



# SPECIFICATION FOR APPROVAL

## 承认书

**CUSTOMER:**

客户: \_\_\_\_\_

CUSTOMER P/N: \_\_\_\_\_

客户产品编号: \_\_\_\_\_

PRODUCT NAME: Switching Power Adaptor  
产品名称: 开关电源适配器

MODEL NO.: UES12LCP-120100SPA-OP  
型号: \_\_\_\_\_

PART NO.: UE190116DGFL1RI  
编号: \_\_\_\_\_

Customer Approval 客户承认	
Stamp & Signature: 盖章和签名:	

REVISION/版本			
EDITION/版本	DATE/日期	PAGE/页码	REVISED ITEM/变更项目
A/0	2019.03.01		首次发行

Prepared By/承办		Checked By/审核				Approved By/核准	
卢云峰		蔡道胜		刘金云		孙文利	
Date/日期	2019-03-01	Date/日期	2019-03-01	Date/日期	2019-03-01	Date/日期	2019-03-01

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	1 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

## TABLE OF CONTENT

### 目录

1.0	Input Characteristics/输入特性 .....	3
1.1	Voltage & Frequency/电压和频率.....	3
1.2	Current/电流 .....	3
1.3	Inrush Current/冲击电流 .....	3
1.4	Average Efficiency/平均效率.....	3
1.5	No-Load Input Power Dissipation/输入空载功率损耗 .....	3
2.0	Output Characteristics/输出特性 .....	4
2.1	Static Load/静态负载.....	4
2.2	Output Voltage/输出电压.....	4
2.3	Output Current/输出电流.....	4
2.4	Ripple & Noise/纹波和噪声.....	4
2.5	Line/ Load Regulation/线性/负载调整率.....	4
2.6	Turn-on Delay Time & Hold-up Time/开机延迟时间和关机维持时间 .....	5
2.7	Rise Time & Fall Time/上升时间和下降时间.....	5
2.8	Overshoot & Undershoot/过冲和欠冲.....	5
2.9	Load Transient Response/负载瞬态响应 .....	5
2.10	Capacitance Load/容性负载 .....	5
3.0	Protection Requirements/保护要求.....	5
3.1	Over Current Protection/过流保护 .....	5
3.2	Short Circuit Protection/短路保护 .....	5
3.3	Over Voltage Protection/过压保护 .....	5、6
4.0	Environment Requirements/环境要求.....	6
4.1	Operating/工作 .....	6

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	2 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

4.1.1	Ambient Temperature/环境温度	6
4.1.2	Relative Humidity/相对湿度	6
4.1.3	Altitude/海拔高度	6
4.1.4	Cooling/散热	6
4.2	Non-operating/待机	6
4.2.1	Ambient Temperature/环境温度	6
4.2.2	Relative Humidity/相对湿度	6
4.2.3	Altitude/海拔高度	6
5.0	Reliability Requirements/可靠性要求	6
5.1	MTBF Qualification/平均间隔故障时间估算	6
5.2	Vibration Test/振动试验	6
6.0	EMC(Electro Magnetic Compatibility)/电磁兼容性	6、7
6.1	EMC: Emissions/EMC:传导辐射	7
6.2	EMC: Immunity/EMC: 抗扰度	7
7.0	Safety/安规	7
7.1	Dielectric Strength (Hi-pot)/介电耐压强度(高压)	7
7.2	Leakage Current/接触电流	7
7.3	Insulation Resistance/绝缘电阻	7
8.0	Mechanical Details/机械特性	7
8.1	Physical Dimensions/外观尺寸	7
8.2	Weight/重量	7
8.3	Ouptut/输出	7
9.0	Dimensions/外形图	8
10.0	Packing/包装	9

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	3 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

## 1.0 Input Characteristics/输入特性

### 1.1 Voltage & Frequency/电压和频率:

	Rating/额定	Minimum/最小	Maximum/最大
Input Voltage/输入电压	100Vac~240Vac	90Vac	264Vac
Input Frequency/输入频率	50Hz~60Hz	47Hz	63Hz

