

客 户  
CUSTOMER

# SPECIFICATION

型 号            **C 系列**  
MODEL NO.:

规格书编号  
DOCUMENT NO.:

客户型号  
CUSTOMER NO.:

日期  
DATE:

品 名            **SPS,I/O:100-240VAC    50/60Hz**  
DESCRIPTION: **1.5A    DC 19V 2.1A**

安规标准  
SAFETY STANDARD:

确认后签名，并返回一份。

PLEASE RETURN TO US COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES.

	"√"	CUSTOMER'S SIGNATURE	NOTE
FULL APPROVED			
CONDITIONAL APPROVED			
REJECTED			

**深圳恩巨实业有限公司**

**Shenzhen Anthy Electronics Co., Ltd.**

中国广东省深圳市宝安区观澜街道大水坑社区隆添利科技工业园 E 栋 4 楼

4F, Building E, Longtianli Industrial Park, Guanlan, Baoan District, Shenzhen, 518000, China.

TEL: 0755-84718892

FAX: 0755-84718892

Website: [www.universal-laptopcharger.com](http://www.universal-laptopcharger.com)

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

CONTENTS NOTE 内容说明

1.0 SCOPE 范围

1.1 DESCRIPTION 描述

2.0 INPUT CHARACTERISTICS 输入参数

2.1 INPUT VOLTAGE & FREQUENCY 输入电压 / 频率

2.2 INPUT CURRENT 输入电流

2.3 STATIC LOSS 静态损耗

2.4 INRUSH CURRENT 浪涌电流

3.0 OUTPUT CHARACTERISTICS 输出参数

3.1 OUTPUT VOLTAGE & CURRENT 输出电压 / 电流

3.2 RIPPLE AND NOISE 纹波

3.3 TURN ON DELAY 启动延迟

3.4 HOLD UP TIME 启动时间

3.5 EFFICIENCY 效率

4.0 PROTECTION REQUIREMENTS 保护条件

4.1 OVER VOLTAGE PROTECTION 过压保护

4.2 OVER CURRENT PROTECTION 过流保护

4.3 OVER TEMPERATURE PROTECTION 过温保护

4.4 SHORT CIRCUIT PROTECTION 短路保护

5.0 ENVIRONMENTAL CONDITION 环境条件

5.1 OPERATING CONDITION 运行条件

<b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.	制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
	CHENWEI ZENG	HUANDENCHAO	TANGLIAN	2/11

MODEL NO. 编号		FILE NO. 文件编号			
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0		
<p>5.2 STORAGE CONDITION 储藏条件</p> <p>5.3 COOLING METHOD 冷却方法</p> <p>6.0 ELECTROMAGNETIC COMPATIBILITY 适应性</p> <p>6.1 ESD 静电测试</p> <p>7.0 RELIABILITY 可靠性</p> <p>7.1 MTBE 平均故障间隔时间</p> <p>7.2 LIFETIME 寿命</p> <p>8.0 MECHANICAL 机构</p> <p>8.1 CONNECTOR TYPE 连接类型</p> <p>8.2 PHYSICAL DIMENTION 尺寸</p> <p>8.3 LABEL 标签</p> <p>8.4 WEIGHT 重量</p> <p>8.5 COOLING OPERATE 冷却操作</p> <p>8.6 DROPPING TESTING 跌落测试</p> <p>9.0 SAFETY 安全性</p> <p>9.1 SAFETY STANDARD 安全标准</p> <p>9.2 DIELECTRIC WITHSTAND VOLTAGE 绝缘耐压</p> <p>9.3 INSULATION RESISTANCE 绝缘阻抗</p> <p>10.0 OUTLINE ARTWORK 外观图</p> <p>11.0 NAMEPLATE 标签</p> <p>1.0 SCOPE</p>					
<p style="text-align: center;"><b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.</p>		制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
		CHENWEI ZENG	HUANDENCHAO	TANGLIAN	3/11

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

## 1.0 范围

### 1.1 DESCRIPTION

#### 1.1 描述

This document introduces the electrical,mechanical and environmental specifications of a switching power supply.

