

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

CUSTOMER P. N. : _____

PRODUCT MODEL : JAMSP-ZA700IC72VO-050D

PRODUCT NO. : MFT0057-NO

SAMPLE DATE : 2013-06-01

CUSTOMER AUTHORIZED SIGNATURE		

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature.

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Revision History

Rev.	Description of Change		Changed Date	Notes
	Before	After		
A/0	Original Release	---	2013-06-01	---

Table Of Content

1.	Scope.....	4
2.	Input Characteristics.....	4
2.1.	Input Voltage & Frequency.....	4
2.2.	Input AC Current.....	4
2.3.	Inrush Current (cold start).....	4
2.4.	Power Factor.....	4
2.5.	Efficiency.....	4
3.	Output Characteristics.....	4
3.1.	Static Output Characteristics <Vo & R&N<5000mVp-p >.....	4
3.2.	Voltage/Current Curve.....	5
3.3.	Turn - on Delay Time.....	5
4.	Protection Requirements.....	5
4.1.	Short Circuit Protection.....	5
4.2.	Over Voltage Protection.....	5
5.	Environment Requirements.....	5
5.1.	Operating Temperature and Relative Humidity.....	5
5.2.	Storage Temperature and Relative Humidity.....	5
5.3.	Vibration.....	5
6.	Reliability Requirements.....	5
6.1.	Life Time Qualification.....	5
6.2.	MTBF Qualification.....	5
7.	Safety & EMI/EMS Standards.....	6
7.1.	Safety Category.....	6
7.2.	EMI Standards.....	6
7.3.	Energy Star Standards.....	6
7.4.	EMS Standards.....	6
8.	Main Safety Test Items.....	7
8.1.	Dielectric Strength(Hi-pot).....	7
8.2.	Leakage Current.....	7
8.3.	Insulation Resistance.....	7
9.	Derating Curve.....	7
10.	Dimming Explain.....	8
10.1.	Dimming sketch map shown as following.....	8
10.2.	Dimming Voltage/Current Proportion Curve:.....	8
11.	Mach. Outline Drawing.....	9
12.	I/O Marking Drawing.....	10

1. Scope

The document detail the electrical, mechanical and environmental specifications of a 50W constant current LED driver. The LED driver shall meet the RoHS requirement.

Description:

- LED driver (With AL Case) LED driver (With Plastic Case)
 Open Frame Others

2. Input Characteristics

2.1. Input Voltage & Frequency

The range of input voltage is from 90 to 305Vac single phase.

Items	Minimum	Nominal	Maximum
Input Voltage	90Vac	100-277Vac	305Vac
Input Frequency	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current

0.8Amax. @ 100-277Vac input & full load.

2.3. Inrush Current (cold start)

65Amax. @ 230Vac input 25°C.

2.4. Power Factor

Typical value is 0.95@110Vac input &100% load;

Typical value is 0.90@220Vac input &100% load.

2.5. Efficiency

Typical value is 83% @110Vac input & full load;

Typical value is 85% @220Vac input & full load.

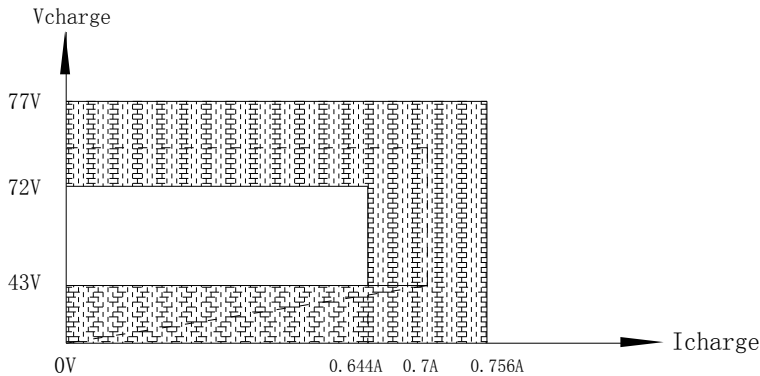
3. Output Characteristics

3.1. Static Output Characteristics <Vo & R&N<5000mVp-p >

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor.

