

65W Single Output Switching Power Supply

PS-65 series



■ Features :

- Universal AC input/Full range
- Low leakage current<0.5mA
- Protections:Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 65KHz
- 2 years warranty

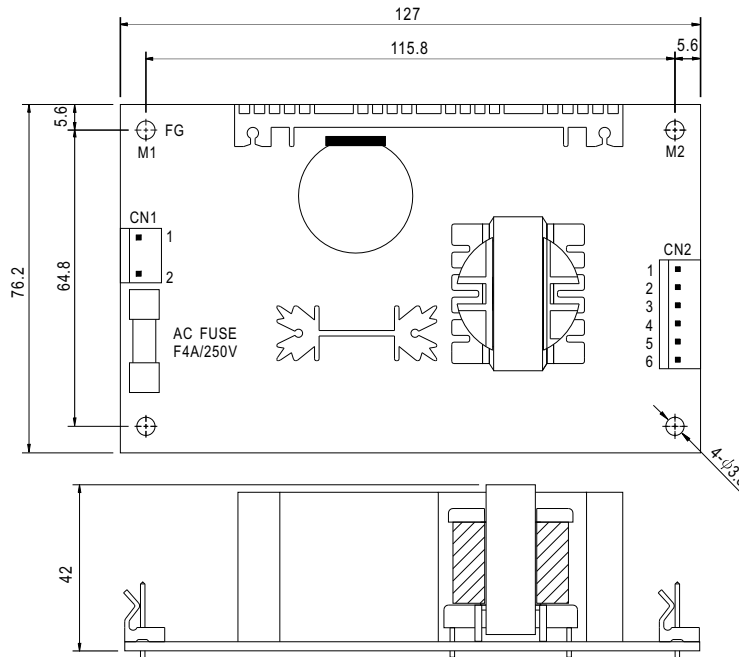


SPECIFICATION

MODEL	PS-65-3.3	PS-65-5	PS-65-7.5	PS-65-12	PS-65-13.5	PS-65-15	PS-65-24	PS-65-27	PS-65-48		
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V	
	RATED CURRENT	12A	12A	8A	5.2A	4.7A	4.2A	2.7A	2.4A	1.35A	
	CURRENT RANGE	0 ~ 15.2A	0 ~ 13.8A	0 ~ 9.6A	0 ~ 6A	0 ~ 5.4A	0 ~ 4.8A	0 ~ 3A	0 ~ 2.7A	0 ~ 1.5A	
	RATED POWER	39.6W	60W	60W	62.4W	63.5W	63W	64.8W	64.8W	64.8W	
	OUTPUT POWER (max.)	Rated output power for convection; 72W (+3.3V : 50W;+5V:69W) with 18 CFM min. Forced air									
	RIPPLE & NOISE (max.) Note.2	80mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	3.14 ~ 3.63V	4.75 ~ 5.5V	7.13 ~ 8.25V	11.4 ~ 13.2V	12.8 ~ 14.9V	14.25 ~ 16.5V	22.8 ~ 26.4V	25.65 ~ 29.7V	45.6 ~ 52.8V	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	
	LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	LOAD REGULATION	±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	
SETUP, RISE TIME	800ms, 20ms at full load										
HOLD TIME (Typ.)	60ms at full load										
INPUT	VOLTAGE RANGE	90 ~ 264VAC		127 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 440Hz									
	EFFICIENCY(Typ.)	69%	76%	79%	79%	79%	79%	80%	80%	80%	
	AC CURRENT (Typ.)	1.2A/115VAC		0.72A/230VAC							
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC		40A/230VAC							
	LEAKAGE CURRENT	<0.5mA / 240VAC									
PROTECTION	OVER LOAD	73 ~ 105W(3.3V : 51 ~ 75W)(5V : 70 ~ 105W) rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed.									
	OVER VOLTAGE	3.8 ~ 4.46V	5.75 ~ 6.75V	8.63 ~ 10.1V	13.8 ~ 16.2V	15.5 ~ 18.2V	17.25 ~ 20.25V	27.6 ~ 32.4V	31 ~ 36.45V	55.2 ~ 64.8V	
		Protection type : Hiccup mode, recovers automatically after fault condition is removed.									
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	±0.04%/°C (0 ~ 50°C)									
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes									
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950, 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	300.7K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION	127*76.2*42mm (L*W*H)									
	PACKING	0.21Kg; 54pcs/14.2Kg/1.35CUFT									
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. Mounting holes M1 and M2 should be grounded for EMI purposes. 										