### 1.2 Current/电流:

	Input/输入	Full load/满载	Maximum/最大
Current/电流	100Vac	1.0A	0.5A

### 1.3 Inrush Current/冲击电流:

The adapter is not damaged at the maximum inrush current /最大冲击电流时电源不损坏

### 1.4 Average Efficiency/平均效率:

Input Condition 输入条件		Testing Point 测试点				Efficiency (Min) 能效
Voltage 电压	Frequency 频率					
115Vac	60Hz	25%	50%	75%	100%	80%
230Vac	50Hz	25%	50%	75%	100%	80%

### 1.5 No-Load Input Power Dissipation/待机功效:

Input/输入	Output/输出	Input Power (Max)/输入功率(最大)
230Vac	no load/无负载	0.3W

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	4 OF 9
Part No./编号	UE190116DGL1RI	Edition/版本	A/0

## 2.0 Output Characteristics/输出特性

### 2.1 Static Load/静态负载:

Output 输出	Voltage 电压	Rated Load/额定负载		Peak Load 最大负载	Remark 备注
		Minimum 最小	Maximum 最大		
Single/单相	+12V	0A	1.0A	/	

### 2.2 Output Voltage/输出电压:

Output/输出	Voltage/电压	Range/额定	Tolerance/公差
Single/单相	+12V	11.4V~12.6V	±5%

### 2.3 Output Current/输出电流

Output/输出	Current/电流范围	Range/额定	Tolerance/公差
Single/单相	0A~1.0A	1.0A	

### 2.4 Ripple & Noise/纹波和噪声:

Output/输出	Voltage/电压	Ripple (Max)/纹波(最大)	Noise (Max)/噪声(最大)
Single/单相	+12V	150mVp-p	150mVp-p

Measurement is done by 20MHz bandwidth oscilloscope and terminated each output with a 0.1 $\mu$ F ceramic capacitor and a 10 $\mu$ F electrolysis capacitor.

测试时在输出端并 0.1uF 瓷片或金膜电容和 10uF 电解电容各一个, 示波器带宽为 20MHz

Condition: Input Voltage **100~240Vac** at load current **1.0A**

条件: 输入电压范围 **100~240Vac**@负载电流 **1.0A**

### 2.5 Line/ Load Regulation/线性/负载调整率:

Output 输出	Load Condition 负载条件		Line Regulation 线性调整	Load Regulation 负载调整	Remark 备注
	Rating 额定	Minimum 最小			
+12.0V	0A	1.0A	±2%	±5%	

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	5 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

## 2.6 Turn-on Delay Time & Hold-up Time/开机延迟时间和关机维持时间:

	Input/输入	Output/输出	Period/时间
Turn-on Delay Time/开机延迟	115Vac/60Hz	Full load/满载	3s (Max)
Hold-up Time/保持时间	115Vac/60Hz	Full load/满载	8ms (Min)

## 2.7 Rise Time & Fall Time/上升时间和下降时间:

	Output/输出	Period (Max)/时间(最大)
Rise Time/上升时间	Full load/满载	100ms
Fall Time/下降时间	Full load/满载	100ms

## 2.8 Overshoot & Undershoot /过冲和欠冲:

10% max. when the power on or off

当电源开、关机时过冲最大 10%

## 2.9 Load Transient Response/负载瞬态响应

Output voltage is within 11.4~12.6V while the load step is from 50% to 75% of max load, R/S: 0.5A/ $\mu$ S, frequency: 100Hz and 4ms duration at 75% of max load.

输出电压在 11.4~12.6V 之间,负载变化: 从最大载的 50%到 75%,斜率: 0.25A/ $\mu$ S,频率: 100Hz,75%负载持续时间为 4mS.

## 2.10 Capacitance Load /容性负载:

While input 100~240Vac and capacitance load is **1000uF**, the adapter can turn on normally and the output is in the rated range.

