LED CONVERTER for LED LIGHTING

Customer	
Customer Model	
Model	**WS050112WAA-PSR (REV 0.32)**

RoHS compliant

Wing On STS

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1 Application Extent

This specification defines the input, output, safety approval, environmental requirements of LED converter with constant current function.

2 Electrical Characteristics Specifications

2.1 Input Specifications

2.1.1 Input Voltage

TABLE 1. AC input requirements

Parameter	Minimum	Nominal	Maximum	Unit
Rated Input Voltage	100	200	242	VAC
Allowable input voltage	90	n/a	266.2	VAC
frequency	50	n/a	60	Hz

2.1.2 Maximum allowable input current

≤0.6 Arms at 100VAC input
≤0.3 Arms at 242VAC input

2.1.3 Maximum Inrush current

≤11 Arms at 100VAC input

2.1.4 Input over current protection

The fuse adopted to AC line should be authorized by official standards to protect the converter perfectly against input over current. The fuse should be slow-blow type or higher.

2.2 Output Specifications

2.2.1 Output over voltage and current restriction

Converter output voltage limits are specified in the following.

TABLE 2. Output voltage and current requirements

Description	Min.	Typical	Max.	Remark
Wattage	36.9W	45.92W	58.17W	
Voltage	100VDC	112 VDC	129 VDC	
Current	369mA	410mA	451mA	Typical ±10%

2.2.2 Output Current Setting

Adjust to VR1 to fit.
Setting Condition : 415 mA within 10 sec at 200 VAC (50 Hz)

2.2.3 Ripple & Noise

Converter Maximum ripple/noise level is specified as following. After 5 minutes operation the converter is tested, setting oscilloscope bandwidth = 20MHz, electrolytic condenser 50V/47uF and ceramic condenser 50V/0.1uF attached to output terminals.

TABLE 3. Current Ripple

Output		Wave Height	Remark
Voltage	Current		
+112VDC	410mA	2.5 under	Io MAX-Io MIN / Io RMS

2.2.4 Efficiency

The converter's efficiency tested at rated input conditions is 85% at least.

2.2.5 Power Factor

≥ 0.9 at Rated Input Voltage

2.3 Output protection

2.3.1 Short protection function

The converter should be protected when the output terminals are shorted for 1hour, and the short circuit is removed the converter should be normally operated.

2.3.2 No Load Operation

No damage or hazardous condition should occur with DC output connector disconnected from the load.

2.3.3 Over-Temperature Protection

The power supply shall be protected when over-Temperature occurs in converter. This protection shall be cleared by removing this abnormal condition.
THERMOSTAT (TH2) : Open :100°C±5°C / Reset : Working Temp. -30°C ±15°C

2.3.4 Over-voltage Protection

The power supply shall be protected when over-voltage occurs in output for 1hour. This protection shall be cleared by removing this abnormal condition or input power recycling. The voltage shall never exceed the maximum level when measured at the output connector. No damage can occur with this condition.

TABLE 3. Over-voltage Limit

Output Voltage	Lower	Upper
+112VDC	145VDC	160VDC

2.4 Input/output Spec.

2.4.1 Input Connector

- ACL/ACN : 0.55Φ, Nickel Wire with white shrinkable(GSHS-1625G)

2.4.2 Output Connector

LED+ : UL1333, White with white shrinkable(GSHS-1625G)
LED- : UL1333, Gray with white shrinkable(GSHS-1625G)

3 Environmental Requirements

3.1 Temperature and Humidity

TABLE 4. Temperature and Humidity

Operating	-20°C to +70°C (without Case) 20% to 90% non-condensing
Storage	-30°C to +85°C 20% to 90% non-condensing

4 Electromagnetic compatibility

The converter meets EMI standards specification in the customer's system environmental condition.

4.1 Conducted emission

It complies with electrical safety law of judgment criteria.

4.2 Radiation emission

It is measured at the insertion of the case and complies with electrical safety law of judgment criteria.

5 Power Frequency Harmonics (JIS C 61000-3-2, Class C)

The converter meets power frequency harmonics standards specification in the customer's

system environmental condition.

6 Safety Approval

Actual requirements is following the design rule and the converter meets standard approval specifications.

TABLE 6. Safety Standards

Safety	Standards	Country	Remark	Mark	Date
n/a	n/a	n/a	n/a	n/a	n/a

7 Reliability

7.1 Cooling

Cooling is done by natural convection.

7.2 Surge Test

The converter meets a surge that tests were conducted in accordance with EN61000-4-5

The test was performed as follows :

AC Line to Line : 4.0 kV

AC Line to P.E. : 15KV

8 Additional specifications

8.1 WARRANTY

Warranty period : the converter is guaranteed for 12 months after delivery date.

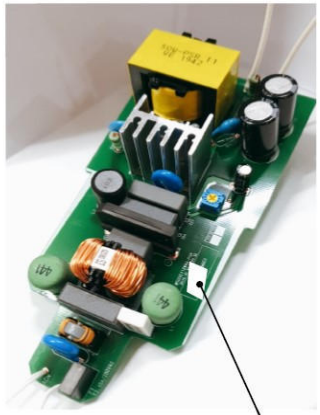
Responsibility for warranty is confined to a defective product's repair or one-on-one exchange to qualified product.

