



# MEAN WELL

## SWITCHING POWER SUPPLY

ISO-9001 CERTIFIED MANUFACTURER

## MPS-45 SERIES

- .LOW COST, HIGH RELIABILITY
- .105°C OUTPUT CAPACITOR
- .INTERNATIONAL AC INPUT RANGE
- .HIGH EFFICIENCY, LOW WORKING TEMPERATURE
- .SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT
- .SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED
- .COMPACT SIZE, LIGHT WEIGHT
- .100% FULL LOAD BURN-IN TEST
- .BUILT IN EMI FILTER, LOW RIPPLE NOISE



MODEL	MPS-45 -3.3	MPS-45 -5	MPS-45 -7.5	MPS-45 -12	MPS-45 -13.5	MPS-45 -15	MPS-45 -24	MPS-45 -27	MPS-45 -48
DC OUTPUT VOLTAGE	3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V
OUTPUT V. TOLERANCE	±3%	±3%	±3%	±2%	±2%	±2%	±2%	±2%	±2%
OUTPUT RATED CURRENT	8A	8A	5.4A	3.7A	3.3A	3A	1.9A	1.7A	1A
OUTPUT MIN. CURRENT	0A	0A	0A	0A	0A	0A	0A	0A	0A
OUTPUT MAX. CURRENT	10.7A	10.5A	7A	4.4A	3.9A	3.5A	2.2A	1.95A	1.1A
RIPPLE & NOISE (Vp-p)	80m	100m	100m	100m	100m	100m	100m	100m	100m
LINE REGULATION	±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%
LOAD REGULATION	±3%	±3%	±3%	±2%	±2%	±2%	±2%	±2%	±2%
RATED OUTPUT POWER	26.4W	40W	40.5W	44.4W	44.6W	45W	45.6W	45.9W	48W
MAXIMUM OUTPUT POWER	52W (+3.3V:35W) WITH 18 CFM MIN. FORCED AIR CONVECTION								
EFFICIENCY	65%	72%	75%	76%	76%	77%	78%	78%	78%
DC VOLTAGE ADJ.	±10%								
INPUT VOLTAGE RANGE	90-264VAC 47-440Hz ; 127-370VDC								
AC CURRENT	1.2A/115V 0.7A/230V								
INRUSH CURRENT	COLD START 20A/115V 40A/230V								
LEAKAGE CURRENT	<0.3mA/264VAC								
OVERLOAD PROTECTION	53-75W (3.3V:36-55W) TYPE:PULSING HICCUP SHUTDOWN RESET:AUTO RECOVERY								
OVER VOLTAGE PROTECTION	115%-135%								
TEMP. COEFFICIENT	±0.04% / °C (0-50°C)								
SETUP, RISE, HOLD UP TIME	800ms, 30ms, 20ms/230VAC 1.2s, 30ms, 12ms/115VAC								
VIBRATION	10-500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES								
WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC								
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:500VDC / 100M Ohms								
WORKING TEMP., HUMIDITY	-10°C~+60°C(REFER TO OUTPUT DERATING CURVE), 20%-90% RH								
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%-95% RH								
DIMENSION	127*76.2*30mm (L*W*H) PCB ONLY								
WEIGHT	0.23Kgs								
SAFETY STANDARDS	UL2601-1, EN60601-1 APPROVED								
EMC STANDARDS	CISPR11 (EN55011), IEC61000-4-2,3,4,5,6,8,11 IEC61000-3-2,3 EN60601-1-2 VERIFICATION								

- NOTE :
- 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
  - 2.TOLERANCE GINCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
  - 3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1µF & 47µF CAPACITOR.
  - 4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
  - 5.MOUNTING HOLES M1 AND M2 SHOULD BE GROUNDED FOR EMI PURPOSES.