Mechanical Specification

Unit:mm



AC Input Connector (CN1) : Molex 5277-02 or equivalent

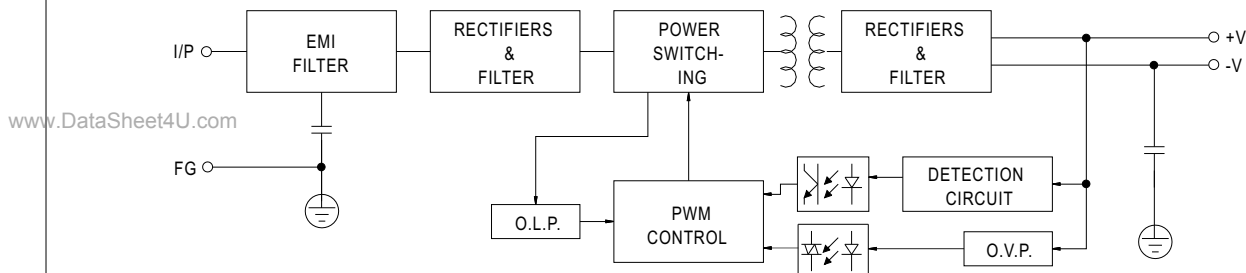
Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	Molex 5195 or equivalent	Molex 5194 or equivalent
2	AC/L		

DC Output Connector (CN2) : Molex 5273-06 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3	+V	Molex 5195 or equivalent	Molex 5194 or equivalent
4,5,6	-V		

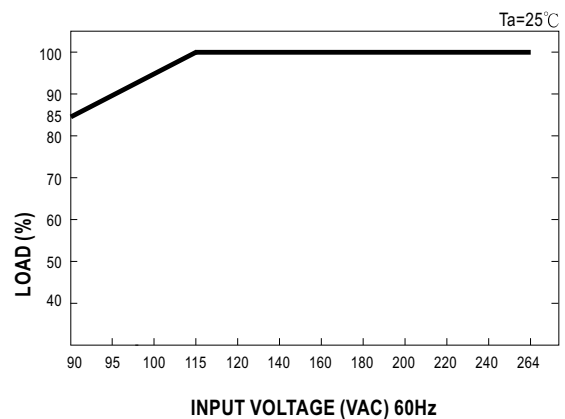
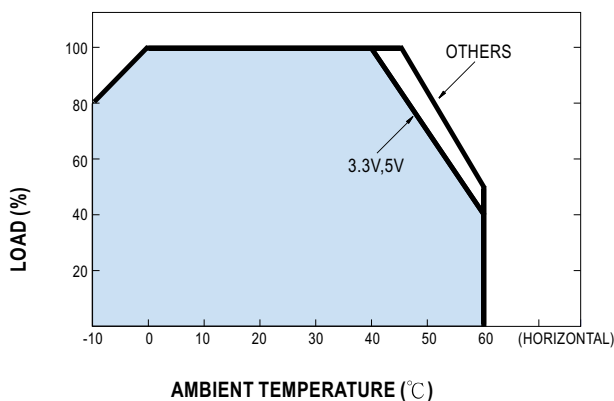
Block Diagram

fosc : 65KHz



Output Derating

Output Derating VS Input Voltage



65W Dual Output Switching Power Supply

PD-65 series



■ Features :