(test under the condition of rated input and rated output)

3.2. Voltage/Current Curve



Constant Current Output Characteristics	Min.	Typ.	Max.
Output Current Range	0.644A	0.7A	0.756A
Output Voltage Range	43V	/	72V

3.3. Turn - on Delay Time

3.0S max. @ 100-277Vac input & full load.

4. Protection Requirements

4.1. Short Circuit Protection

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed.

4.2. Over Voltage Protection

When the output voltage is over $(1.2-1.4) V_{out}$, the product will shutdown and enter protection status, the driver will re-start and work normally if the fault condition was eliminated.

5. Environment Requirements

5.1. Operating Temperature and Relative Humidity

-25°C to +50°C;
5%RH to 95%RH.

5.2. Storage Temperature and Relative Humidity

-35°C to +70°C;
5% to 95%RH non-condensing at Sea level shall be low 10,000 feet.

5.3. Vibration

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.

6. Reliability Requirements

6.1. Life Time Qualification

The life time shall be at least 3 years at 110Vac input, 80% load and 45°C ambient temperature.

6.2. MTBF Qualification

The MTBF shall be at least 490,000 hours at 110Vac, 80% load and 25°C ambient temperature (MIL-HDBK-217F).

7. Safety & EMI/EMS Standards

7.1. Safety Category

Safety Category	Country	Standard
CUL	USA & Canada	UL8750, UL935, UL1012, UL1310 Class 2, CSA-C22. 2 No. 107. 1, CSA C22. 2 No. 223-M91 Class 2
CE	Europe	EN 61347-1, EN 61347-2-13

7.2. EMI Standards

EMI Standards	Country	Notes
EN 55015	Europe	Conducted emission Test & Radiated emission Test with 6 dB margin
FCC	USA	FCC Part 15 class B, ANSI C63. 4:2009

7.3. Energy Star Standards

Energy Star Standards	Notes
ANSI / IEEE C62. 41-1991	Transient protection, power supply shall comply with Class A operation. The line transient shall consist of seven strikes of a 100kHz ring wave, 2. 5kV level, for both common mode and differential mode

7.4. EMS Standards

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge(ESD): 8kV air discharge, 4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 1 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

8. Main Safety Test Items

8.1. Dielectric Strength(Hi-pot)

Primary to Secondary: 3750Vac 10mA Max / 60second(3second for production)/Finished goods

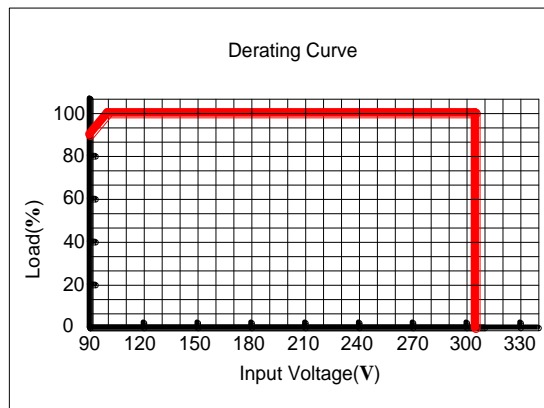
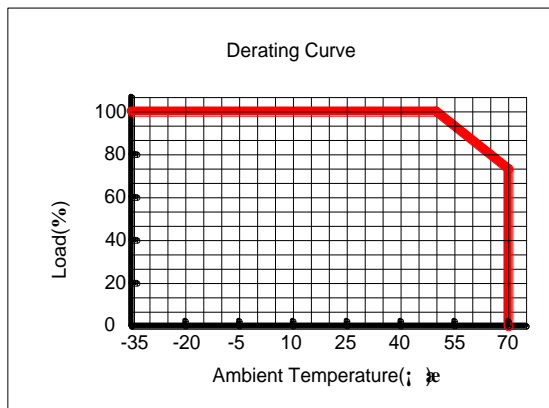
8.2. Leakage Current

0.5mA max. at 240Vac/50Hz input.

