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# Specifications Format

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## 1.0 GENERAL INFORMATION

Customer : \_\_\_\_\_  
Application : \_\_\_\_\_  
Potential : \_\_\_\_\_  
Target Price: \_\_\_\_\_  
RoHS :  Yes  No

## 2.0 INPUT SPECIFICATIONS

### 2.1 Input voltage

The range of input voltage is from

- \_\_\_ VAC to \_\_\_ VAC. (Universal)  
 \_\_\_ VAC to \_\_\_ VAC and \_\_\_ VAC to \_\_\_ VAC. (Selectable)  
 \_\_\_ VDC to \_\_\_ VDC.

### 2.2 Input frequency

The range of input frequency is from \_\_\_ Hz to \_\_\_ Hz.

### 2.3 Input current

(You don't have to specify it.)

### 2.4 Inrush current

The inrush current will not exceed \_\_\_ A at \_\_\_ VAC input or \_\_\_ A at \_\_\_ VAC input, cold start, 25 °C, with exclusion of EMI suppression capacitors.

### 2.5 Standby input power

The standby input power is less than \_\_\_ watt at \_\_\_ load, \_\_\_ input voltage.

## 3.0 OUTPUT SPECIFICATIONS

### 3.1 Load range

output	min. load	rated load	max. load	peak load	voltage accuracy
___ V	___ A	___ A	___ A	___ A	___ V to ___ V
___ V	___ A	___ A	___ A	___ A	___ V to ___ V
___ V	___ A	___ A	___ A	___ A	___ V to ___ V
___ V	___ A	___ A	___ A	___ A	___ V to ___ V

At factory, all outputs in the condition of \_\_\_ % rated load and nominal line, the \_\_\_ V output is set to between \_\_\_ V and \_\_\_ V, the other outputs checked to be within the specified voltage accuracy range. The peak can last for around \_\_\_ seconds, continuously draw peak current will reduce life time and MTBF, and will probably shut down the power supply.

### 3.2 Ripple and noise

The peak to peak ripple and noise for \_\_\_ V is less than \_\_\_ mV, for \_\_\_ V is less than \_\_\_ mV, for \_\_\_ V is less than \_\_\_ mV, for \_\_\_ V is less than \_\_\_ mV of output voltage at rated load. Measuring is done by 25 MHz band width limited oscilloscope and terminated each output with a 0.47uF capacitor at rated loading and nominal line.

### 3.3 Line regulation

The line regulation for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ %, while measuring at rated loading and  $\pm 10\%$  of nominal input voltage changing.

### 3.4 Load regulation

The load regulation for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ %, for \_\_\_ V is less than  $\pm$  \_\_\_ % while measuring is done by changing the measured output loading  $\pm 40\%$  from 60% rated load, and keep other output at 60% rated load and nominal line.

### 3.5 Remote sense

The \_\_\_ V output has remote sense capability. The compensation of voltage for \_\_\_ V output is \_\_\_ max.

### 3.6 Capacitance loading capability

The capacitance loading capability can be up to \_\_\_ uF for \_\_\_ V output.

## 4.0 GENERAL FEATURES

### 4.1 Efficiency

The efficiency is higher than \_\_\_ % while measuring at nominal line and rated output.

### 4.2 Hold up time

The hold up time is longer than \_\_\_ mS at \_\_\_ VAC input and \_\_\_ % rated load, which is measured from the end of the last charging pulse, to when the main output drops down to 95% output voltage.

### 4.3 Protection

#### 4.3.1 Over voltage protection

For some reason the power supply fails to control itself, the build-in over voltage protection circuit will shut down the outputs to avoid damaging the external circuits. The trip point of O.V.P. circuit is around \_\_\_ V to \_\_\_ V.

#### 4.3.2 Short circuit protection & Over current protection

- The power supply will go into latch-off mode against short circuit or over load condition, and have to OFF and ON the AC input to restart the power supply.
  
- The power supply will go into hiccup mode against short circuit or over load condition, and will auto-recovery while faulty condition removed.

#### 4.4 Power good signal

When power is turned on, the power good signal will go high between \_\_\_ mS to \_\_\_ mS after all output DC voltages are within regulation limits.