- Universal AC input/Full range
- Low leakage current<0.5mA
- Protections:Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 65KHz
- 2 years warranty

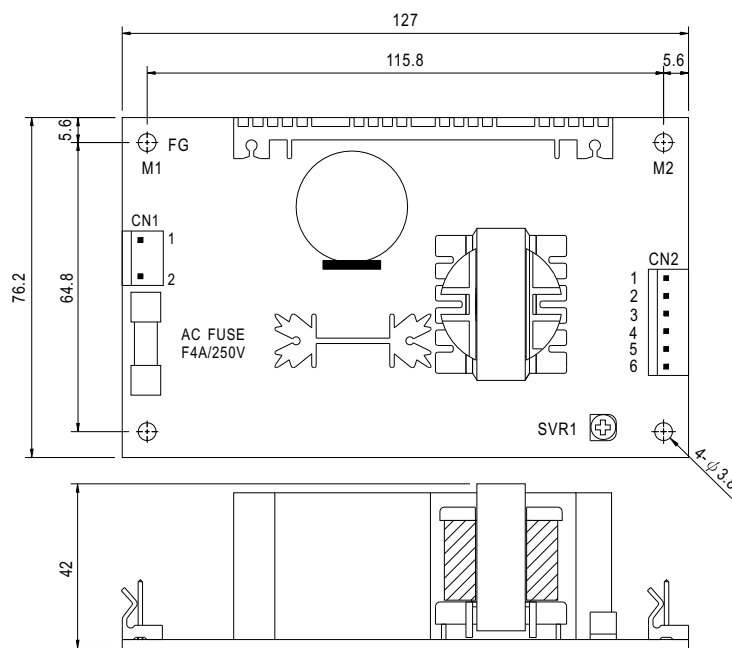


SPECIFICATION

MODEL		PD-65A		PD-65B	
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH1	CH2
	DC VOLTAGE	5V	12V	5V	24V
	RATED CURRENT	5.5A	2.8A	3.5A	2A
	CURRENT RANGE	0.4 ~ 7A	0.2 ~ 3.2A	0.4 ~ 6A	0.2 ~ 2.6A
	RATED POWER	61.1W		65.5W	
	OUTPUT POWER (max.)	Rated output power for convection; 72W with 18CFM min. Forced air			
	RIPPLE & NOISE (max.) Note.2	50mVp-p		120mVp-p	
	VOLTAGE ADJ. RANGE	CH1:4.75 ~ 5.5V		CH1:4.75 ~ 5.5V	
	VOLTAGE TOLERANCE Note.3	±4.0%	±7.0%	±4.0%	±7.0%
	LINE REGULATION	±1.0%	±2.0%	±1.0%	±2.0%
	LOAD REGULATION	±3.0%	±4.0%	±3.0%	±4.0%
SETUP, RISE TIME	800ms, 20ms at full load				
HOLD TIME (Typ.)	60ms at full load				
INPUT	VOLTAGE RANGE	90 ~ 264VAC	127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 440Hz			
	EFFICIENCY(Typ.)	78%		81%	
	AC CURRENT (Typ.)	1.5A/115VAC	0.9A/230VAC		
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC	40A/230VAC		
LEAKAGE CURRENT	<0.5mA				
PROTECTION	OVER LOAD	73 ~ 105W rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed.			
	OVER VOLTAGE	CH1: 5.75 ~ 6.75VDC on CH1 Protection type : Hiccup mode, recovers automatically after fault condition is removed.			
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	±0.04%/°C (0 ~ 50°C) on +5V output			
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes				
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950, 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	288.1K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	127*76.2*42mm (L*W*H)			
	PACKING	0.24Kg; 54pcs/15Kg/1.35CUFT			
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. Mounting holes M1 and M2 should be grounded for EMI purposes. 				

