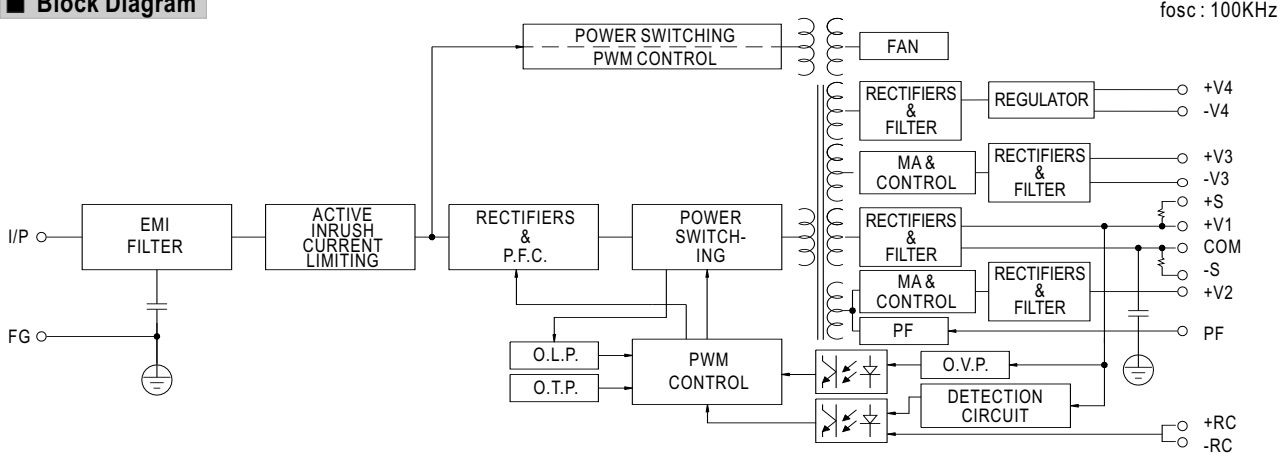
DC Output Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	+V1	8	-V3
3,4,5	COM(V1 and V2)	9	+V4
6	+V2	10	-V4
7	+V3		

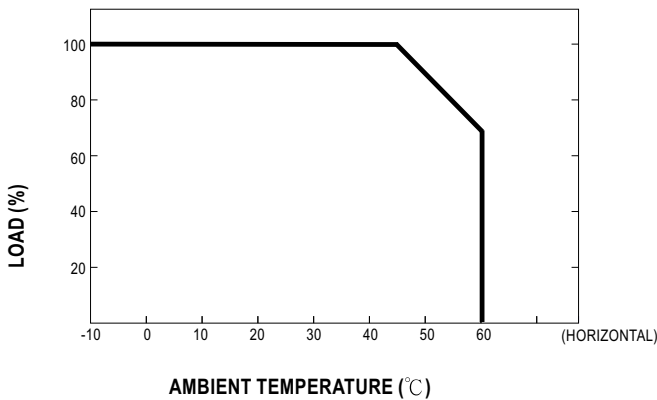
CN62 Pin No. Assignment : JST S6B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	PF(Power good / Fail signal)	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	GND		
3	RS-		
4	RS+		
5	RC-		
6	RC+		

