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SPECIFICATION



ESD14004326

FSP30-ZZAP(050)M

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SPECIFICATION

FSP30-ZZAP(050)M

R&D	CHECK	APPROVED	REV.
MH	H.B	Bear	X1

1. SCOPE

The FSP30-ZZAP(050)M is a 30 watts isolated power supply with full-range input, single output, constant current and dimmable function. 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: 24 ~ 50V
- * Wide input range.
- * 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

148.0mm (L)* 40.0mm (W)* 30.0mm (H)
(For detail mechanical size, please check the outline drawing.)

3.2 Power Supply Connectors

Primary:

Pin number	Output Name
L (Brown)	Line
N (Blue)	Neutral

Secondary:

Pin number	Output Name
V+ (Red)	LED+ (Connect to LED High)
V- (Black)	LED- (Connect to LED Return)
Vadj+ (White)	Dimming Signal input (Linear signal controller/ 0~10 Volt.)
Vadj- (Purple)	Dimming Signal input (Linear signal controller/ GND)

4. ELECTRICAL REQUIREMENTS

4.1 Input AC

4.1.1 Input Voltage

Minimum	Nominal	Maximum	Unit
108	120/230/277	305	V _{AC}

4.1.2 Input Frequency

Minimum	Nominal	Maximum	
47	50/60	63	Hz

4.1.3 Input Power Factor

0.97, @ 120Vac input & full load.
 0.92, @ 230Vac input & full load.
 0.87, @ 277Vac 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

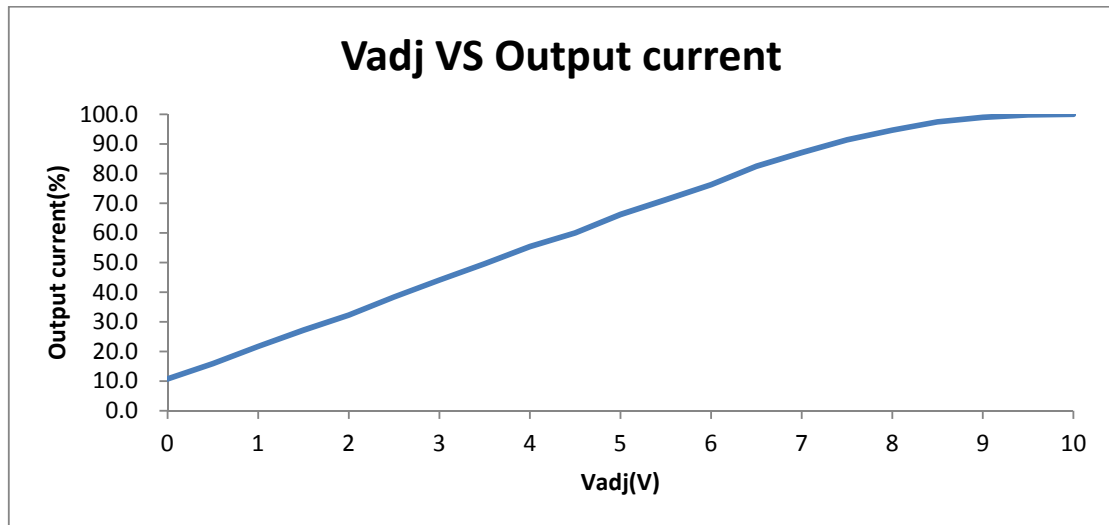
Signal Name	Constant Current (mA)			Voltage (V)		
	I min.	I normal	I max.	V min.	V typ.	V max.
Output for LED forward	475	500	525	24.0	--	50.0

Note: The no load output voltage should be less than 60V at any AC input condition.

Table.2 Current range

Dimming Signal	10 V (100%)			0 V (10%)		
	I min.	I normal	I max.	I min.	I normal	I max.
Chroma 6300 serial LEDL mode (mA)	475	500	525	---	50.0	---

4.2.2 Linear Signal Controller & Output Current Curve



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 $\leq 5A$ 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 $< 60.0V$, when output feedback system is abnormal.

4.4 Efficiency

88% 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. @100Vac/200Vac & full load & ambient 25°C.

5. ENVIRONMENTAL REQUIREMENTS

5.1 Operating Temperature

Operating -20°C to + 45°C

Storage -20°C to + 85°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 230Vac,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 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 1KV, Criteria B

(1) ±2KV/Common mode (2) ±1KV/Differential mode

The spec. change list

Item	Revision	Descriptions	Date
1	X1	Initial spec. release	12/27 '13