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## SWITCHING POWER SUPPLY

ISO-9001 CERTIFIED MANUFACTURER

## MPD-45 SERIES

- .LOW COST, HIGH RELIABILITY
- .105°C OUTPUT CAPACITOR
- .INTERNATIONAL AC INPUT RANGE
- .HIGH EFFICIENCY, LOW WORKING TEMPERATURE
- .SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT
- .SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED
- .COMPACT SIZE, LIGHT WEIGHT
- .100% FULL LOAD BURN-IN TEST
- .BUILT IN EMI FILTER, LOW RIPPLE NOISE



MODEL	MPD-45A		MPD-45B	
	CH1	CH2	CH1	CH2
SPECIFICATION				
DC OUTPUT VOLTAGE	5V	12V	5V	24V
OUTPUT V. TOLERANCE	±4%	±7%	±4%	±7%
OUTPUT RATED CURRENT	3.2A	2A	3.2A	1.2A
OUTPUT MIN. CURRENT	0.4A	0.2A	0.4A	0.2A
OUTPUT MAX. CURRENT	5A	2.5A	5A	1.8A
RIPPLE & NOISE	60mVp-p	120mVp-p	60mVp-p	150mVp-p
LINE REGULATION	±1%	±2%	±1%	±2%
LOAD REGULATION	±3%	±4%	±3%	±4%
RATED OUTPUT POWER	40W		44.8W	
MAXIMUM OUTPUT POWER	52W WITH 18 CFM MIN. FORCED AIR CONVECTION			
EFFICIENCY	76%		78%	
DC VOLTAGE ADJ.	CH1:±10%		CH1:±10%	
INPUT VOLTAGE RANGE	90-264VAC 47-440Hz ; 127-370VDC			
AC CURRENT	1.2A/115V 0.7A/230V			
INRUSH CURRENT	COLD START 20A/115V 40A/230V			
LEAKAGE CURRENT	<0.3mA/264VAC			
OVERLOAD PROTECTION	53-75W OUTPUT POWER TYPE:PLUSING HICCUP SHUTDOWN RESET:AUTO RECOVERY			
OVER VOLTAGE PROTECTION	5.75-6.75VDC ON CH1			
TEMP. COEFFICIENT	±0.04% / °C (0-50°C) ON +5V OUTPUT			
SETUP, RISE, HOLD UP TIME	800ms, 20ms, 20ms/230VAC 800ms, 20ms, 12ms/115VAC			
VIBRATION	10-500Hz, 2G 10min./1cycle, PERIOD FOR 60min. EACH AXES			
WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC			
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:500VDC / 100M Ohms			
WORKING TEMP., HUMIDITY	-10°C~+60°C(REFER TO OUTPUT DERATING CURVE), 20%-90% RH			
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%-95% RH			
DIMENSION	127*76.2*30mm (L*W*H) PCB ONLY			
WEIGHT	0.23Kgs			
SAFETY STANDARDS	UL2601-1, EN6060-1 APPROVED			
EMC STANDARDS	CISPR11 (EN55011), IEC61000-4-2,3,4,5,6,8,11 IEC61000-3-2,3 EN60601-1-2 VERIFICATION			

- NOTE :
- 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
  - 2.TOLERANCE GINCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
  - 3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
  - 4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
  - 5.EACH OUTPUT PROVIDE UP TO MAXIMUM CURRENT, BUT TOTAL LOAD CAN NOT EXCEED MAX. OUTPUT POWER.
  - 6.MOUNTING HOLES M1 AND M2 SHOULD BE GROUNDED FOR EMI PURPOSES.