8.3. Insulation Resistance

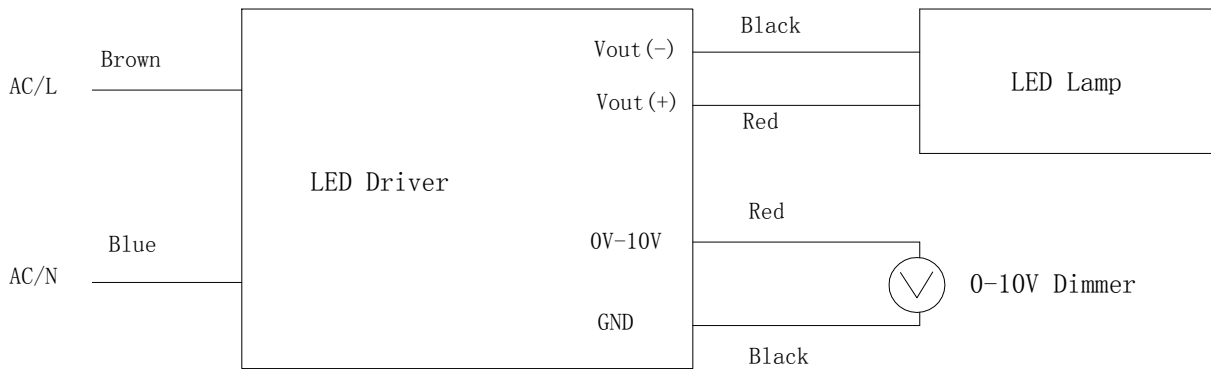
The IR shall be at least $50M\Omega$ when apply 500Vdc between primary and secondary.

9. Derating Curve



10. Dimming Explain

10.1. Dimming sketch map shown as following

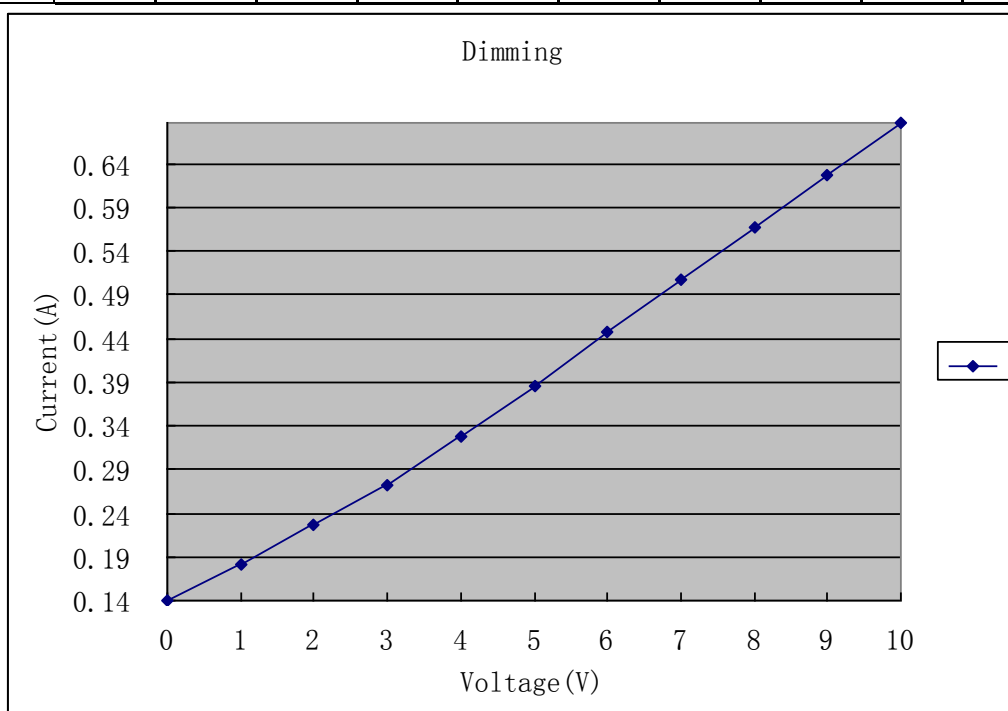


Notes:

- 1、 A 0-10V dimmer connected to DIM Port for achieving 20-100% brightness dimming by changing the voltage(0-10V) of Isense .
- 2、 One LED driver, one brightness controller control one LED lamp only.