Mechanical Specification

Unit:mm



AC Input Connector (CN1) : Molex 5277-02 or equivalent

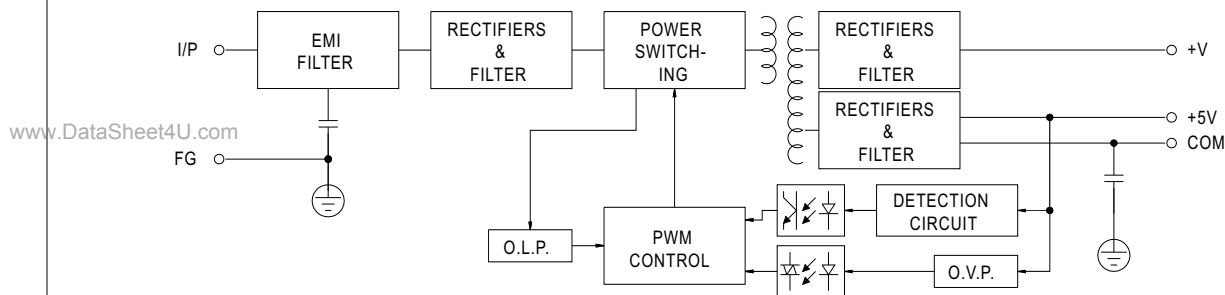
Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	Molex 5195 or equivalent	Molex 5194 or equivalent
2	AC/L		

DC Output Connector (CN2) : Molex 5273-06 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+V	Molex 5195 or equivalent	Molex 5194 or equivalent
2,3	+5V		
4,5	COM		
6	NC		

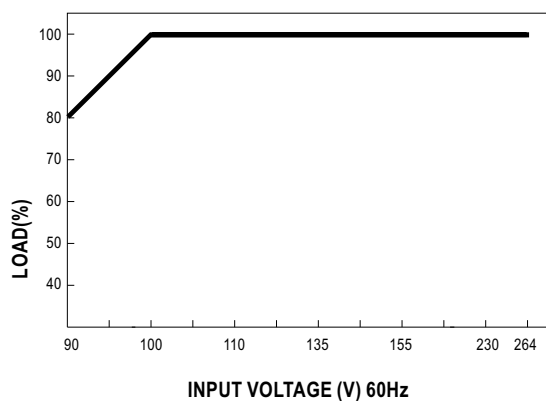
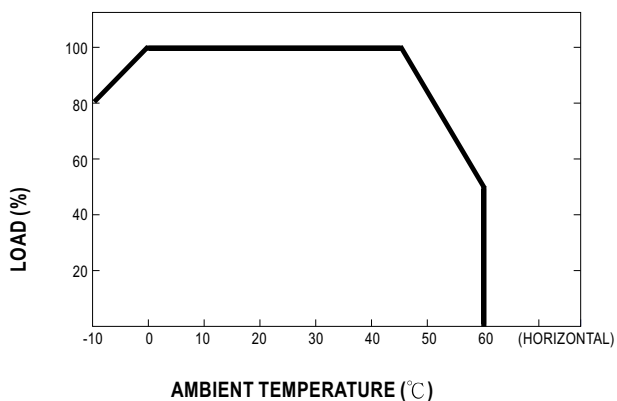
Block Diagram

fosc : 65KHz



Output Derating

Output Derating VS Input Voltage





■ Features :

- Universal AC input/Full range
- Low leakage current<0.5mA
- Protections:Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 65KHz
- 2 years warranty