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ISO-9001 CERTIFIED MANUFACTURER

## MPT-45 SERIES

- .LOW COST, HIGH RELIABILITY
- .105°C OUTPUT CAPACITOR
- .INTERNATIONAL AC INPUT RANGE
- .HIGH EFFICIENCY, LOW WORKING TEMPERATURE
- .SOFT-START CIRCUIT, LIMITING AC SURGE CURRENT
- .SHORT CIRCUIT, OVERLOAD, OVER VOLTAGE PROTECTED
- .COMPACT SIZE, LIGHT WEIGHT
- .100% FULL LOAD BURN-IN TEST
- .BUILT IN EMI FILTER, LOW RIPPLE NOISE

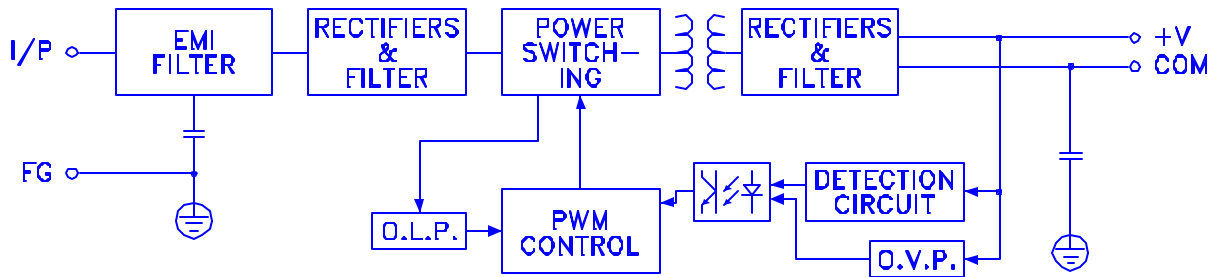


SPECIFICATION	MPT-45A			MPT-45B			MPT-45C		
	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3
DC OUTPUT VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V
OUTPUT V. TOLERANCE	±4%	±7%	±5%	±4%	±7%	±5%	±4%	±7%	±5%
OUTPUT RATED CURRENT	3A	2A	0.3A	3A	2A	0.3A	3A	1.6A	0.3A
OUTPUT MIN. RANGE	0.4A	0.2A	0A	0.4A	0.2A	0A	0.4A	0.2A	0A
OUTPUT MAX. RANGE	5A	2.5A	0.5A	5A	2.5A	0.5A	5A	2.3A	0.5A
RIPPLE & NOISE (Vp-p)	60m	120m	60m	60m	120m	100m	60m	120m	100m
LINE REGULATION	±1%	±2%	±1%	±1%	±2%	±1%	±1%	±2%	±1%
LOAD REGULATION	±3%	±4%	±1%	±3%	±4%	±1%	±3%	±4%	±1%
RATED OUTPUT POWER	40.5W			42.6W			43.5W		
MAXIMUM OUTPUT POWER	52W WITH 18 CFM MIN. FORCED AIR CONVECTION								
EFFICIENCY	73%			75%			75%		
DC VOLTAGE ADJ.	CH1:±10%			CH1:±10%			CH1:±10%		
INPUT VOLTAGE RANGE	90-264VAC 47-440Hz ; 127-370VDC								
AC CURRENT	1.2A/115V 0.7A/230V								
INRUSH CURRENT	COLD START 20A/115V 40A/230V								
LEAKAGE CURRENT	<0.3mA/264VAC								
OVERLOAD PROTECTION	53-75W OUTPUT POWER TYPE:PULSING HICCUP SHUTDOWN RESET:AUTO RECOVERY								
OVER VOLTAGE PROTECTION	5.75-6.75VDC ON CH1								
TEMP. COEFFICIENT	±0.04% / °C (0-50°C) ON +5V OUTPUT								
SETUP,RISE,HOLD UP TIME	800ms, 20ms, 20ms/230VAC 800ms, 20ms, 12ms/115VAC								
VIBRATION	10-500Hz, 2G 3AXES 10min. / 1cycle ( 1 HOUR / EACH AXES )								
WITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC 1min.								
ISOLATION RESISTANCE	I/P-O/P,I/P-FG,O/P-FG:500VDC / 100M Ohms								
WORKING TEMP., HUMIDITY	-10°C~+60°C(REFER TO OUTPUT DERATING CURVE), 20%-90% RH								
STORAGE TEMP., HUMIDITY	-20°C~+85°C, 10%-95% RH								
DIMENSION	127*76.2*30mm (L*W*H) PCB ONLY								
WEIGHT	0.23Kgs								
SAFETY STANDARDS	UL2601-1, EN60601-1 APPROVED								
EMC STANDARDS	CISPR11 (EN55011), IEC61000-4-2,3,4,5,6,8,11 IEC61000-3-2,3 EN60601-1-2 VERIFICATION								