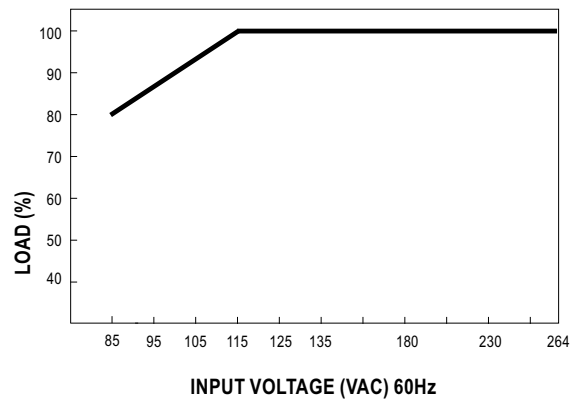
Block Diagram



Derating Curve



Output Derating VS Input Voltage



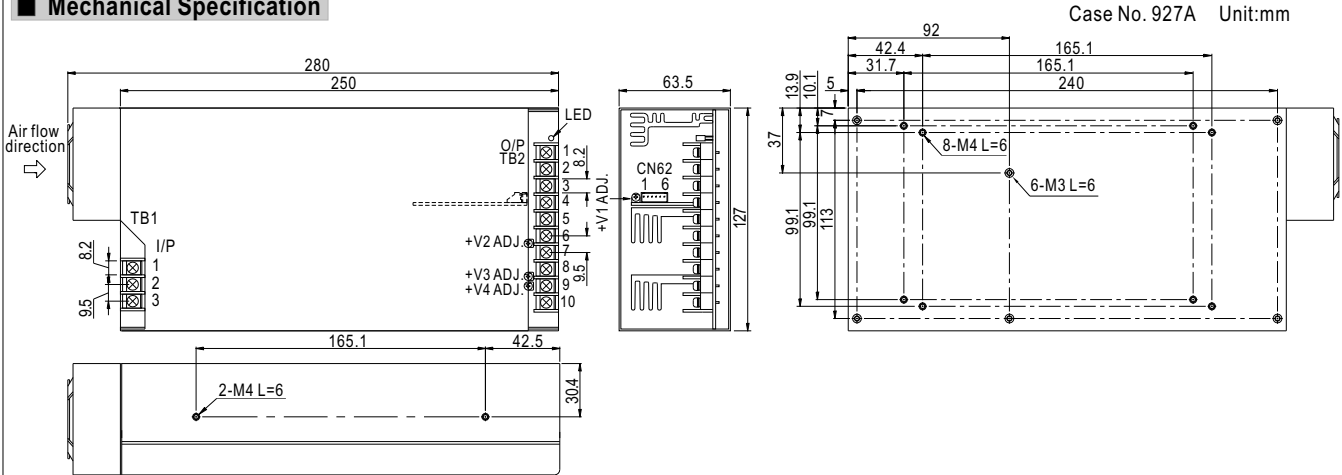
**Features :**

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Forced air cooling by built-in DC fan
- CH3,4 are isolated from other outputs and the polarity can be reversed
- No minimum load requirement for CH2,3,4
- All output can be adjustable from -5~+10%
- With power good and fail signal output
- Built-in remote ON-OFF control
- Fixed switching frequency at 100KHz
- 3 years warranty

**SPECIFICATION**

MODEL		QP-375-24B				QP-375-24C				
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	
	DC VOLTAGE	+24V	+5V	12V	12V	+24V	+5V	15V	15V	
	RATED CURRENT	10A	10A	4A	4A	10A	10A	4A	4A	
	CURRENT RANGE	1 ~ 10A	0 ~ 16A	0 ~ 4A	0 ~ 4A	1 ~ 10A	0 ~ 10A	0 ~ 4A	0 ~ 4A	
	RATED POWER(max.)	386W				410W				
	RIPPLE & NOISE (max.) Note.2	240mVp-p	50mVp-p	120mVp-p	120mVp-p	240mVp-p	50mVp-p	150mVp-p	150mVp-p	
	VOLTAGE ADJ. RANGE	21.6 ~ 26.4V	4.5 ~ 5.5V	10.8 ~ 13.2V	10.8 ~ 13.2V	21.6 ~ 26.4V	4.5 ~ 5.5V	13.5 ~ 16.5V	13.5 ~ 16.5V	
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	±0.8%	
	SETUP, RISE TIME	800ms, 50ms at full load								
HOLD UP TIME (Typ.)	36ms at full load									
INPUT	VOLTAGE RANGE Note.7	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%				80%				
	AC CURRENT (Typ.)	6A/115VAC		3A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 45A								
	LEAKAGE CURRENT	<2mA / 240VAC								
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after condition is removed								
	OVER VOLTAGE	CH1:27.6 ~ 32.4V Protection type : Shut down o/p voltage, re-power on to recover								
	OVER TEMPERATURE	80°C ±5°C (TSW1) Detect on heatsink of Q1,Q2 power transistor) Protection type : Shut down o/p voltage, recovers automatically after temperature goes down								
FUNCTION	POWER GOOD / POWER FAIL(OPTIONAL)	10ms/1ms								
	REMOTE CONTROL	RC+/RC-:0 ~ 0.8V POWER ON; 4V ~ 10V POWER OFF								
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/°C (0~50°C)								
	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								
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, Light industry level, criteria A								
	MTBF	75.9K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	280*127*63.5mm (L*W*H)								
	PACKING	2.4Kg; 6pcs/14.8Kg/1.45CUFT								
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C 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. Peak current can not exceed 60 sec. 6. Isolated CH3 & CH4 maybe series connected or can be used as positive or negative outputs. 7. Derating may be needed under low input voltages. Please check the derating curve for more details. 									

