



## 5V/1A Switching Power Adapter

P/N: ZDA050100EU-USB



### 1.0 Scope

This document including the electrical, mechanical and environmental specification is defined with input 100VAc ~ 240VAc, output +5V / 1A, total 5W.

### 2.0 Input Requirement

#### 2.1 Voltage

The range of input voltage is from 100VAc to 240VAc.

#### 2.2 Frequency

The range of input frequency is from 47Hz to 63Hz.

#### 2.3 Current

The maximum input current is 0.15A.

#### 2.4 Inrush Current

The inrush current will not exceed 30A.

### 3.0 Output Requirement

#### 3.1 Static Load

Output#	Voltage	Min. Load	Max. Load	Peak Load
1	+5.0V	0A	1000mA	



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### 3.2 Output Voltage

Output#	Voltage	Range	Tolerance
1	+5.0V	4.75 ~ 5.25	±5%

### 3.3 Ripple Noise

Output#	Voltage	Max. Peak to Peak Ripple Noise
1	+5.0V	100mVp-p

Measuring is done by 20MHz bandwidth oscilloscope and terminated each output with a 10uF capacitor and a 0.1uF capacitor.

### 3.4 Temperature Coefficient

±0.05%/°C typical on all outputs.

### 3.5 Turn on Delay

During turn on and turn off, no voltage shall exceed its nominal voltage by more than 10% and no output will change its polarity with respect to its return line. All output shall reach their steady state values within 3 seconds of turn on.

### 3.6 Hold – Up Time

10 microseconds minimum from loss of nominal AC input at full load condition, input 115VAc/50HZ, output will remain within regulation.

### 3.7 Efficiency

The efficiency (watts out / watts in) is higher than 65% typical while measuring at nominal line and rated load.



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### 3.8 Transient Response and Deviation

The power supply will meet all specifications and maintain output voltage regulation within 4% of steady state with up to a current change of 50% of maximum current in load for the putout #1 no output exceed the maximum rating set in output voltage table.

## 4.0 Protection Requirement

### 4.1 Over Voltage protection

The power supply shall be shutdown when +5.0V output voltage reaches to its over voltage protect trigger point +6.8V Max.

### 4.2 Over Current protection

No damage to the power supply shall be sustained when operating any output under any line condition, into an over load condition for an indefinite period of time. The power supply shall be self recovering when fault conditions remove.

### 4.3 Short Circuit protection

No damage to the power supply shall be sustained when operation any output under any line condition, into a short circuit condition for an indefinite period of time. The power supply shall be self recovering when fault conditions remove.



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## **5.0 Environmental Condition**

### **5.1 Operating**

The power supply shall be capable of operating continuously in any mode without performance deterioration in the following environmental condition.

5.1.1 Ambient Temperature: 0°C ~ 40°C

5.1.2 Relative Humidity: 10% ~ 90%

5.1.3 Altitude: Sea level to 10,000 feet

5.1.4 Vibration: 1.0mm, 10 – 25Hz, 15minutes per cycle for each axis (X,Y,Z)

5.1.5 Cooling: The power supply will operate with convection cooling. Locking of vents must not cause damage to the power supply.

### **5.2 Non Operating**

The power supply shall be capable of standing the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies.

5.2.1 Ambient Temperature: -20°C ~ +65°C

5.2.2 Relative Humidity: 10% ~ 90%

5.2.3 Altitude: Sea level to 10,000 feet

5.2.4 Vibration:

The power supply all be designed to with stand normal transportation vibration per MIL-STD-810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.



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## **6.0 International Standard**

### **6.1 EMI Standard**

The power supply meets the radiated and conducted emission requirements for EN55022 ClassB.

## **7.0 Reliability and Quality Control**

### **7.1 MTBF**

When the power supply is operation within any of the limits of the specification, the MTBF shall be at least 35,000 hours at 25°C .  
(MIL-HDK-217F)

### **7.2 Burn In**

The power supply will be performed a minimum for 4 hours burn in at 40°C±5°C .