这是一个介绍有关电子，机械以及相关技术要求的开关电源。

## 2.0 INPUT CHARACTERISTICS

### 2.0 输入参数

#### 2.1 INPUT VOLTAGE & FREQUENCY

##### 2.1 输入电压和频率

Input Voltage 输入电压	Minimum 最小	Nominal 正常	Maximum 最大
Input Voltage 输入电压	100Vac	220/230Vac	240Vac
Input Frequency 输入频率	47Hz	50/60Hz	63Hz

#### 2.2 INPUT CURRENT

##### 2.2 输入电流

The maximum input current is **1.5A** at 100Vac at full load

在 100Vac 满负荷的状态下，最大输入电流是 **1.5A**。

#### 2.3 STATIC LOSS

##### 2.3 静态损耗

The static loss is less than **0.5W** at normal input voltage

在输入电压正常情况下，静态损耗低于 **0.5W**。

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

## 2.4 Inrush current

### 2.4 浪涌电流

- **20A** peak (峰值) @115VAC
- **10A** peak (峰值) @230VAC

Full load @25°C ambient cold start

在带满负荷时冷启动 (在常温 25°C 下)

## 3.0 OUTPUT CHARACTERISTICS

### 3.0 输出参数

#### 3.1 OUTPUT VOLTAGE & CURRENT

##### 3.1 输出电压 / 电流

Output Item 输出	PF	Minimum 最小	Nominal 正常	Maximum 最大
Vout(@0A)	<b>0.1-0.55</b>	<b>18.05Vdc</b>	<b>19Vdc</b>	<b>19.95Vdc</b>
Vout(@ <b>2.1A</b> )	<b>0.55-0.65</b>	<b>18.05Vdc</b>	<b>19Vdc</b>	<b>19.95Vdc</b>

#### 3.2 RIPPLE AND NOISE

##### 3.2 纹波

The ripple and noise is less than **200mV** measured by 20MHz bandwidth oscilloscope and terminated each output with a 0.1uF ceramic capacitor and a 10uF aluminum electrolytic capacitor.

用 20 兆赫的示波器，在输出端安装 0.1uF 的陶瓷电容以及一个 10uF 的铝电解电容的情况下，纹波会低于 **200mV**。

#### 3.3 TURN ON DELAY

##### 3.3 启动延迟

MODEL NO. 编号		FILE NO. 文件编号			
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0		
<p>During turn on,output voltage shall not exceed its nominal voltage by more than 10% and all output shall reach their steady state values within 2 seconds of trun on</p> <p>在启动期间，输出电压不能超出它正常电压的 10% 并且所有的输出电压在 2 秒内达到稳定状态时的电压值。</p>					
<p><b>3.4 HOLD UP TIME</b></p> <p>3.4持续时间</p> <p>When the power supply turns off,the output voltage shall hold up more than 10 msec.</p> <p>当关掉电源时，输出电压必须持续到 10 毫秒以上</p>					
<p><b>3.5 EFFICIENCY</b></p> <p>3.5效率</p> <p>The efficiency shall be higher than 88% while measuring at nominal line and maximum load.</p> <p>在正常及最大负载的情况下，效率应该会高于 88%。</p>					
<p><b>4.0 PROTECTION REQUIREMENT</b></p> <p>4.0 保护条件</p>					
<p><b>4.1 OVER VOLTAGE PROTECTION</b></p> <p>4.1过压保护</p> <p>The power supply shall be hiccupped when output voltage reaches its over-voltage condition trigger point,and when the fault condition is removed,the power supply shall be not sef-recovering (ZENER SHORT PROTECTION)</p> <p>当输出电压达到过压点时，电源就起保护作。当这种错误条件被解除时，电源就会自动恢复</p>					
<p><b>4.2 OVER CURRENT PROTECTION</b></p> <p>4.2 过流保护</p> <p>The power supply shall be hiccupped when operating any output in over-load condition,and when the fault condition is removed,the power supply shall be not sef-recovering.</p> <p>在任何输出在运行时处于超负荷状态，电源就会起保护作用。当这种错误条件被解除时，电源就会自动</p>					
<p><b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.</p>		制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
		CHENWEI ZENG	HUANDENCHAO	TANGLIAN	6/11

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

恢复

#### 4.3 OVER TEMPERATURE PROTECTION

##### 4.3 过温保护

The power supply shall go into latch-off mode when the IC's temperature is over its trigger point(145℃), and when IC temperature is lower than regulation value, the power supply shall be self-recovering.

当 IC 温度超过145℃时, 电源会进入过温保护模式; 当 IC 温度低于通常值时, 电源就会自动恢复

#### 4.4 SHORT CIRCUIT PROTECTION

##### 4.4 短路保护

The power supply shall withstand continuous current of short circuit on output any damage, and when the fault condition is removed, the power supply shall be self-recovering

当任何输出损坏时, 在短路时电源会出现打嗝现象。当这种错误条件被解除时, 电源就会自动恢复。

### 5.0 ENVIRONMENTAL REQUIREMENTS

#### 5.0 环境条件

##### 5.1 OPERATING CONDITION

##### 5.1 运行条件

The power supply shall be compliant with each item in this specification for the following environmental conditions.