Mechanical Specification



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG

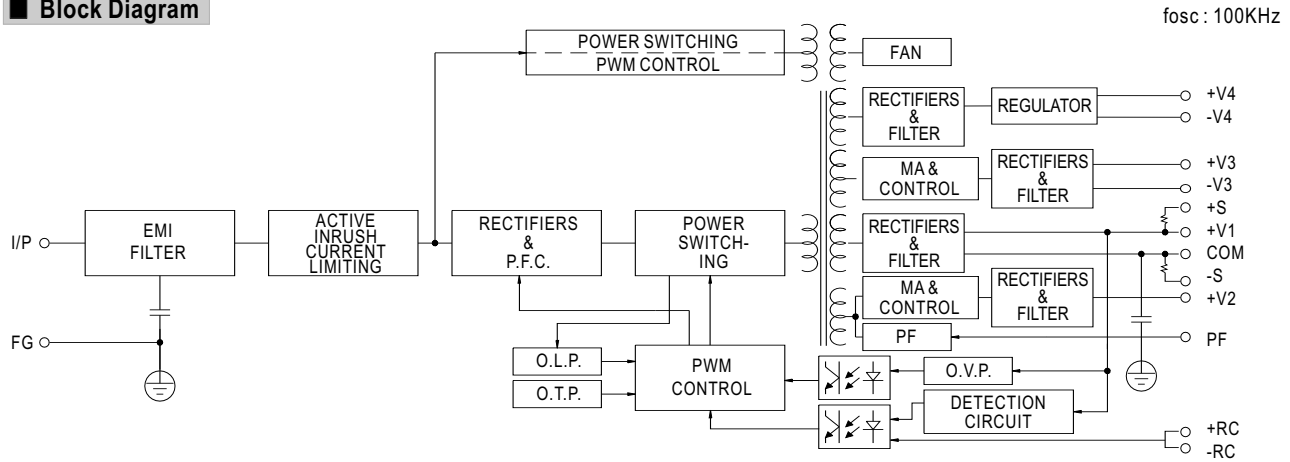
DC Output Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	+V1	8	-V3
3,4,5	COM(V1 and V2)	9	+V4
6	+V2	10	-V4
7	+V3		

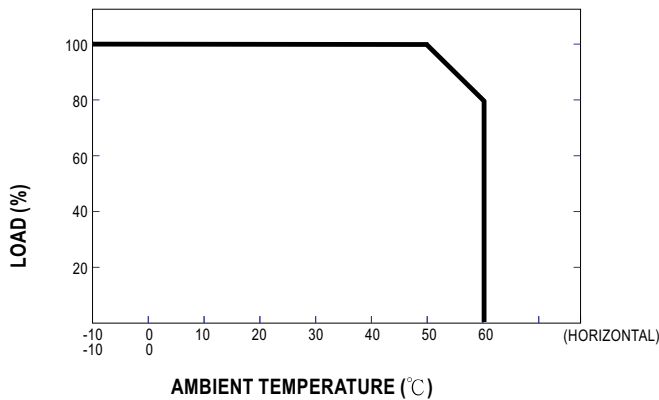
CN62 Pin No. Assignment : JST S6B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	PF(Power good / Fail signal)	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	GND		
3	RS-		
4	RS+		
5	RC-		
6	RC+		