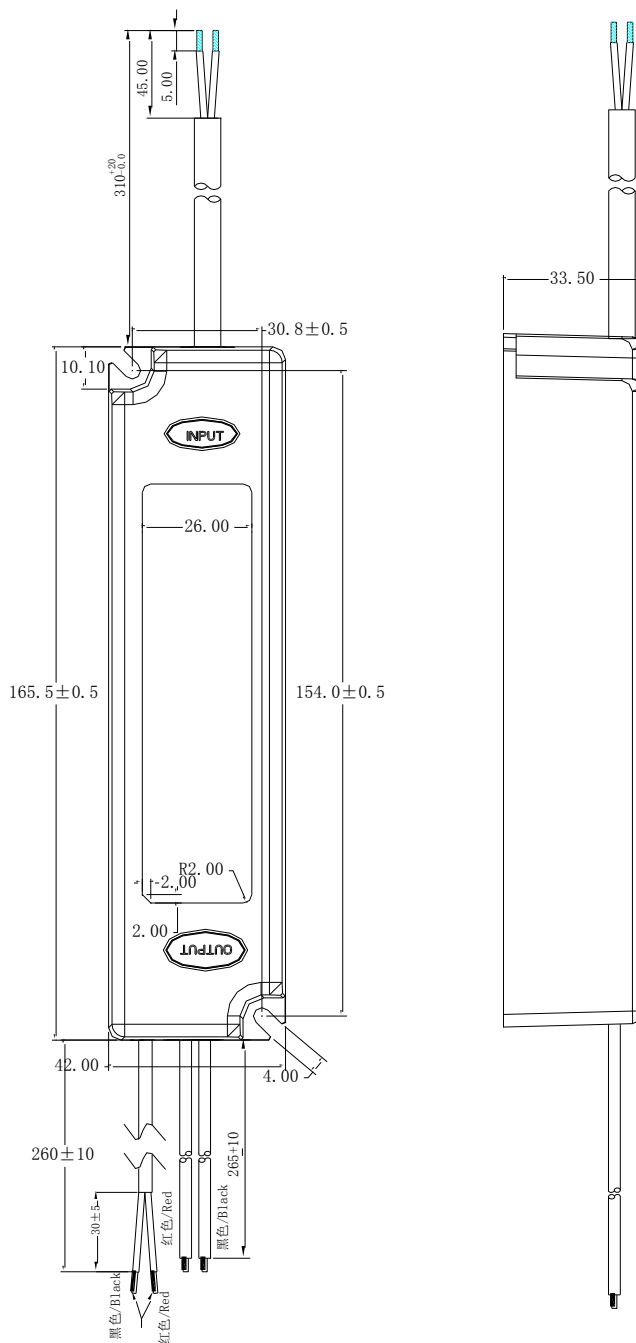
10.2. Dimming Voltage/Current Proportion Curve:

Dimming Voltage (V)	0	1	2	3	4	5	6	7	8	9	10
Dimming Current (A)	0.141	0.182	0.228	0.273	0.328	0.387	0.449	0.509	0.568	0.629	0.688



11. Mach. Outline Drawing

1. Tolerance: unmarked tolerance all is ± 0.5 , marked according to tolerance of it
2. Unit/单位: mm



Dimensions	Millimeters(Inches)
Length	165.5(6.52)
Width	42(1.65)
Height	33.5(1.32)

Wire	Specification
AC Input	2*1.0mm ² CCC+VDE
DC Output	UL1015 18AWG
Dimming	UL2464 20AWG

12. I/O Marking Drawing