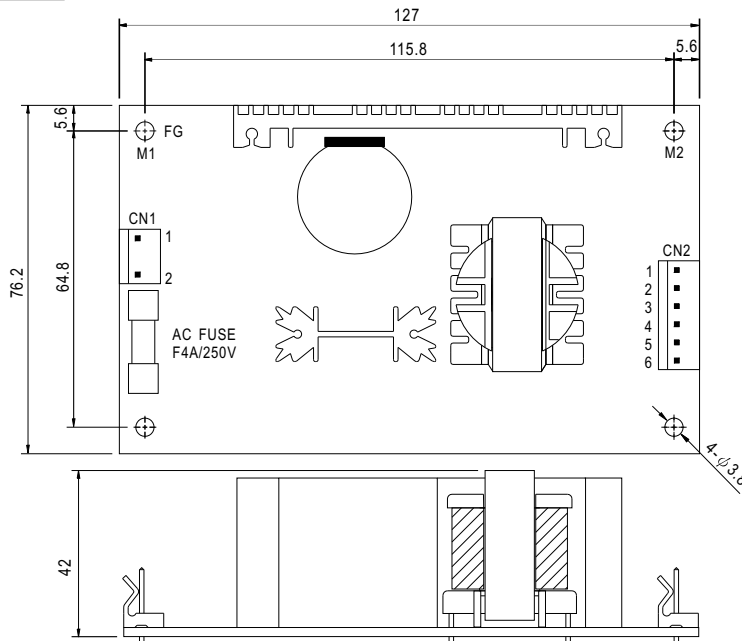


SPECIFICATION

MODEL		PT-65A			PT-65B			PT-65C			PT-65D		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V	5V	12V	24V
	RATED CURRENT	5.5A	2.5A	0.5A	5.5A	2.5A	0.5A	5.5A	2A	0.5A	4A	2A	1A
	CURRENT RANGE	0.4 ~ 7A	0.2 ~ 3.2A	0 ~ 0.7A	0.4 ~ 7A	0.2 ~ 3.2A	0 ~ 0.7A	0.4 ~ 7A	0.2 ~ 2.6A	0 ~ 0.7A	0.5 ~ 5A	0.2 ~ 4A	0.2 ~ 1.3A
	RATED POWER	60W			63.5W			65W			68W		
	OUTPUT POWER (max.)	Rated output power for convection; 72W with 18CFM min. Forced air											
	RIPPLE & NOISE (max.) Note.2	50mVp-p	120mVp-p	50mVp-p	50mVp-p	120mVp-p	100mVp-p	50mVp-p	120mVp-p	100mVp-p	50mVp-p	100mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	CH1:4.75 ~ 5.5V											
	VOLTAGE TOLERANCE Note.3	±4.0%	±7.0%	±5.0%	±4.0%	±7.0%	±5.0%	±4.0%	±7.0%	±5.0%	±4.0%	±6.0%	±6.0%
	LINE REGULATION	±1.0%	±2.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±2.0%	±1.0%	±1.0%	±2.0%	±3.0%
	LOAD REGULATION	±3.0%	±4.0%	±1.0%	±3.0%	±4.0%	±1.0%	±3.0%	±4.0%	±1.0%	±2.0%	±5.0%	±5.0%
SETUP, RISE TIME	800ms, 20ms at full load												
HOLD TIME (Typ.)	60ms at full load												
INPUT	VOLTAGE RANGE	90 ~ 264VAC			127 ~ 370VDC								
	FREQUENCY RANGE	47 ~ 440Hz											
	EFFICIENCY(Typ.)	76%			77%			77%			79%		
	AC CURRENT (Typ.)	1.5A/115VAC			0.9A/230VAC								
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC			40A/230VAC								
	LEAKAGE CURRENT	<0.5mA											
PROTECTION	OVER LOAD	73 ~ 95W rated output power									74.8 ~ 98.6W rated output power		
		Protection type : Hiccup mode, recovers automatically after fault condition is removed.											
	OVER VOLTAGE	5.75 ~ 6.75VDC on CH1											
	Protection type : Hiccup mode, recovers automatically after fault condition is removed.												
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	±0.04%/°C (0 ~ 50°C) on +5V output											
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes											
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL1950, TUV EN60950 Approved											
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC 1min.											
	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	277.2K hrs min. MIL-HDBK-217F (25°C)											
	DIMENSION	127*76.2*42mm (L*W*H)											
	PACKING	0.25Kg; 54pcs/15.9Kg/1.35CUFT											
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. Mounting holes M1 and M2 should be grounded for EMI purposes. 												

