

# 承认书



## SPECIFICATION FOR APPROVAL

### Switching power Supply/开关电源

客 户:

CUSTOMER: Sparkfun

产品描述:

DESCRIPTION: Input:100~240V AC 50/60Hz Output: 5VDC4A

机种型号:

OUR MODEL NO: YNQX30D050400DL

样品编号:

日期:

SAMPLE NO: QX201900381DATE: 2019-04-10

产品颜色:

SAMPLE COLOR: Black White 符合环保项: RoHS REACH PAHS 17P 加州 65 

| APPROVAL SIGNATURE/客户确认 |                |                |
|-------------------------|----------------|----------------|
| 核准/APPROVED BY          | 审核/CHECKED BY  | 检测/TESTED BY   |
|                         |                |                |
| Manufacturer/制造商        |                |                |
| 业务/SALES                | 核准/APPROVED BY | 设计/DESIGNED BY |
| Nick                    |                |                |

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**QSHAIN™**

深圳市齐鑫电子有限公司  
SHEN ZHEN QI XIN ELECTRONICS CO., LTD

型号/Our model: YNQX30D050400DL

客户/Customer: Sparkfun

日期/Date: 2019-04-10

样品编号/SAMPLE No: QX201900381

版本目录/Rev. List

| 版本/Rev. | 日期/Date    | 描述/Description | 制订/Design |
|---------|------------|----------------|-----------|
| A0      | 2019-04-10 | 新版本/New Rev.   | ZHY       |
|         |            |                |           |
|         |            |                |           |
|         |            |                |           |
|         |            |                |           |

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## 1、描述/ DESCRIPTION:

本规格书适用于 YNQX30D050400DL 型号的开关电源.

The purpose of the document is to specify the functional requirements of a 20W switching power supply.

## 2、输入特性/INPUT CHARACTERISTICS:

### 2.1 输入电压/Input Voltage:

额定电压/Rated Voltage:100~240Vac

调整范围/Variation Range:90-264Vac

### 2.2 输入频率/Input Frequency:

额定频率/ Rated Frequency: 50/60Hz.

调整频率/Variation Frequency:47-63Hz

### 2.3 输入电流/Input Current:

当输入交流电压为额定值的下限电压负载满载时,最大输入交流电流 1.0A.

1.0Amps max At any input voltage and rated, DC output rated load.

### 2.4 浪涌电流/Inrush Current:

当输出为额定负载,环境温度为 25℃,输入 240Vac 冷态起机时无损坏.

No damage shall be occurred and the input fuse shall not be blown up, Cold start at 240Vac input, with rated load and 25℃ ambient.

### 2.5 AC 漏电流/Ac Leakage Current:

当输入电压 240Vac 时,最大漏电流为 0.25mA.

0.25mA Max.At240Vac input.

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### 3、输出特性/OUTPUT CHARACTERISTICS:

#### 3.1 输出功率/Power output (AC:100~240V)

| 电压<br>Voltage | 最小负载<br>Min. Load | 额定负载<br>Rated. Load | 峰值功率<br>Peak | 输出功率<br>Output power |
|---------------|-------------------|---------------------|--------------|----------------------|
| 5VDC          | 0.01A             | 4A                  |              | 20W                  |

#### 3.2 负载特性,调整率/Combined Load/Line Regulation (AC:100~240V)

| 电压<br>Voltage | 最小负载<br>Min. Load | 额定负载<br>Rated. Load | 线性调整<br>Line Regulation | 空负载电压<br>Voltage I=0/I=R |
|---------------|-------------------|---------------------|-------------------------|--------------------------|
| 5VDC          | 0.01A             | 4A                  | ±2%                     | 4.6-5.4 V                |

#### 3.3 纹波和噪音 Ripple and Noise:

测试条件:在输入 115/230Vac 和输出最小及最大负载时,使用示波器带宽为 20MHz 连接到适配器的输出端,同时输出端并联一个 47uF 的电解电容和一个 0.1uF 的瓷片电容.

At 115/230Vac input and output Min and Max.Load, the ripple and noise are as follows when measure with Max.Bandwidth of 20MHz and Parallel 47uF/0.1uF,crossed connected at testing point.

|               |                                     |
|---------------|-------------------------------------|
| 电压<br>Voltage | 最大纹波/最大噪音<br>Ripple and Noise(Max.) |
| +5VDC         | 150mV p-p                           |

#### 3.4 启动延迟时间/Turn on delay time:

当输入 115Vac 和输出最大负载时,最大启动时间为 3S.

