MCHQ80VxA series

80W LED Switching Power Supply (CV+CC) with output voltage and current level adjustment



Features:

- Universal AC input / Full range (Max. 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Cooling by free air convection
- Built-in active PFC function
- IP65 design for indoor and outdoor appliances
- Compliance to worldwide regulations for lighting
- Output voltage and constant current level adjustable by internal potentiometers



ELECTRICAL SPECIFICATION

MODEL	MCHQ80V12A	MCHQ80V24A	
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Rated Voltage	12V	24V	
Constant Current Region [2]	6 ÷ 12V	12 ÷ 24V	
Rated Current	6.7A	3.33A	
Rated Power	80.4W	79.92W	
No Output Voltage (max.)	15V	29V	
Voltage Adjustment Range – Vadj potentiometer	8 ÷ 13.5V	22 ÷ 27V	
Current Adjustment Range – ladj potentiometer	3.5 ÷ 6.7A	1.6 ÷ 3.33A	
Line Regulation	± 1%		
Load Regulation	± 3%		
Voltage Tolerance [3]	± 3%		
Current Tolerance [3]	± 5%		
Ripple & Noise (max.) [4]	150mV _{P-P}	280mV _{P-P}	
Setup, Rise, Holdup time [5]	500ms, 30ms, 30ms		
INPUT			
Voltage Range	90 ÷ 305VAC		
Frequency Range	47 ÷ 63Hz		
Power Factor (typ.)	PF > 0.98 / 115VAC; PF > 0.95 / 230VAC at full load		
Efficiency (typ.)	88%	89%	
AC current (typ.)	1.0A / 115VAC; 0.5A / 230VAC		
Inrush current (max.)	80A / 230VAC(25°C)		

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PROTECTIONS			
Over Current	Range: 105 ÷ 130%		
	Type: constant current limiting to 50% rated voltage next hiccup mode. Recovers automatically after fault condition is removed.		
Short Circuit	Type: hiccup mode. Recovers automatically after fault condition is removed.		
Over Voltage	Max. 18V	Max. 35V	
	Type: shut down output voltage. Re-power on to recovery.		
Over Temperature	Range: 110°C ± 10°C		
	Type: shut down output voltage. After temperature goes down re-power on to recovery.		
WORKING ENVIRONMENT			
Working Temperature	-40°C ÷ 70°C (refer to Derating Curve)		
Working Humidity	15 ÷ 95% RH non-condensing		
Storage Temperature and Humidity	-40°C ÷ 80°C, 10 ÷ 95% RH non-condensing		
Temperature Coefficient	± 0.05% / °C (-10°C ÷ 45°C)		
Vibration	10 ÷ 500Hz, 2G, 10min / cycle, period 30min. each along X, Y, Z axes		
SAFETY AND EMC REGULATIONS			
Safet Standards	Compliance to EN61347-1, EN61347-2-13		
Withstand Voltage	IN/OUT: 5.3kVDC/1min		
Isolation Resistance	IN/OUT; IN/GND; OUT/GND: 50MΩ/500VDC/25°C/70%		
EMC Emission	Compliance to EN55015		
EMC Immunity	Compliance to EN61547; EN61000-4-2, -3, -4, -5, -6, -8, -11; EN55024		
Harmonic Current	Compliance to EN61000-3-3; EN61000-3-2 class C (\geq 100% load)		
OTHERS			
MTBF	43 800h MIL-HDBK-217F (25°C)		
Dimensions	172.4 x 61.5 x 36.5mm (L x W x H)		

Weight and Packing

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.

2. Constant current operation region is within announced range. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.

0.7kg; 15pcs./box; box weight and dimensions: 10.5kg, 30.6 x 22.5 x 27cm

3. Tolerance incudes set up tolerance, line regulation and load regulation.

4. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF i 47µF parallel capacitor.

5. Setup and rise time is measured from 0 to 90% rated output voltage.

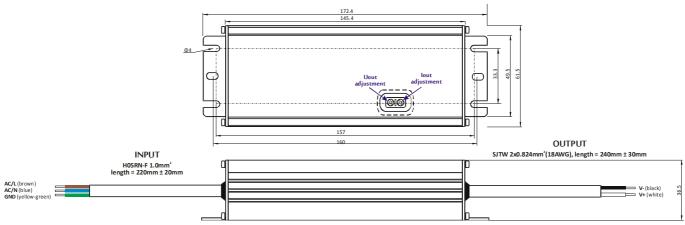
6. Power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment must be re-qualify to comply with EMC Directives.

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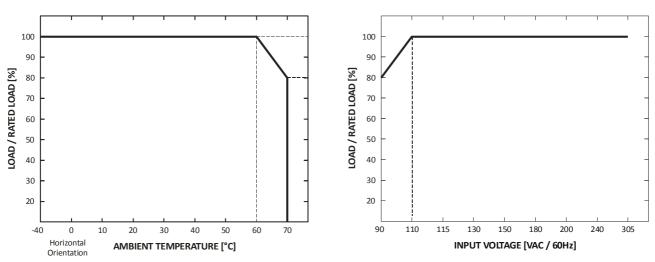


MECHANICAL SPECIFICATION

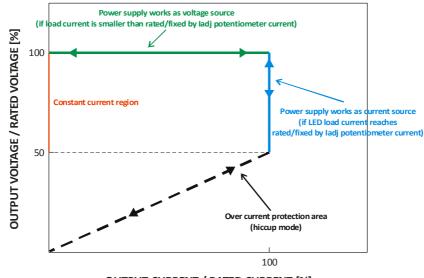


DERATING CURVE

STATIC CHARACTERISTIC



CONSTANT VOLTAGE + CONSTANT CURRENT MODE OPERATION



OUTPUT CURRENT / RATED CURRENT [%]