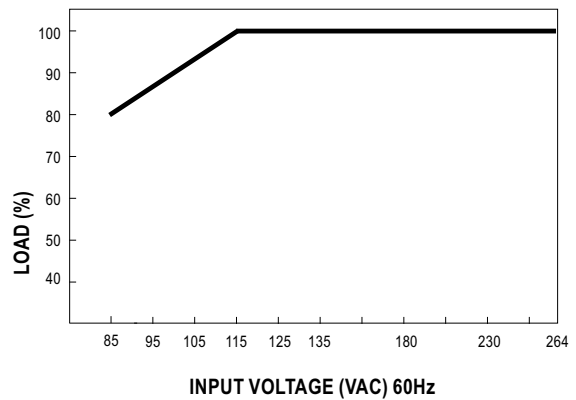
Block Diagram



Derating Curve

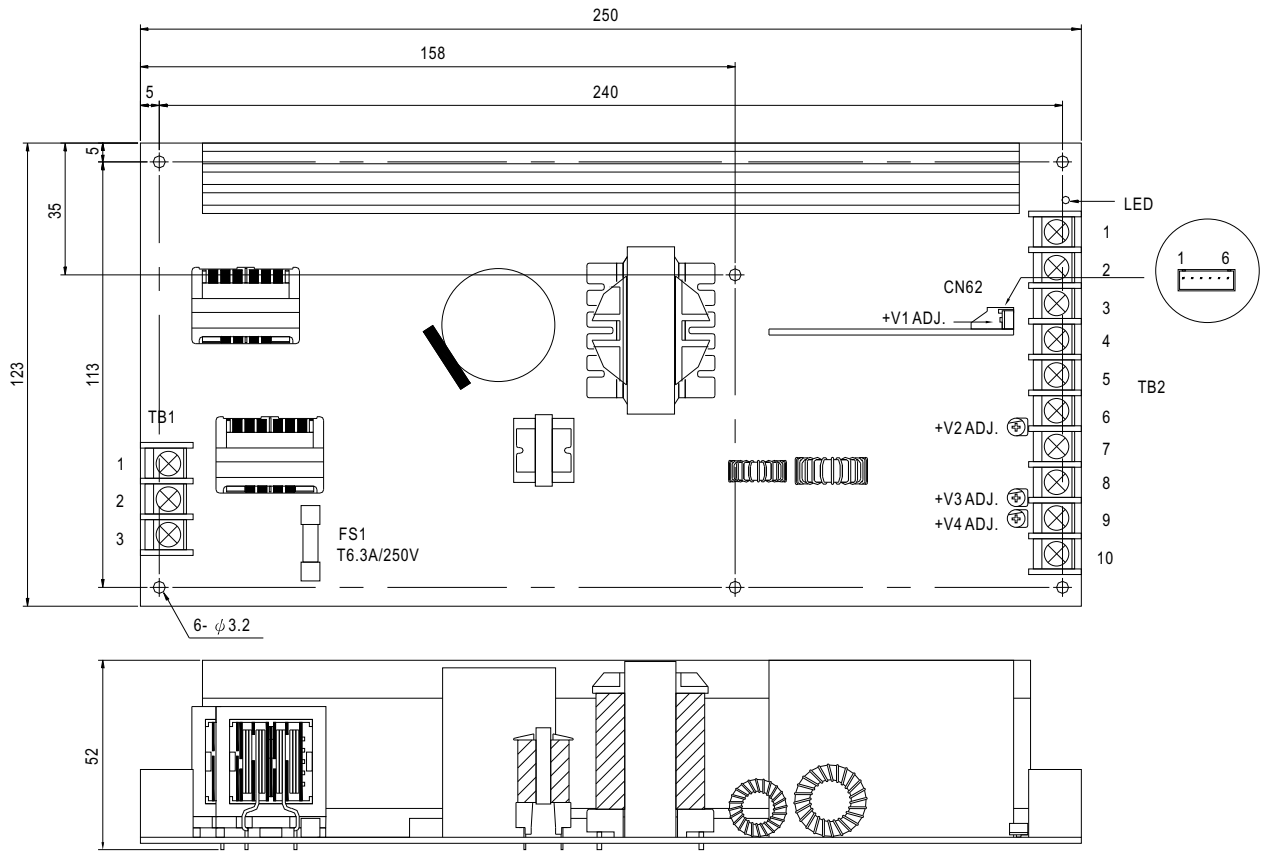


Output Derating VS Input Voltage



Mechanical Specification

Unit:mm



AC Input Terminal Pin No. Assignment

Pin No.	Assignment
1	AC/L
2	AC/N
3	FG \perp

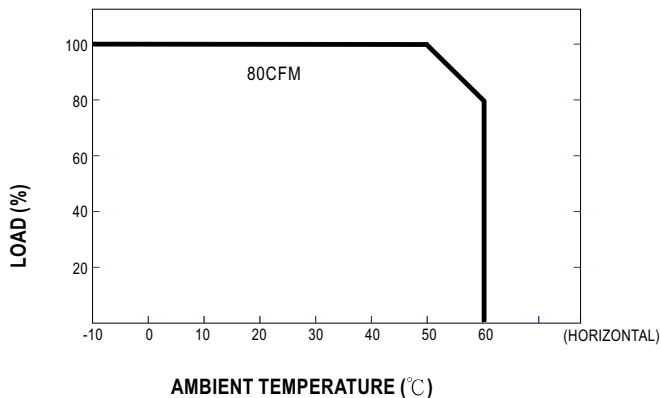
DC Output Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
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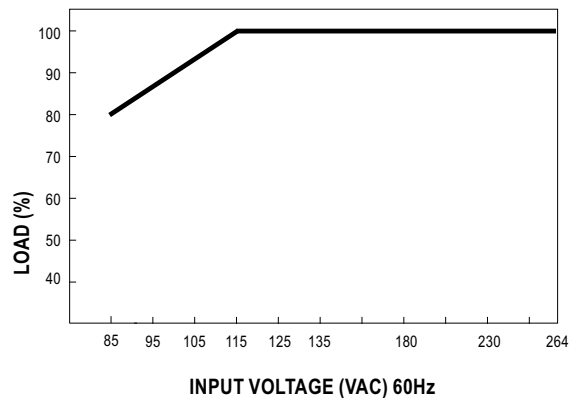
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3	RS-		
4	RS+		
5	RC-		
6	RC+		