- NOTE :
- 1.ALL PARAMETERS ARE SPECIFIED AT 230VAC INPUT, RATED LOAD, 25°C 70% RH. AMBIENT.
  - 2.TOLERANCE INCLUDE SET UP TOLERANCE, LINE REGULATION, LOAD REGULATION.
  - 3.RIPPLE & NOISE ARE MEASURED AT 20MHz BY USING A 12" TWISTED PAIR TERMINATED WITH A 0.1uF & 47uF CAPACITOR.
  - 4.LINE REGULATION IS MEASURED FROM LOW LINE TO HIGH LINE AT RATED LOAD.
  - 5.MOUNTING HOLES M1 AND M2 SHOULD BE GROUNDED FOR EMI PURPOSES.

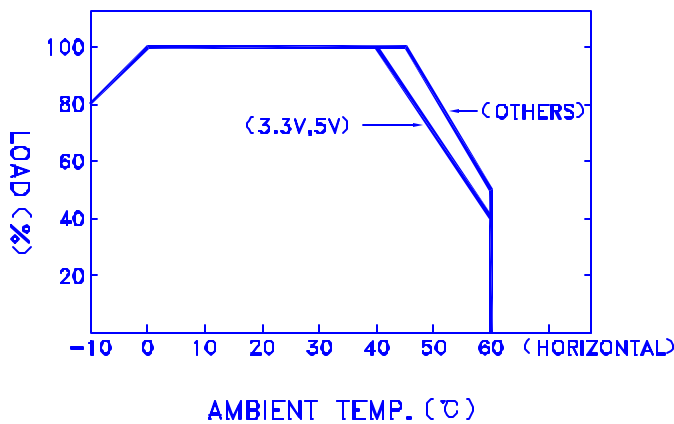
2002-03-21