3Seconds Max.at 115Vac input and output Max.load.

#### 3.5 上升时间/Rise time:

当输入 115Vac 和输出最大负载时最大时间为 40 mS.

40 mS Max.at 115Vac input and output Max load.

#### 3.6 保持时间/Hold up time:

当输入 115Vac 和输出最大负载时,最小保持时间为 5mS.

5mS Min.at 115Vac input and output Max.Load.

#### 3.7 待机功耗/Standby Power:

当输入 115Vac 60Hz 时 0.1W 最大 .

0.1W Max. at 115Vac 60Hz Io=0 input.

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**3.8 效率/Efficiency:**

当 115/230Vac 输入电压时, 1/4, 1/2, 3/4 和满载计算平均效率, 最小 83.08%

83.08%Min, At 115/230Vac input voltage, 1/4, 1/2, 3/4 and full load calculation average efficiency.

适配器满足能效 VI。

Adapter meet efficiency level VI.

**3.9 过冲/Overshoot:**

在电源开启或关闭的时候,最大 15%.

15% Max. When power supply at turn off/on.

**4、保护功能/PROTECTION FUNCTION:****4.1 短路测试/Short circuit test:**

该电源供给器在短路解除时能正常工作恢复.

The power supply will be auto recovered when short circuit faults remove.

**4.2 过流保护/Over current Protection:**

过流故障排除后,电源将自动恢复正常工作.

The power supply will be auto recovered when over current faults remove.

**5、环境要求/ENVIRONMENTAL REQUIREMET:****5.1 工作温度/Operating Temperature:**

0°C-40°C,满载,正常工作.

0°C to 40°C, Full load, Normal operation.

**5.2 储藏温度/Storage Temperature:-20°C to 60°C**

带外壳/With package

**5.3 工作湿度/Relative Humidity:**

5%(0°C)~90%(40°C),72 小时,满载,正常工作.

5%(0°C)~90%(40°C)RH,72Hrs, Full load, Normal operating.

**5.4 振动/Vibration:**

1. 测试标准:国际电工电子委员会

Operating: IEC 721-3-3 3M3

5~9Hz, A=1.5mm

加速度(9~200Hz, Acceleration 5m/S<sup>2</sup>)

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**2. 运输/Transportation:**

IEC 721-3-2 2M2

5-9Hz,A=3.5mm

9~200Hz,加速度 Acceleration=5m/S<sup>2</sup>200~500Hz,加速度 Acceleration=15m/S<sup>2</sup>**3. 轴向振动/Axes,10 cycles per axis.**

在测试过程中不能出现永久性的损坏。

No permanent damage may occur during testing.

在电源开启和关闭后,样机能够恢复到最初条件。

The SAMPLE has to restore to its original situation after power off/on.

**5.5 跌落试验/Dropping Packed:**

跌落高度为 760mm;

Drop the height is 760mm.

测试台面是厚 13mm 的夹木板, 离地面高 19-20mm

The horizontal surface consists of hardwood at least 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick,all supported on a concrete or equivalent non-resilient floor.

**6、安全及 EMI 要求/SAFETY AND EMI REQUIREMENT:****6.1 安全: 符合标准 : UL60950、EN60950**

Safety:accord with : UL60950、EN60950

**6.2 高压/DIELECTRIC STRENGTH Hi-Pot:**

初级对次级/Primary to secondary: 4242Vdc/5mA/60S for type test.

**6.3 绝缘抗阻/Insulation resistance:**

初级对次级/Primary to secondary:20M Ω min at 500V DC.

**6.4 EMI 标准/EMI STANDARD**

Meets the Limits of/测试符合

&lt;1&gt;.Fcc part15 class B rules

&lt;2&gt;.EN55032 class B rules

&lt;3&gt;. GB17625.1-2012

&lt;4&gt;.AS/NZS CISPR32:2015.