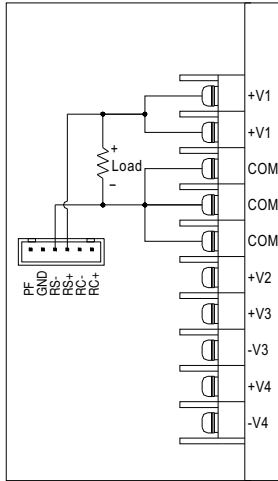
Derating Curve



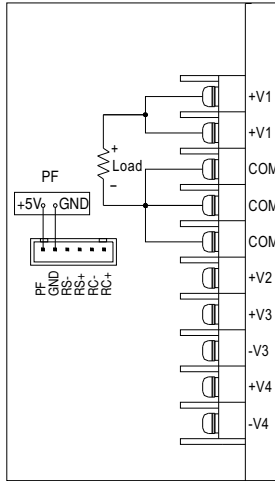
Output Derating VS Input Voltage



■ Control terminal instruction manual

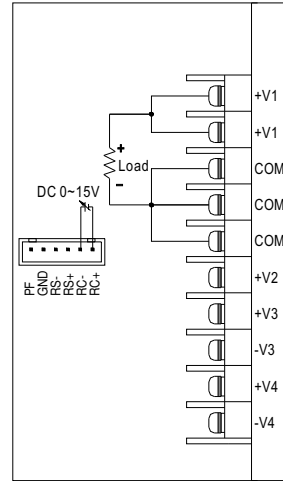


Remote Sensing



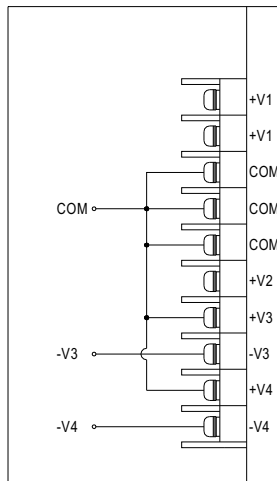
Power Fail Signal

PF Signal is the voltage difference between "GND" and "PF" pin output

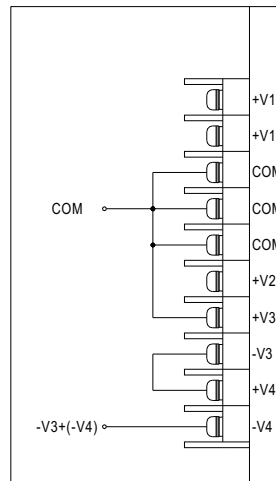


Power Fail Signal

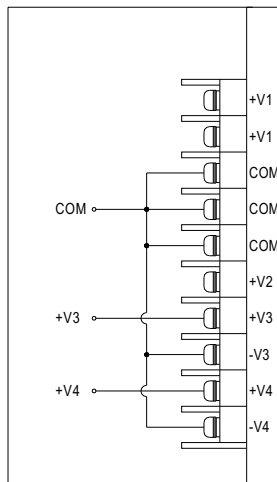
Power ON: When VRC+, RC=0 ~ 0.8V or Open
Power OFF: When VRC+, RC=4 ~ 10V



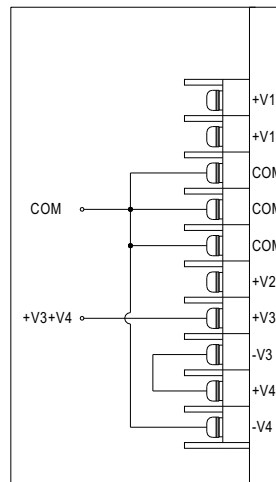
V3, V4 All Negative(-)



V3 Puls Negative(-)



V3, V4 All Positive(+)



V3 Plus V4 Positive(+)