## BLOCK DIAGRAM

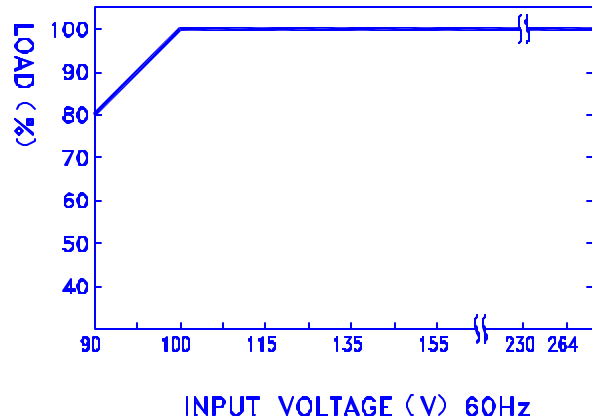


fosc : 45KHz

## OUTPUT DERATING



## STATIC CHARACTERISTICS



## DIMENSION (mm)

### ☒ TERMINAL PIN NO. ASSIGNMENT

☒ CN1 : MOLEX 5277-02

PIN 1,2 : AC INPUT

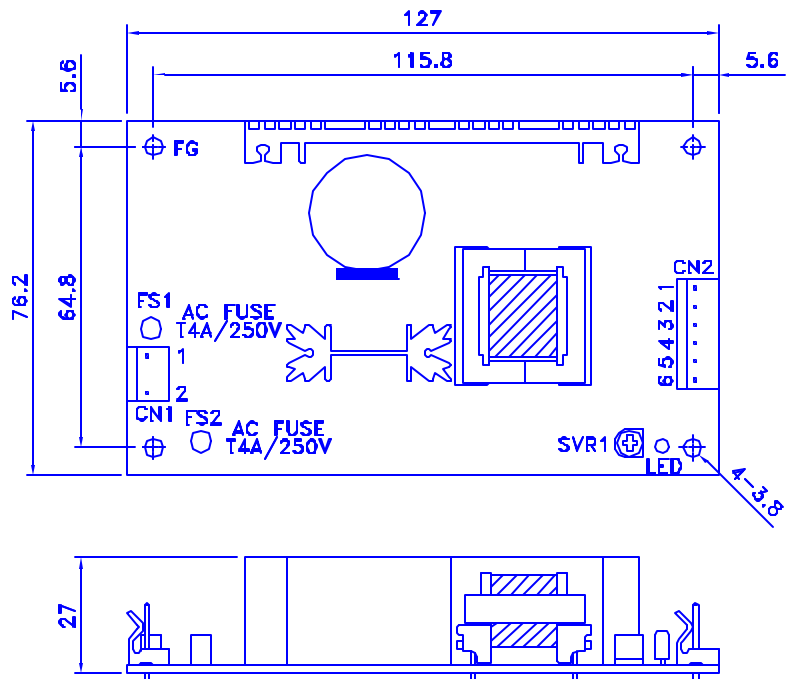
☒ CN2 : MOLEX 5273-06

PIN 1,2,3 : DC OUTPUT +V

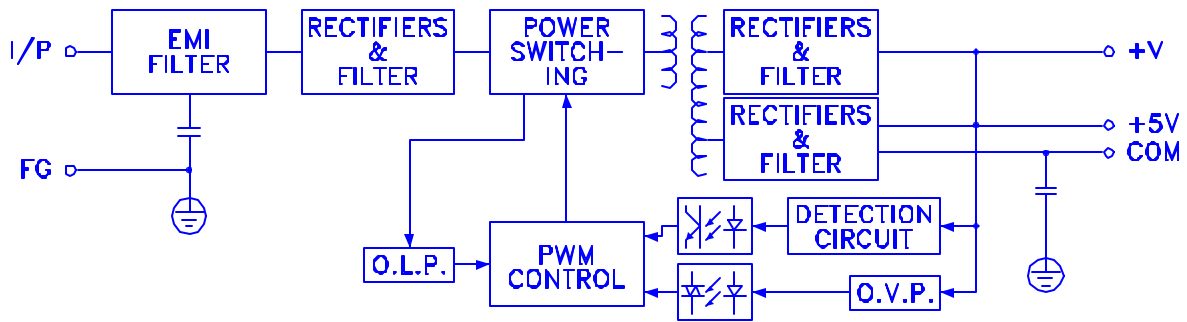
PIN 4,5,6 : DC OUTPUT GND

### ☒ MATING CONNECTORS

☒ CN1,2 MATING CONNECTOR TYPE MOLEX 5195 AND 5239 SERIES OR EQUIVALENT WITH MOLEX 5194 AND 5225 OR EQUIVALENT CRIMP TERMINALS.