&lt;5&gt;.IEC61000-4-5

&lt;6&gt;.IEC61000-4-2

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7、 结构参数/MECHANICAL REQUIREMENT:

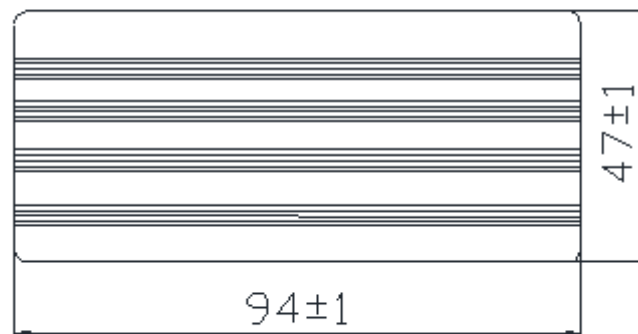
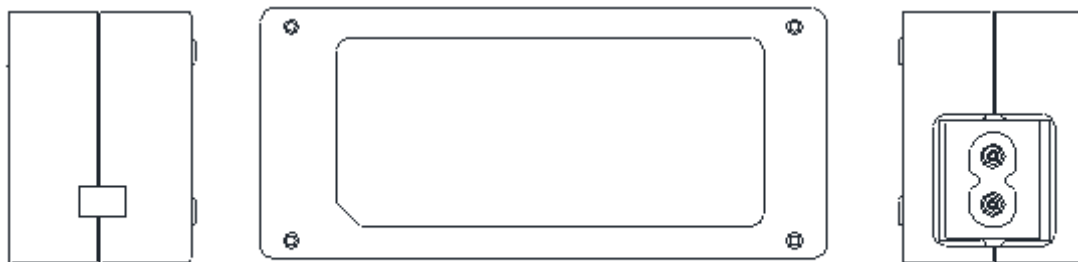
7.1 外壳/Enclosure:

The power supply size: L94x W47x H30mm;

外壳尺寸: L94x W47x H30mm;

7.2 输入线/Input Connector:

2PIN 插脚/Two pin input plug of 2PIN.



dimension(mm)

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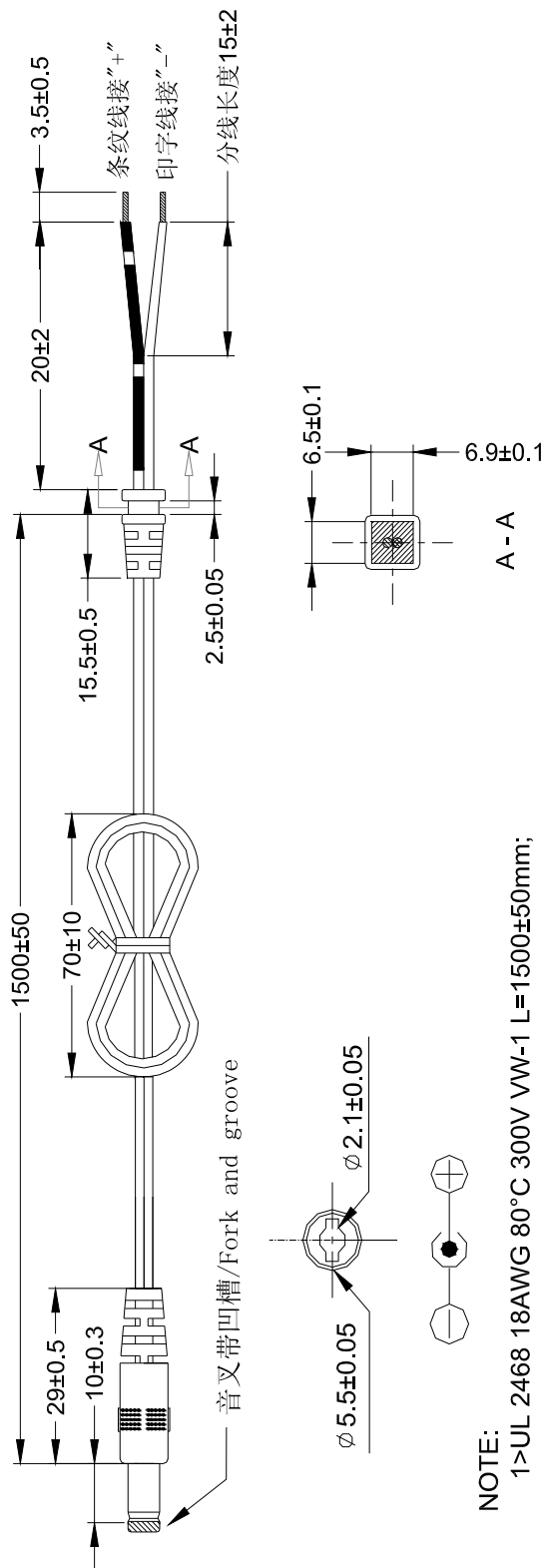
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8、线材/CORD:



NOTE:

1>UL 2468 18AWG 80°C 300V VW-1 L=1500±50mm;

2>PLUG:5.5\*2.1\*10mm, 直头音叉带槽, GV FK 180°, 内正外负, inside'+', outside'-';

3>Color:Black;

4>RoHS2.0REACH\PAHS\17P\加州65.