MODEL : QP-375-24C

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1: 240 mVp-p (Max) V2: 50 mVp-p (Max) V3: 150 mVp-p (Max) V4: 150 mVp-p (Max)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	V1: 17 mVp-p (Max) V2: 5 mVp-p (Max) V3: 3 mVp-p (Max) V4: 7 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1: 21.6 V- 26.4V CH2: 4.5V- 5.5V CH3: 13.5V- 16.5V CH4: 13.5V- 16.5V	I/P: 230 VAC I/P: 115 VAC C O/P:MIN LOAD Ta:25°C	CH1:20.41V-27.56V CH2: 4.35V- 6.17V CH3: 12.83V- 17.81V CH4: 12.84V- 17.41V	P
3	OUTPUT VOLTAGE TOLERANCE	V1: -1%- +1 % (Max) V2: -1%- +1 % (Max) V3: -1%- +1 % (Max) V4: -1%- +1 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL/ MIN LOAD Ta:25°C	V1: 0.06 %- -0.06 % V2: 0.15 %- -0.15 % V3: 0.1 %- -0.1 % V4: 0.3 %- -0.3 %	P
4	LINE REGULATION	V1: -0.5 %~+0.5 % (Max) V2: -0.5 %~+0.5 % (Max) V3: -0.5 %~+0.5 % (Max) V4: -0.5 %~+0.5 % (Max)	I/P: 115 VAC / 264 VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 % V2: 0 %~ 0 % V3: 0 %~ 0 % V4: 0 %~ 0 %	P
5	LOAD REGULATION	V1:-0.8 %~ +0.8% (Max) V2: -0.8 %~ +0.8% (Max) V3: -0.8 %~ +0.8% (Max) V4: -0.8 %~ +0.8% (Max)	I/P: 230 VAC O/P:FULL -MIN LOAD Ta:25°C	V1: 0.03 %- -0.06 % V2: 0.15 %- 0% V3: 0.1 %- -0.1 % V4: 0.3 %- -0.3 %	P
6	CROSS REGULATION	V1:-0.8 %~ +0.8% (Max) V2: -0.8 %~ +0.8% (Max) V3: -0.8 %~ +0.8% (Max) V4: -0.8 %~ +0.8% (Max)	I/P: 230 VAC O/P: Testing O/P 60%LOAD Other O/P 40%LOAD Change Ta:25°C	V1: 0 %~ -0.03 % V2: 0.2 %~ -0.2 % V3: 0.05 %- 0 % V4: 0.05 %- 0 %	P
7	SET UP TIME	230VAC / 800ms (Max) 115VAC / 800ms (Max)	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	230 VAC/ 226.554ms 115 VAC/ 294.041 ms	P
8	RISE TIME	230VAC/ 50ms (Max) 115VAC/ 50 ms (Max)	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 37.666 ms 115VAC/ 35.803 ms	P
9	HOLD UP TIME	230 VAC/ 20ms(TYP) 115 VAC/ 20 ms(TYP)	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	230VAC/ 37.579ms 115VAC/ 37.294ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	TEST: < 5 %	P
11	DYNAMIC LOAD	V1: 2400mVp-p	I/P: 230 VAC O/P:FULL /Min LOAD 90%DUTY/1KHZ Ta:25°C	310 mVp-p	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	85VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	65 V~ 264 V	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 ~ 63HZ NO DAMAGE OSC	I/P: 264 VAC ~ 115 VAC O/P:FULL-MIN LOAD Ta:25°C	TEST: OK	P
3	POWER FACTOR	0.95/ 230VAC(TYP) 0.98/ 115VAC(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	80 % (TYP)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	82.5 %	P