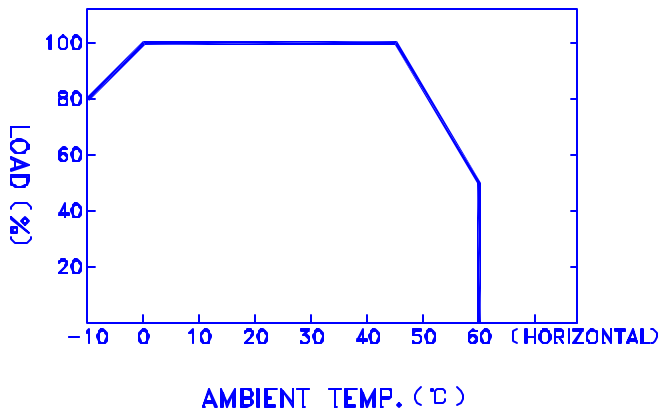


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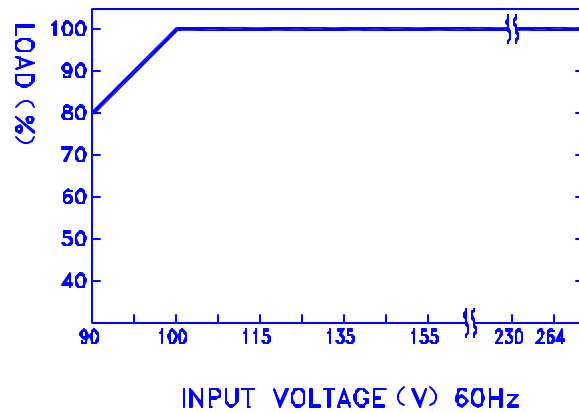


fosc : 45KHz

## OUTPUT DERATING



## STATIC CHARACTERISTICS



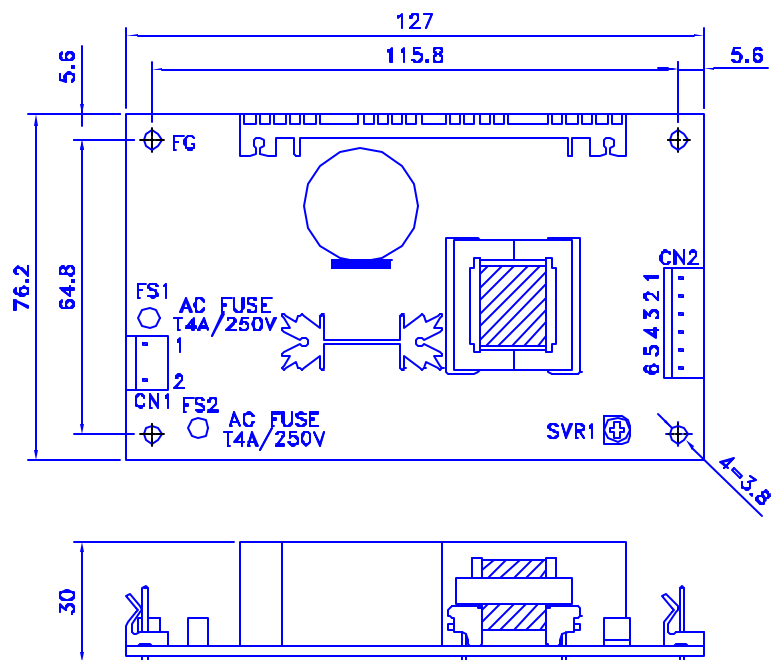
## DIMENSION (mm)

### ☒ TERMINAL PIN NO. ASSIGNMENT

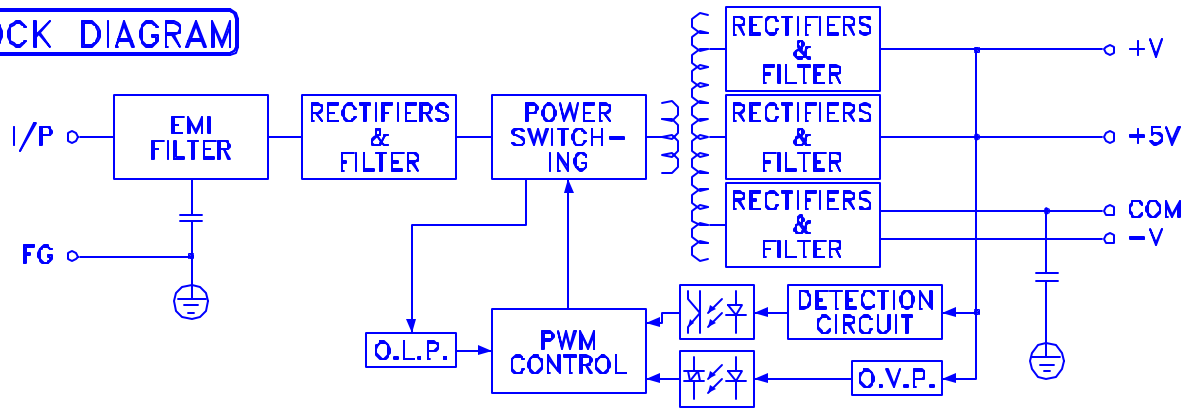
- ☒ CN1 : MOLEX 5277-02  
PIN 1,2 : AC INPUT
- ☒ CN2 : MOLEX 5273-06  
PIN 1 : DC OUTPUT +V  
PIN 2,3 : DC OUTPUT +5V  
PIN 4,5 : DC OUTPUT COM  
PIN 6 : DC OUTPUT N.C.