- The high level of signal is  TTL level (5V).  
 CMOS level ( \_\_\_ V).  
 open collector (15V max.).

#### 4.5 Power fail signal

The power fail signal will go low at least \_\_\_ mS before any of the output voltages fall below the regulation limits.

#### 4.6 Power sharing & Redundancy

- This power has power sharing and redundant capability, the max. parallel number is \_\_\_\_ . Power sharing means that the load can be equally shared by each power supply connected. Redundancy means that when one power supply fail, the other power supplies will take over.
  
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- ORing diode is  inside.  
 outside.

### 5.0 ENVIRONMENT SPECIFICATIONS

#### 5.1 Operating temperature

\_\_\_ °C to \_\_\_ °C

#### 5.2 Storage temperature

\_\_\_ °C to \_\_\_ °C

#### 5.3 Operating humidity

\_\_\_ % to \_\_\_ % non-condensing

#### 5.4 Altitude

Will operate properly at any altitude between 0 to \_\_\_\_\_ ft.

## 6.0 INTERNATIONAL STANDARDS

### 6.1 Safety standards

Designed to meet the following standards :

- Information Technology Equipment  
UL60950-1  
 UL or  C-UL  
CSA C22.2 No. 60950.1  
 CSA or  C-US  
EN60950-1  
 TUV or  other
- Medical Equipment  
UL60601-1  
 UL or  C-UL  
CSA C22.2 No. 60601.1  
 CSA or  C-US  
EN60601-1  
 TUV or  other
- Other \_\_\_\_\_

#### 6.1.1 Safety rating of input voltage

will be shown on the label :

- 115VAC  
 230VAC  
 115VAC/230VAC  
 100-240VAC  
 100-250VAC  
 \_\_\_\_\_ VDC  
 other \_\_\_\_\_

#### 6.1.2 Limitation of leakage current

- \_\_\_\_\_ mA (ITE) @ \_\_\_\_\_ VAC input  
 \_\_\_\_\_  $\mu$ A (Medical) @ \_\_\_\_\_ VAC input  
 other \_\_\_\_\_  $\mu$ A

#### 6.1.3 Special requirement for the safety

- No  
 Yes, \_\_\_\_\_

**6.2 EMI standards**

- FCC docket 20780 curve  A  B
- EN55022 Class  A  B (Equal to CISPR 22)
- EN55011 Class  A  B (Equal to CISPR 11)
- VCCI Class  I  II  
(VCCI - The limits are equal to CISPR 22, only the test of 100V is required.  
For CISPR 22, only the test of 230V is required)
- EN61000-3-2 (Harmonic) Class  A  D
- EN61000-3-3

**6.3 EMS standards**

- EN61000-4-2 \_\_\_ KV contact Criterion  A  B  C  D  
\_\_\_ KV air discharge
- EN61000-4-3 \_\_\_ V/M with 80% AM Criterion  A  B  C  D
- EN61000-4-4 ± \_\_\_ KV Criterion  A  B  C  C
- EN61000-4-5 Line to Line \_\_\_ KV Criterion  A  B  C  D  
Line to Ground \_\_\_ KV
- EN61000-4-6 \_\_\_ V with 80% AM Criterion  A  B  C  D
- EN61000-4-8 \_\_\_ A/M Criterion  A  B  C  D
- EN61000-4-11 95% dips 10 ms Criterion  A  B  C  D  
30% dips 500 ms  
60% dips 100 ms  
95% dips 5000 ms

**6.4 Energy saving standard**

- Designed to meet the following standard:  
 CEC Level V

**6.5 CE marking**

- Yes Application:  Residential  Commercial  
 Lighting Industry  Heavy Industry
- No

## **7.0 MECHANICAL SPECIFICATION**

### **7.1 Dimensions**

Dimensions shown in mm (inch) as above. Tolerance specified is + -0.4 mm.

### **7.2 Connector**

Input : \_\_\_\_\_

Output : \_\_\_\_\_

### **7.3 DC output pin assignment**

## **8.0 DESIGN NOTE**