5	INPUT CURRENT	230V/ 3 A (TYP) 115V/ 6 A(TYP)	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	I = 2.25 A/ 230 VAC I = 4.61 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 45 A(TYP) COLD START	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	I =26.64 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 2 mA / 240 VAC	I/P: 230 VAC O/P:Min LOAD Ta:25°C	L-FG: 1.2 mA N-FG: 1.2 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105%~ 135 %	I/P:230 VAC O/P:TESTING Ta:25°C	113 %/ 230 VAC Hiccup Mode	P
2	OVER VOLTAGE PROTECTION	CH1: 27.6V- 32.4V	I/P:230 VAC O/P:MIN LOAD Ta:25°C	31.5 V/ 230 VAC Shunt down Re- power ON	P
3	OVER TEMPERATURE PROTECTION	SPEC: TSW1 80± 5 °C O.T.P. NO DAMAGE	I/P: 230 VAC O/P:FULL LOAD	O.T.P.Active Shunt 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: 100% LOAD Ta:25°C	NO DAMAGE Hiccup Mode	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Rc+ / Rc- 0 V- 0.8 V POWER ON 4 V- 10 V POWER OFF	I/P: 230 VAC O/P:FULL LOAD Ta:25°C	0 V ~ 2.35 V POWER ON 2.35 V ~ 10 V POWER OFF	P
2	POWER GOOD SIGNAL	DELAY 10ms ~ 500ms	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	32.7 ms/ 230 VAC 31.66 ms/ 115 VAC	P
3	POWER FAIL SIGNAL	> 1ms	I/P:230 VAC I/P:115 VAC O/P:FULL LOAD Ta:25°C	12.16 ms/ 230 VAC 11.86 ms/ 115 VAC	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	MODEL : QP-375-24B 1. ROOM AMBIENT BURN-IN : 2 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 27.5 °C 2. HIGH AMBIENT BURN-IN : 4 HRS I/P: 230 VAC O/P: FULL LOAD Ta= 49.3 °C			P
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P: 230 VAC O/P: 121% 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 Operating at I/P: 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 : N/A	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: 9.51 mA I/P-FG: 8.1 mA O/P-FG: 8.69 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: 1.5G Ω I/P-FG: 1.13G Ω O/P-FG: 1.29G Ω NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	30 A / 2min Ta:25°C	42 mΩ	P
4	APPROVAL	TUV: Certificate NO : R50014021 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 INDUSTRY INPUT: 2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 L,N-PE:2KV 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				



M.T.B.F & LIFE CYCLE CALCULATION

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C 111 IS THE MOST CRITICAL COMPONENT I/P: 230 VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 403882 HRS I/P: 230 VAC O/P:FULL LOAD Ta= 50 °C LIFE TIME= 69898 HRS			P
2	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE: 75.9K HRS			P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2002/6/10	RD SAMPLE	PASS	VINCENT TSENG	MAX LIN
2002/9/13	PRODUCT SAMPLE A2047C20	PASS	VINCENT TSENG	MAX LIN
2002/10/18	PRODUCT SAMPLE A210A14	PASS	VINCENT TSENG	MAX LIN

2003/12/12 A50-F023