19 Product profile

Product profile Drawing

1. Unit : mm

SMPS



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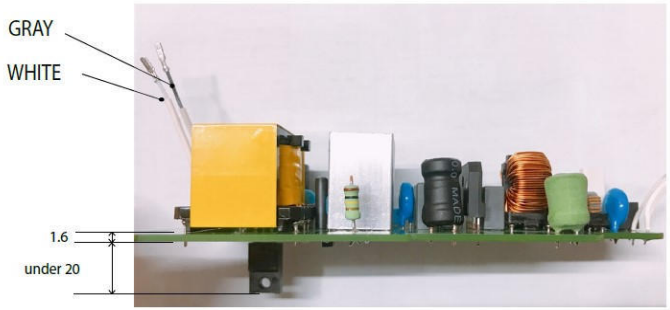
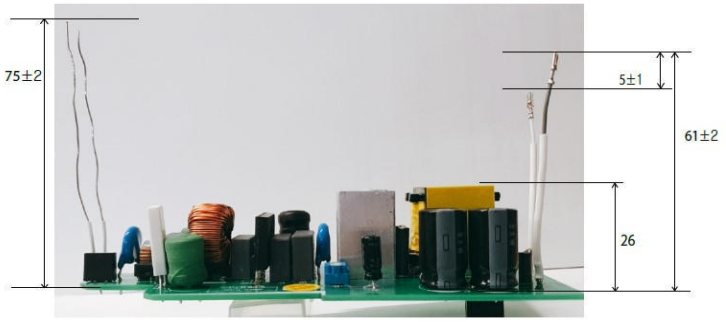




SYMBOL	PARTS NO.	Q.ty

REV./ DATE	Description	Sign

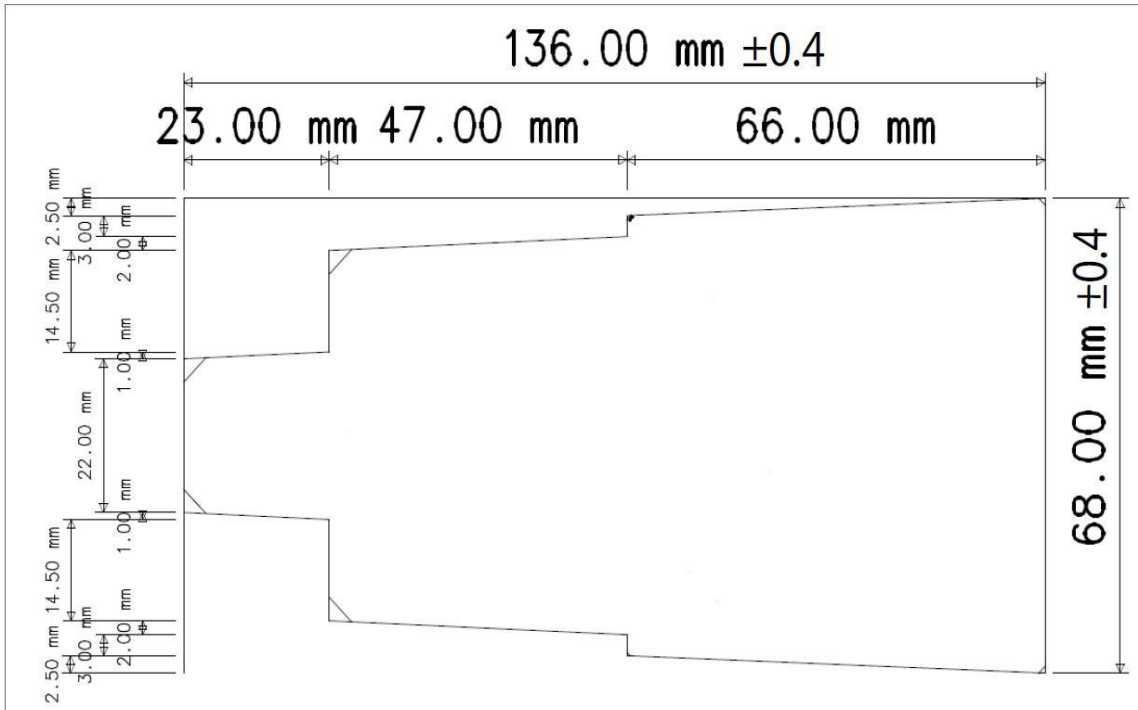
MODEL NO.		REV.	0.0	DATE	2020.01.16	CHARGE	DRAWING BY	B.R HAN
PART NO.	WS050112WAA-PSR	SCALE		MATERIAL	-		Approved BY	M.S.CHO

20 PCB Size

PCB Size

1. Unit : mm

SMPS



SYMBOL	PARTS NO.	Q.ty

REV./DATE	Description	Sign

MODEL NO.		REV.	0.0	DATE	2019.12.27	CHARGE	DRAWING BY	B.R.Han
PART NO.	WS050112WAA-PSR	SCALE		MATERIAL	-		Approved BY	M.S.CHO