电源应当适应以下环境条件:

Ambient Temperature 环境温度	0°C~35C
Relative Humidity 相关湿度	20%~90%

##### 5.2 STORAGE CONDITION

##### 5.2 储藏条件

**深圳市恩巨实业有限公司**  
Shenzhen Anthy Electronics Co., Ltd.

制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
CHENWEI ZENG	HUANDENCHAO	TANGLIAN	7/11

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0
	Ambient Temperature 环境温度	-20°C~70°C	
	Relative Humidity 相关湿度	20%~90%	

### 5.3 COOLING METHOD

#### 5.3 冷却方法

Free convection

自然冷却

### 6.0 COMPATIBILITY

#### 6.0 适应性

#### 6.1 ELECTROSTATIC DISCHARGE(ESD)

##### 6.1 静电放电试验

The power supply is capable to withstand ESD test voltage at any point around the enclosure as below,here in refer to IEC61000-4-2.

电源能够承受如下任何时候 ESD 的电压测试，这里指符合 IEC61000-4-2 标准。

After applied +/-4kV contact discharge and the power supply is no function error.

用 +/-4kV 接触放电，电源的功能不会损坏

After applied +/-8kV air discharge and the power supply is no function error.

用 +/-8kV 的高压空气放电，电源的功能不会损坏。

### 7.0 RELIABILITY

#### 7.0 可靠性

#### 7.1 MTBF

##### 7.1平均故障时间

The power supply shall have a minimum predicted MTBF(MIL-STD-217F)of 10000 hours at normal operation condition and normal use.

<b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.	制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
	CHENWEI ZENG	HUANDENCHAO	TANGLIAN	8/11

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

在正常运行状况和正常使用下，开关电源的预测平均故障时间是 10000 小时

## 7.2 LIFETIME

### 7.2 寿命

Lifetime of the power supply shall be more than 10000 hours under input rating and mean output current.

在输出电压电流正常使用情况下，电源寿命应该超过 10000 小时。

Normal operation conditions and use:正常运行条件和使用

-Ambient temperature: 环境温度  $25\pm 2^{\circ}\text{C}$

-Standby(0 mA): 备用 1 hours/day

-Power mode (Specified normal load): 23 hour/day

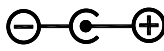
功率模式 (指定的正常负荷)

## 8.0 MECHANICAL

### 8.0 机械性

#### 8.1 CONNECTOR TYPE

##### 8.1 连接器类型

AC INPUT	plum blossom three plug / 梅花三插
DC OUTPUT	5.5*2.5 

#### 8.2 PHYSICAL DIMENSIONS

##### 8.2 尺寸

The dimension of the power supply is drawing attached page #9

该电源尺寸见第 8 页的图

#### 8.3 LABEL

<b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.	制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
	CHENWEI ZENG	HUANDENCHAO	TANGLIAN	9/11

MODEL NO. 编号		FILE NO. 文件编号	
DESCRIPTION 规格	SPS,I/O:100-240VAC 50/60Hz MAX1.5A DC 19V 2.1A	REV.	REV1.0

### 8.3 标签

The label of the power supply is drawing attached page #9

该电源的标签见第 8 页的图。

### 8.4 WEIGHT

#### 8.4 重量

The weight of the power supply shall be about **143g**

电源的重量大致是 **143g**。

### 8.5 COOLING OPERATE

#### 8.5 冷却操作

The power supply will operate with convection cooling Blocking of vents must not cause damage to the power supply

电源将对流冷却，封闭的通风口绝不能造成电源的损害。

### 8.6 DROPPING TESTING

#### 8.6 跌落测试

Dropping from the height site of 1.2M above the thickness board of 20CM. including six directions on the adapter.

适配器在 1.2M 的高度上跌落在 20CM 木板上，包括适配器上的六个方向

after testing,the mechanical part and electronic character of the adapter should be OK against being broken,no output,no noise,with shaking from left to right.

敲打适配器后，从左到右摇晃不能出现噪音，经检测电源机械和电子性能都没有坏。

## 9.0 SAFETY

### 9.0 安全性

#### 9.1 SAFETY STANDARD

##### 9.1 安全标准

The power supply is designed for indoor use to meet IEC60950 and EN60950 standards,and meet the following safety regulations

<b>深圳市恩巨实业有限公司</b> Shenzhen Anthy Electronics Co., Ltd.	制 作 DRAWN BY	审 核 CHECKED BY	批 准 APPROVED BY	页 码 SHEET
	CHENWEI ZENG	HUANDENCHAO	TANGLIAN	10/11