Mechanical Specification

Unit:mm



AC Input Connector (CN1) : Molex 5277-02 or equivalent

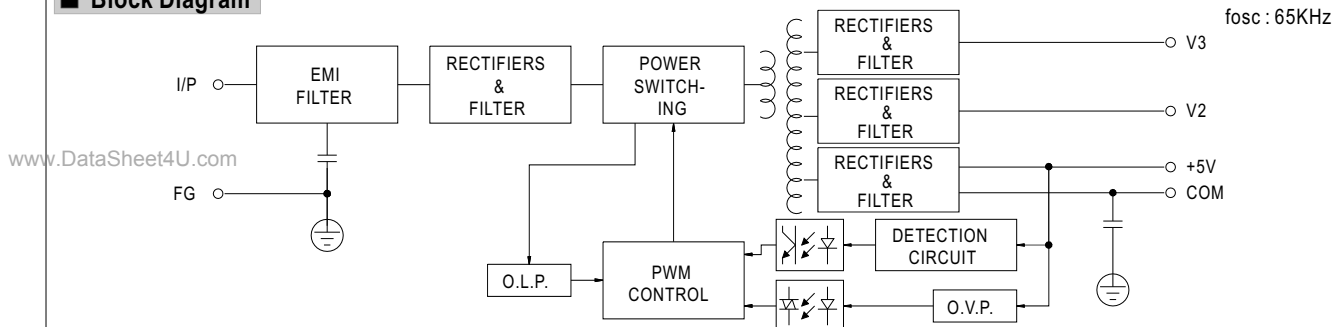
Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	Molex 5195 or equivalent	Molex 5194 or equivalent
2	AC/L		

DC Output Connector (CN2) : Molex 5273-06 or equivalent

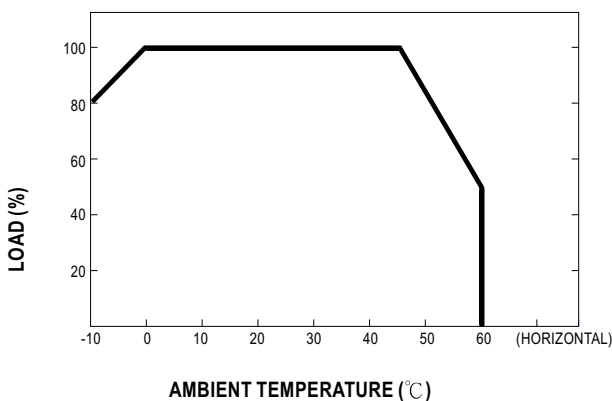
Pin No.	Assignment	Mating Housing	Terminal
1	V2	Molex 5195 or equivalent	Molex 5194 or equivalent
2,3	+5V		
4,5	COM		
6	V3		