5>Material:线皮: PVC.线芯: 铜.



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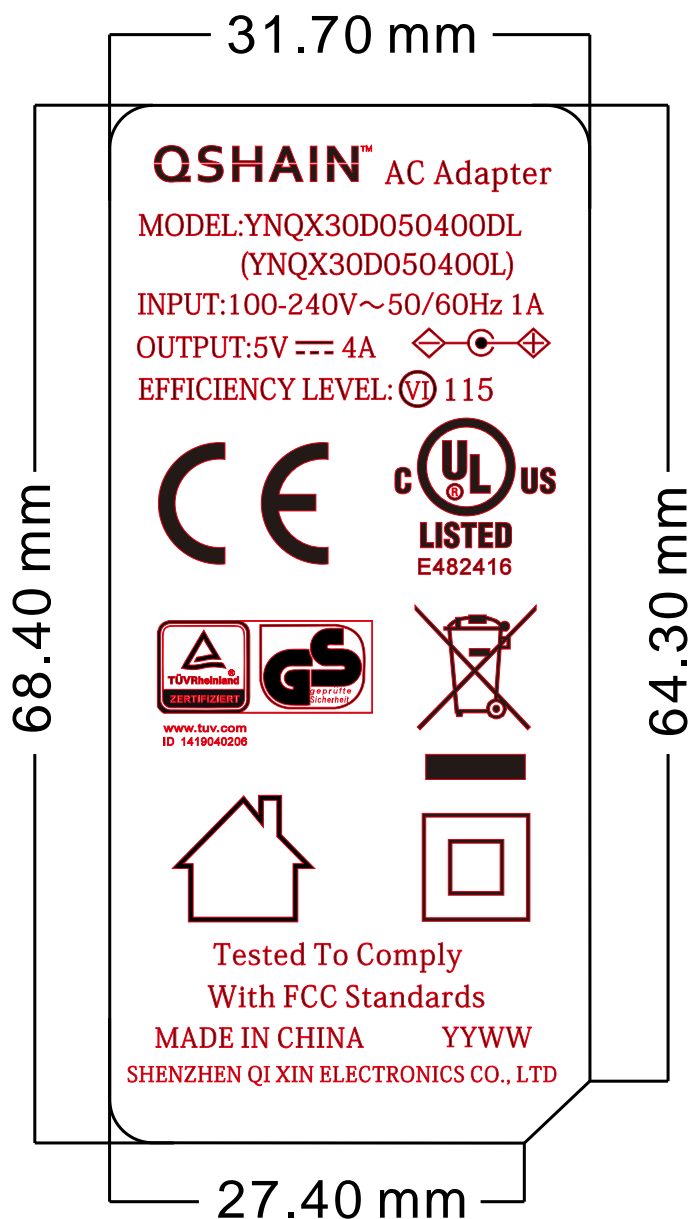
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9、铭牌/LABEL:



NOTES:

- 1.激光丝印于外壳上
- 2.YYWW,YY 表示年份,WW 表示周数
- 3.此铭牌是按业务要求制作



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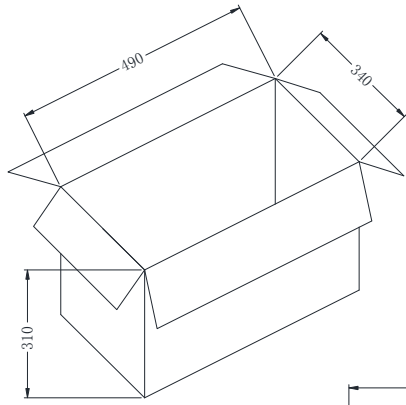
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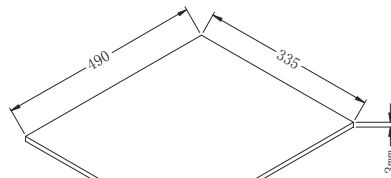
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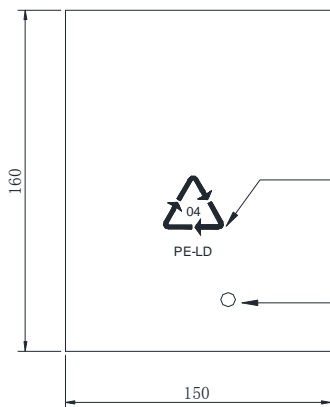
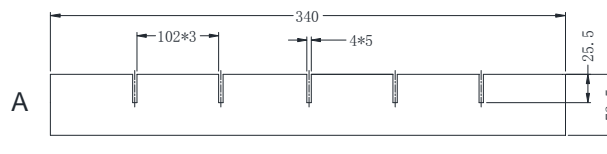
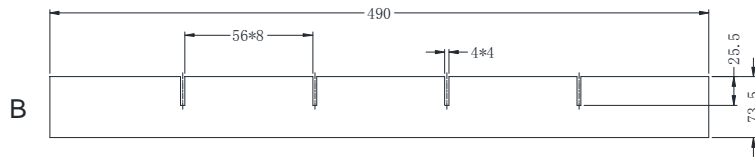
10、包装说明/PACKING:



