電氣規格書

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FSP50-5000HL2

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SPECIFICATION

FSP50-5000HL2

R&D	CHECK	APPROVED	REV.
Along	M.H	H.B	1.0

1. SCOPE

The FSP50-5000HL2 is a 50 watts isolated power supply with single output constant current and auto dimming. It could be used in LED lighting products.

2. FEATURE

All products delivered will meet all the requirements as outlined in the document. The basic requirements of the design features are listed below:

* Output (Vf) forward voltage: 50 ~ 100V
* Build in constant current circuit.
* Short circuit protection / power limiting/over voltage protection/over temperature protection.
* High reliability

3. MECHANICAL REQUIREMENTS

3.1 Power Supply Dimension Constraints

447.4mm (L)* 78.4mm (W)* 66.0mm (H)

(For detail mechanical size, please check the outline drawing.)

3.2 Power Supply Connecters

Primary:

Pin number	Output Name
P1__L1	Line-1
P2__L2	Line-2
P3__N	Neutral
P5	UART Tx Signal
P6	UART Rx Signal
P7	-
P8	UART GND

Secondary: CN3

Pin number	Output Name
1	SGND
2	LED+ (Connect to LED High) & V_{EXT}
3	R_Code & Rx
4	LED- (Connect to LED Return)
5	NTC & Tx

4. ELECTRICAL REQUIREMENTS

4.1 Input AC

4.1.1 Input Voltage

Minimum	Nominal	Maximum	Unit
198	230	264	V_{AC}

4.1.2 Input Frequency

Minimum	Nominal	Maximum	
47	50/60	63	Hz

4.1.3 Input Power Factor

0.98,@ 198Vac input & full load.
0.95,@ 230Vac input & full load.
0.90,@ 264Vac input & full load.

4.2 DC Output

4.2.1 Output Currents and Loads

They are measured at the load end of connected cables.

Table.1 SMPS load limits

Signal Name	**Constant Current (mA)**			**Voltage (V)**		
Output for LED forward	I min.	I normal	I max.	V min.	V typ.	V max.
	532	560	588	50.0	80.0	100.0

Note: The no load output voltage should be less than 120V at any AC input condition.

Table.2 Current range

Dimming Signal	**100%**			**10%**		
Chroma 6300 serial LEDL mode (mA)	I min.	I normal	I max.	I min.	I normal	I max.
	532	560	588	52	56	60

4.3 Protection

4.3.1 Short Circuit Protection

DC output shall have short circuit protection. A short condition on any of DC outputs shall cause no damage to the power supply and shall have output short current ≦5A rms.

4.3.2 Fuse Protection

The fuse inside the power supply shall open when the AC input current is over the rated current of fuse. This fuse protection will cause switching power supply to fail.

4.3.3 Over Voltage Protection

Output voltage <160V, when output feedback system is abnormal.

4.4 Efficiency

90% typical. (It will be measured at the full load / nominal line / 25°C and after warm stable.)

4.5 Life

EC-Cap. Design Life : 50,000 hours. @230Vac & full load & ambient 25°C.

5. ENVIRONMENTAL REQUIREMENTS

5.1 Operating Temperature

Operating	-40°C	to +	55°C
Storage	-40°C	to +	70°C

Note : Thermal test must be done at nom. AC and at LED typical load.

5.2 Humidity (Non-condensing)

Operating	20%	to	85% RH
Storage	10%	to	95% RH

5.3 Hi-pot Test

Primary to Secondary : 3000VAC/ 1 minute & working current < 5.0mA .

5.4 Insulation Test

Insulation resistance : Primary to Secondary: 500Vdc, 25 M ohms min.

5.5 Leakage Current Test

Leakage current : Measured at 240Vac,50Hz, 0.25mA max.

6. INTERNATIONAL STANDARDS

6.1 EMI Standards

Designed to meet the following conducted limits:

EN55015

(Radiation must be tested with LED lighting.)

6.2 EMS Standards

6.2.1 Electrostatic Discharge Immunity Test :	IEC-61000-4-2	Contact 4KV & Air 8KV, Criteria B
6.2.2 EFT/Burst Immunity Test:	IEC-61000-4-4	4KV, Criteria B
6.2.3 Surge Immunity Test:	IEC-61000-4-5	10KV, Criteria B

The spec. change list

Item	Revision	Descriptions	Date
1	1.0	Initial spec. release	2017/12/20