※PIN2:+5V PIN3,4,5:COM only for PT-65D

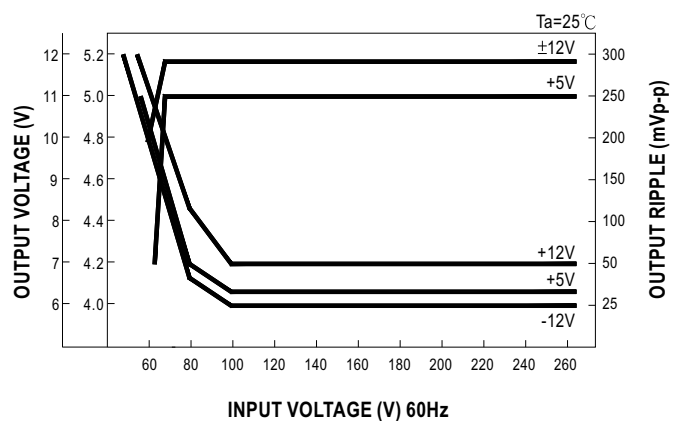
Block Diagram

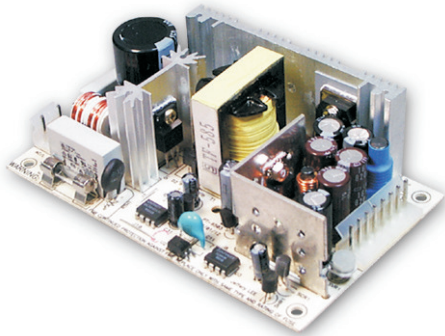


Output Derating



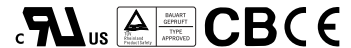
Static Characteristics (B)





■ Features :

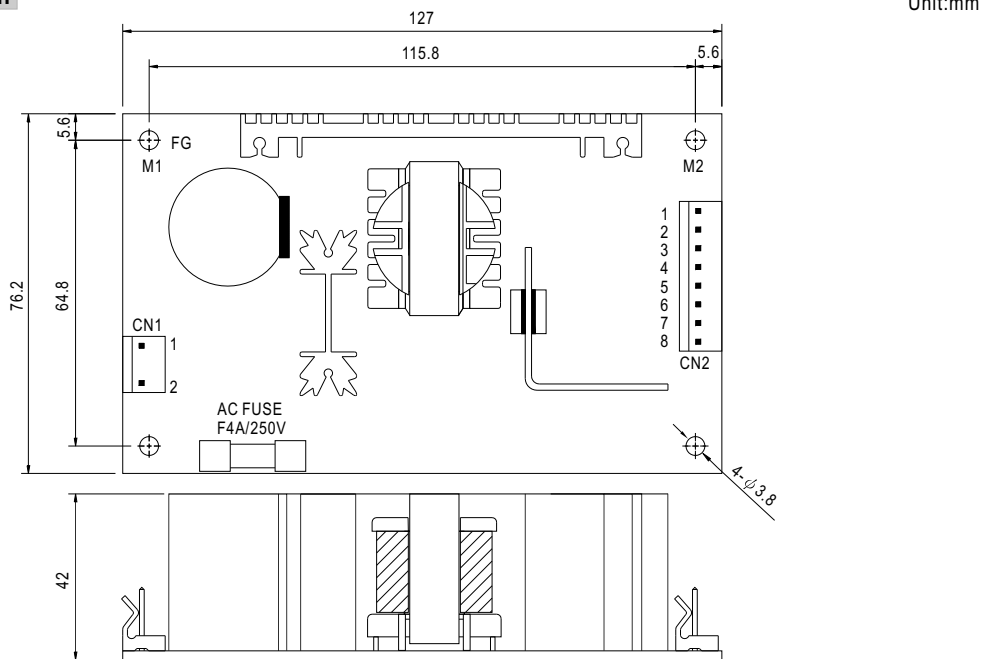
- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fixed switching frequency at 65KHz
- 2 years warranty