### **7.3 Component Dating**

Semiconductor junction temperatures shall not exceed the manufactures maximum thermal rating.



## 8.0 Mechanical

### 8.1 Introduction

The power supply will provide input connectors as table 8.1

PIN#	Input Voltage
1	L
2	N

Table 8.1 Top view of AC input pin assignment.

The power supply will provide output connectors as table 8.2

PIN#	Output Voltage
1	+5.0V
2	GND

Table 8.2 Top view of DC output pin assignment.

### 8.2 Physical Dimension

The dimension of the power supply please refer the attached mechanical drawing within specification.

### 8.3 Label

The label of the power supply please refer the attached drawing within specification.

### 8.4 Weight

The weight of the power supply is about 80g.



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### 8.5 Connector

AC Input	2pin VDE plug
DC output	MINI 5PIN

## 9.0 Safety

### 9.1 Safety

The power supply must be certified under follow international standards.

	Certified	Standard	Remark
UL	MEET	UL60950	Approved
CUL	MEET	CSA C22.2 NO.950	
TUV	MEET	TUV/VDE – EN60950	
CE	MEET	Declared & CE Mark	Approved
CCC	MEET	GB4943	
PSE	MEET	J60950	

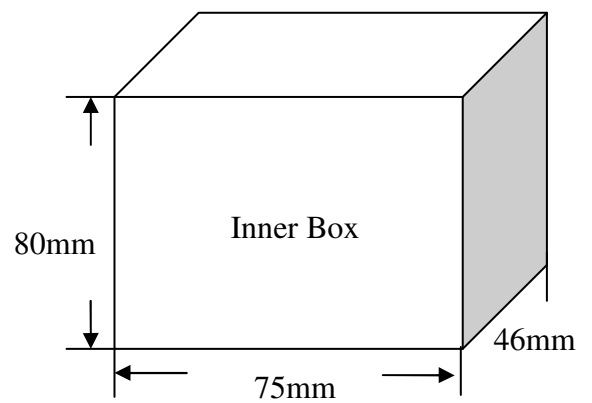
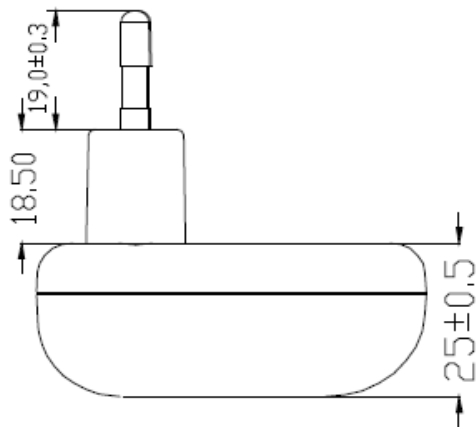
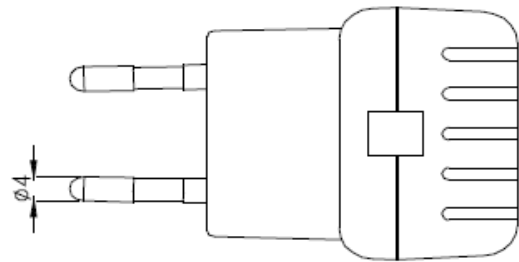
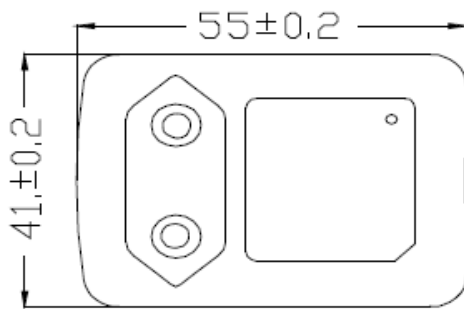
### 9.2 Insulation Resistance