外箱/Carton



平板/Slab



胶袋/Pe bag

绿色字体/  
Green lettering

透气孔  
Breathe freely os

包材/Packing:

A:L340\*W73.5mm

B:L490\*W73.5mm

外箱内尺寸/Carton inside size:L490\*W340\*H310mm

平板/Slab:L490\*W335\*T3mm

胶袋/Pe bag:L160\*W150\*T0.03mm

数量/Quantity:96PCS/CTN

备注：此包装材料仅供参考。

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## 11、测试报告/ELECTRICAL TEST REPORT:

| No<br>序号     | Test item<br>测试项目             | Test condition<br>测试条件  | Standard spec<br>标准规格  | Test data<br>测试数据 |       |   |   |   | Unit<br>单位 | Judge<br>判定<br>Pass/<br>Fail |
|--------------|-------------------------------|---|--|-------------------|-------|---|---|---|------------|------------------------------|
|              |                               |   |  | 1                 | 2     | 3 | 4 | 5 |            |                              |
| 1            | Output Voltage<br>输出电压        | Vin100Vac 60Hz Io=0<br>输入 100Vac 空载   | 4.6-5.4 V  | 5.25              | 5.26  |   |   |   | V          | Pass                         |
| 2            | Output Voltage<br>输出电压        | Vin100Vac 60HzIo=Rated Current<br>输入 100Vac 60Hz 负载   | 4.6-5.4 V  | 4.65              | 4.65  |   |   |   | V          | Pass                         |
| 3            | Average Efficiency<br>平均效率    | Vin 115Vac 60Hz<br>输入 115Vac 60Hz   | 83.08%   | 83.28             | 83.29 |   |   |   | %          | Pass                         |
| 4            | Ripple&Noise mVp-p<br>纹波&杂讯   | Vin100Vac 60Hz Full load<br>输入 100Vac 60Hz 满载   | 150mVp-p   | 92                | 94    |   |   |   | mVp-p      | Pass                         |
| 5            | Line Regulation<br>线性调整率      | Vin=100V~240V Io=Rated<br>Current<br>额定电流   | ±2%  | OK                | OK    |   |   |   |            | Pass                         |
| 6            | Standby Power<br>待机功耗         | Vin 115Vac 60Hz Io=0<br>输入 115Vac 60Hz  | 0.1W max   | 0.05              | 0.06  |   |   |   | W          | Pass                         |
| 7            | Short circuit test<br>短路测试    | Vin100Vac 60Hz<br>输入 100Vac 空载  | No odor smoke fire<br>plastic deformation<br>and excessive heat<br>happen.<br>无冒烟,起火,外壳变<br>形及过热现象 | OK                | OK    |   |   |   |            | Pass                         |
| 8            | OCP<br>过电流保护                  | Vin100Vac 60Hz<br>输入 100Vac   | AMax   | 6.02              | 6.04  |   |   |   | A          |                              |
| 9            | Output Voltage<br>输出电压        | Vin240Vac 50Hz Io=0<br>输入 240Vac 空载   | 4.6-5.4 V  | 5.24              | 5.25  |   |   |   | V          | Pass                         |
| 10           | Output Voltage<br>输出电压        | Vin240Vac 50HzIo=Rated Current<br>输入 240Vac 60Hz 负载   | 4.6-5.4 V  | 4.74              | 4.75  |   |   |   | V          | Pass                         |
| 11           | Average Efficiency<br>平均效率    | Vin230Vac 50Hz<br>输入 230Vac 50Hz  | 83.08%   | 83.12             | 83.14 |   |   |   | %          | Pass                         |
| 12           | Ripple & Noise mVp-p<br>纹波&杂讯 | Vin240Vac 50Hz Full load<br>输入 240Vac 50Hz 额定电流   | 150mVp-p   | 96                | 98    |   |   |   | mVp-p      | Pass                         |
| 13           | Line Regulation<br>线性调整率      | Vin=100V~240V Io=Rated<br>Current<br>输入 100V~240V   | ±2%  | OK                | OK    |   |   |   |            | Pass                         |
| 14           | Standby Power<br>待机功耗         | Vin230Vac 50Hz Io=0<br>输入 230Vac 50Hz   | W max  |                   |       |   |   |   | W          | Pass                         |
| 15           | Short circuit test<br>短路测试    | Vin240Vac 50Hz<br>输入 240Vac 50Hz  | No odor smoke fire<br>plastic deformation<br>and excessive heat<br>happen.<br>无冒烟,起火,外壳变<br>形及过热现象 | OK                | OK    |   |   |   |            | Pass                         |
| 16           | OCP<br>过电流保护                  | Vin230Vac 50Hz<br>输入 230Vac 50Hz  | AMax   | 6.26              | 6.27  |   |   |   | A          |                              |
| 17           | Hi-pot test<br>高压测试           | 高压/DIELECTRIC STRENGTH Hi-Pot: 初级对次级<br>/Primary to secondary:4242Vdc/5mA/60S for type test |  | OK                | OK    |   |   |   |            | Pass                         |
| 18           | Burn in<br>老化                 | Input:220Vac/50Hz Full Load 4hrs<br>输入 220Vac/50Hz 满载 4 小时                                  |  | OK                | OK    |   |   |   |            | Pass                         |
| 19           | Drop test<br>跌落               | Heigh:1m Three*faces(once on each plane)<br>高 1 米,3 个面,每面 1 次.                              |  | OK                | OK    |   |   |   |            | Pass                         |
| REMARK<br>备注 |                               |   |  |                   |       |   |   |   |            |                              |