SPECIFICATION

MODEL		PT-6503		
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3
	DC VOLTAGE	3.3V	5V	12V
	RATED CURRENT	6A	6A	1A
	CURRENT RANGE	0 ~ 7A	0.2 ~ 10A	0 ~ 1.2A
	RATED POWER	Total power max. 61.8W(CH1+CH2 max. 54W)		
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	CH1: 3 ~ 3.6V		
	VOLTAGE TOLERANCE Note.3	±3.0%	+4,-2%	±8.0%
	LINE REGULATION	±1.0%	±1.0%	±2.0%
	LOAD REGULATION	±3.0%	±3.0%	±8.0%
SETUP, RISE TIME	800ms, 50ms at full load			
HOLD TIME (Typ.)	60ms at full load			
INPUT	VOLTAGE RANGE	90 ~ 264VAC	127 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz		
	EFFICIENCY (Typ.)	72%		
	AC CURRENT (Typ.)	1.8A/115VAC	0.9A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 20A/115V	40A/230V	
	LEAKAGE CURRENT	<1mA / 240VAC		
PROTECTION	OVER LOAD	120 ~ 160% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed		
	OVER VOLTAGE	5.75 ~ 6.75V on +5V Protection type : Hiccup mode, recovers automatically after fault condition is removed		
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, Period for 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 1min.		
	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 EN61000-4-2,3,4,5,6,11 Light industry level, criteria A		
	MTBF	222Khrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	127*76.2*42mm (L*W*H)		
NOTE	PACKING	0.28Kg; 54pcs/16.2Kg/1.35CUFT		
	<p>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. Mounting holes M1 and M2 should be grounded for EMI purposes.</p>			

Mechanical Specification



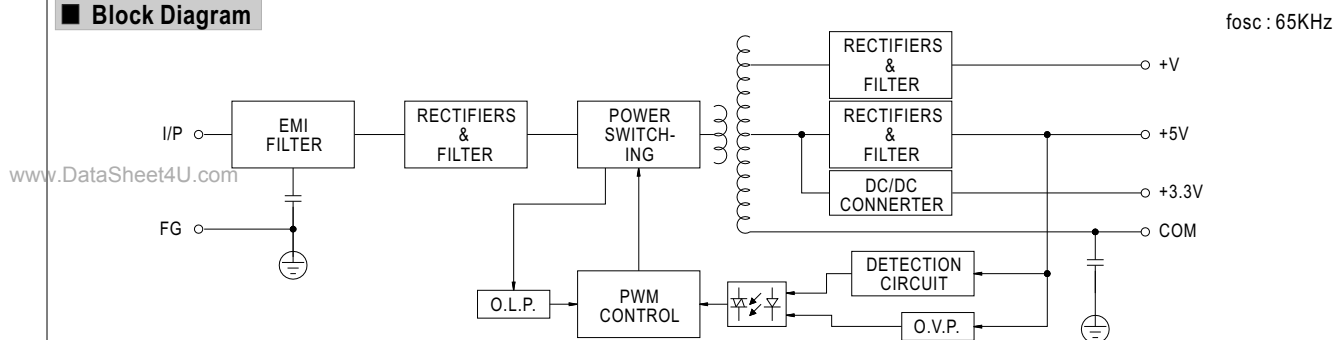
AC Input Connector (CN1) : Molex 5277-02 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	Molex 5195 or equivalent	Molex 5194 or equivalent
2	AC/L	Molex 5195 or equivalent	Molex 5194 or equivalent

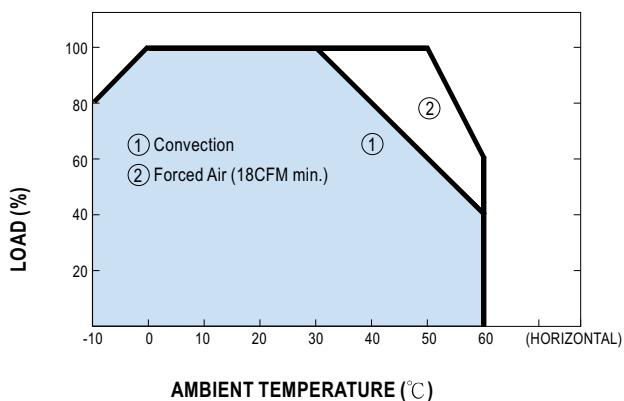
DC Output Connector (CN2) : Molex 5273-08 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	+5V	Molex 5195 or equivalent	Molex 5194 or equivalent
3,4,5	COM		
6	+V		
7,8	+3.3V		

Block Diagram



Output Derating



Static Characteristics