9.2.1 Input to Output: 50M ohm at 500VDC

### 9.3 Dielectric Strength (Hi-Pot)

9.3.1 Primary input AC short to Secondary output DC short AC3000V,  
10mA, for 60sec.

## 10.0 Dimension (unit:mm)



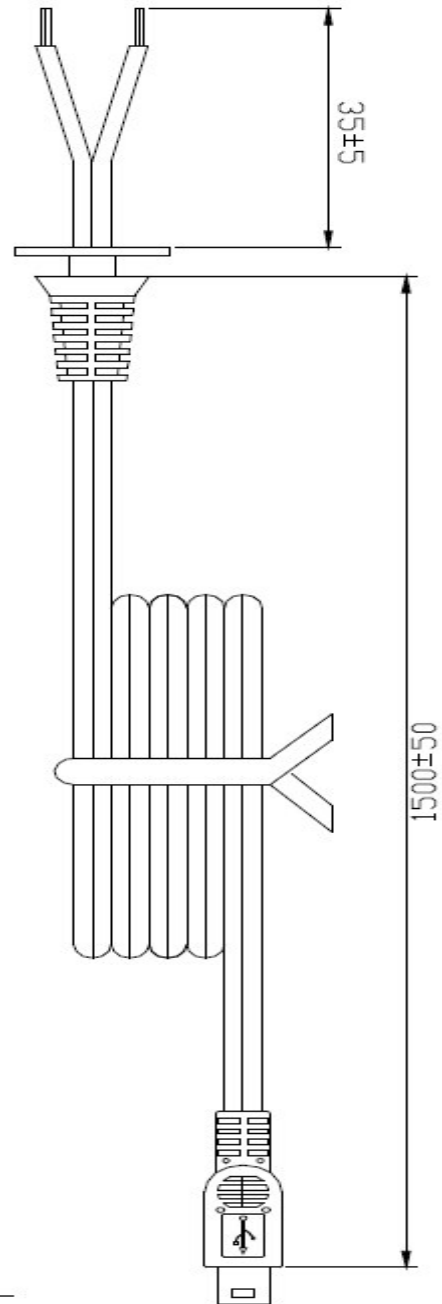
## 11.0 Cable

- 1 CORD WIRE A: 2#22 #22 2C (UL APPROV).
- 2 DC PLUG TYPE: IN 5PIN
- 3 OUT JACKET: PVC COLOR Black.
- 4 TEMPERATURE: 80 .
- 5 RFLS CABLE (线材为环保材质)
- 6 Unit: mm

1 pin +



5 pin -





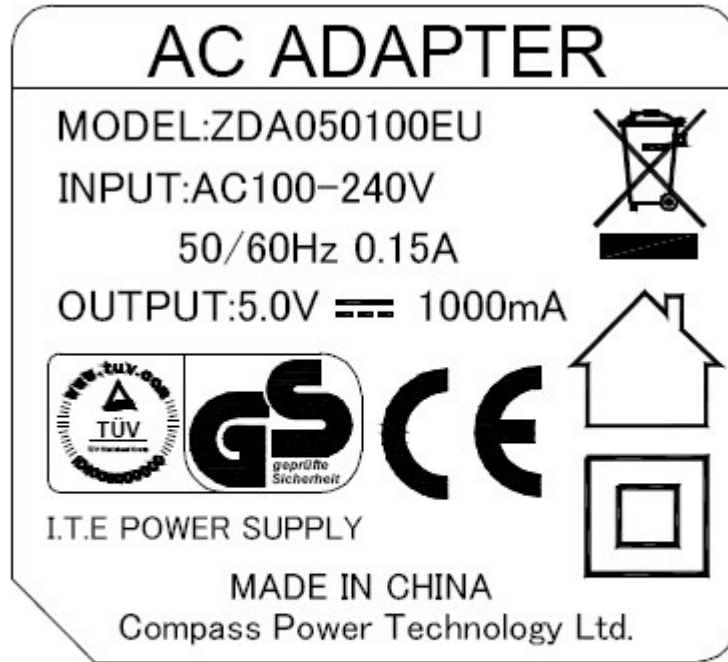
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## 12.0 Label



SCALE 3:1

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