### ☒ MATING CONNECTORS

- ☒ CN1,2 MATING CONNECTOR TYPE MOLEX 5195 AND 5239 SERIES OR EQUIVALENT WITH MOLEX 5194 AND 5225 OR EQUIVALENT CRIMP TERMINALS.

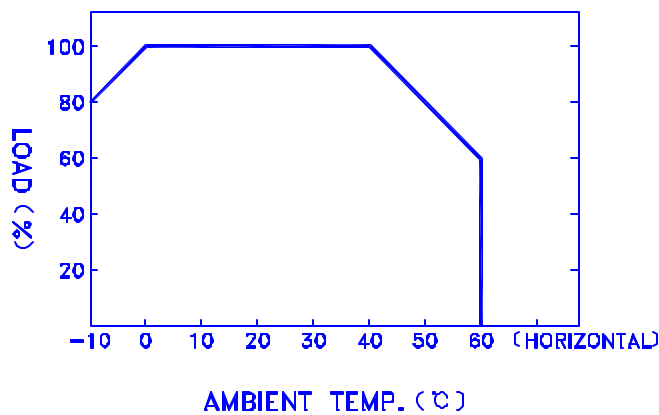


## BLOCK DIAGRAM

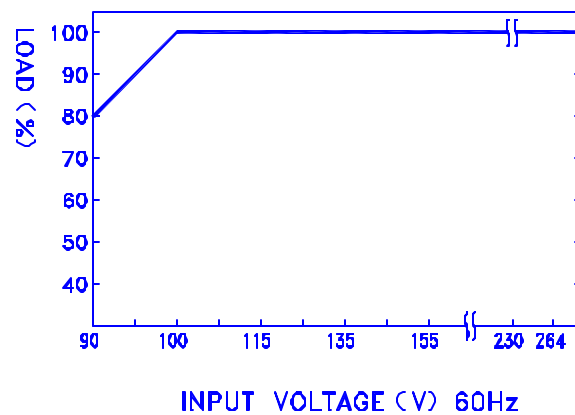


fosc : 45KHz

## OUTPUT DERATING



## STATIC CHARACTERISTICS



## DIMENSION (mm)

### ☒ TERMINAL PIN NO. ASSIGNMENT

- ☒ CN1 : MOLEX 5277-02  
PIN 1,2 : AC INPUT
- ☒ CN2 : MOLEX 5273-06
  - ☒ PIN 1 : DC OUTPUT +V
  - ☒ PIN 2,3 : DC OUTPUT +5V
  - ☒ PIN 4,5 : DC OUTPUT COM
  - ☒ PIN 6 : DC OUTPUT -V

### ☒ MATING CONNECTORS

- ☒ CN1,2 MATING CONNECTOR TYPE MOLEX 5195 AND 5239 SERIES OR EQUIVALENT WITH MOLEX 5194 AND 5225 OR EQUIVALENT CRIMP TERMINALS.