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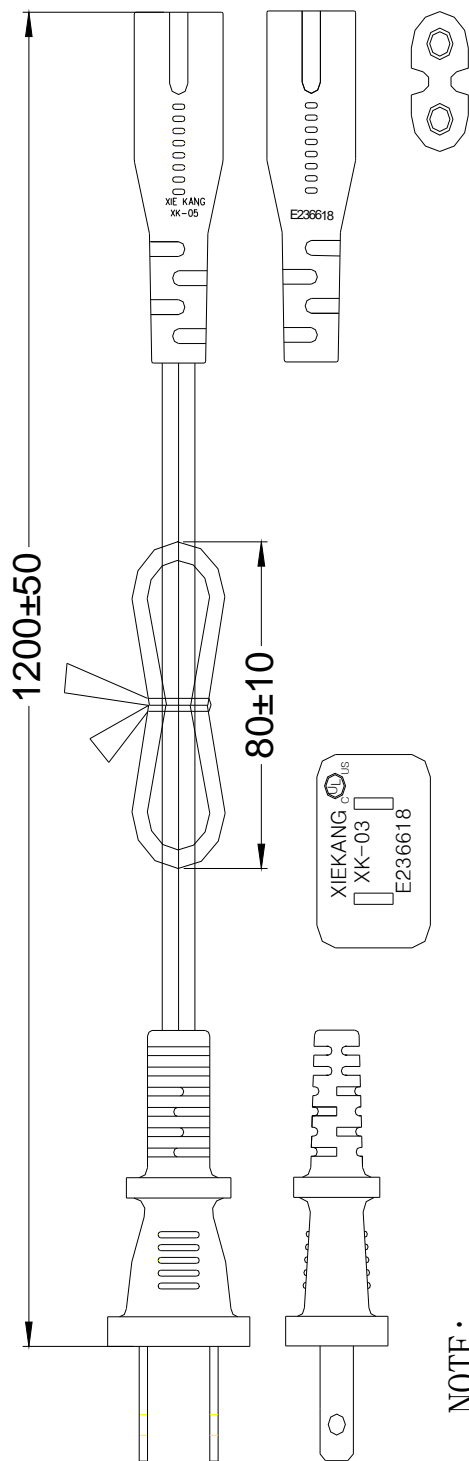
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12、线材/AC CORD:



NOTE:

- 1、 线材印字内容 (UL) E253760 BENDA SPT-1 18AWGX2C VW-1 300V 105C ROHS
- 2、 SPT-1 18# 41/0.16黑色过REACH环保
- 3、 所有材料过REACH环保





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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