在输入 100~240Vac , **1000uF** 容性负载条件下,适配器能正常开机,并且输出电压范围在额定范围内。

## 3.0 Protection Requirements /保护要求

### 3.1 Over Current Protection /过流保护:

The output shall hiccup when the over current applied to the output, and shall be self-recovery when the fault condition is removed.

当产品过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常

### 3.2 Short Circuit Protection /短路保护:

The input power shall decrease when the output is short to GND; the power supply shall not damage, and shall be self-recovery when the fault condition is removed

当输出对地短路时,产品输入功率降低且不会损伤,当短路情况解除后,产品将会自动恢复正常

### 3.3 Over Voltage Protection /过压保护:

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	6 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

The power supply shall be protected when the output more than **18V**, and the power supply shall not be damaged.

当产品输出过压时，输出电压不能超过 18V，产品保护且不会损伤

## 4.0 Environment Requirements /环境要求

### 4.1 Operating/工作:

- 4.1.1 Ambient Temperature/环境温度: -5°C ~ 45°C
- 4.1.2 Relative Humidity/相对湿度: 10% ~ 90%
- 4.1.3 Altitude/海拔高度: Sea level to 5,000 meters Max/海拔最高度 5,000 米
- 4.1.4 Cooling/散热: The power supply will operate with convention cooling  
电源适配器工作中自然散热

### 4.2 Non-operating/贮存:

- 4.2.1 Ambient Temperature/环境温度: -20°C ~ 60°C (non-condensing)
- 4.2.2 Relative Humidity/相对湿度: 5% ~ 90%
- 4.2.3 Altitude/海拔高度: Sea level to 9,000 meters /海拔高度 9,000 米

## 5.0 Reliability Requirements/可靠性要求

### 5.1 MTBF Qualification/平均间隔故障时间估算:

The power supply shall be designated and produced to have a mean time between failures (MTBF) of minimum **80,000** operating hours

设计和生产电源适配器的平均间隔故障的时间至少 80,000 小时

### 5.2 Vibration Test/振动试验:

Units are subjected to a vibration frequency of 10 ~ 300Hz and displacement of 3.5mm for 1 hour per each x, y and z direction.

扫描频率: 10 to 300Hz,位移: 最大 3.5mm, X, Y, Z 三垂直坐标轴向各振动 1 小时

## 6.0 EMC(Electro Magnetic Compatibility)/电磁兼容性

### 6.1 EMI(Electro Magnetic Interference)/电磁兼容:

Phenomenon/项目	Standard/标准	Test Level/测试等级
Conducted/射频传导	EN55032	Level B
Radiated/射频辐射	EN55032	Level B

Model No./型号	UES12LCP-120100SPA-OP	Pages/页码	7 OF 9
Part No./编号	UE190116DGFL1RI	Edition/版本	A/0

## 6.2 EMS(Electro Magnetic Susceptibility)/电磁干扰:

Phenomenon/项目	Standard/标准	Test Level/测试等级	Criteria/评判标准
EFT/电快速脉冲群	EN61000-4-4	+/- 2KV	B
Surge/浪涌	EN61000-4-5	DM+/- 1KV; CM+/- 1KV	B

## 7.0 Safety/安规

### 7.1 Dielectric Strength (Hi-pot) /介电耐压强度(高压):

Primary to Secondary: **4000Vac** / 10mA / 60 seconds (3 seconds for production)

初级对次级: **4000Vac** / 10mA / 60 秒(生产时高压测试时间: 3 秒)

### 7.2 Leakage Current/接触电流:

**0.25mA** max. at 264Vac / 50Hz input

在输入 264Vac/50Hz 的条件下最大 0.25mA

### 7.3 Insulation Resistance/绝缘电阻:

**10MΩ** min. @ primary to secondary add a 500Vdc test voltage

在初级与次级间加 500Vdc 进行测试, 最小 **10MΩ**

## 8.0 Mechanical Details /机械特性

### 8.1 Physical Dimensions/外观尺寸:

	Length/长	Width/宽
Dimension/尺寸	65mm	45mm

### 8.2 Weight/重量: Approximately/大约 39 g

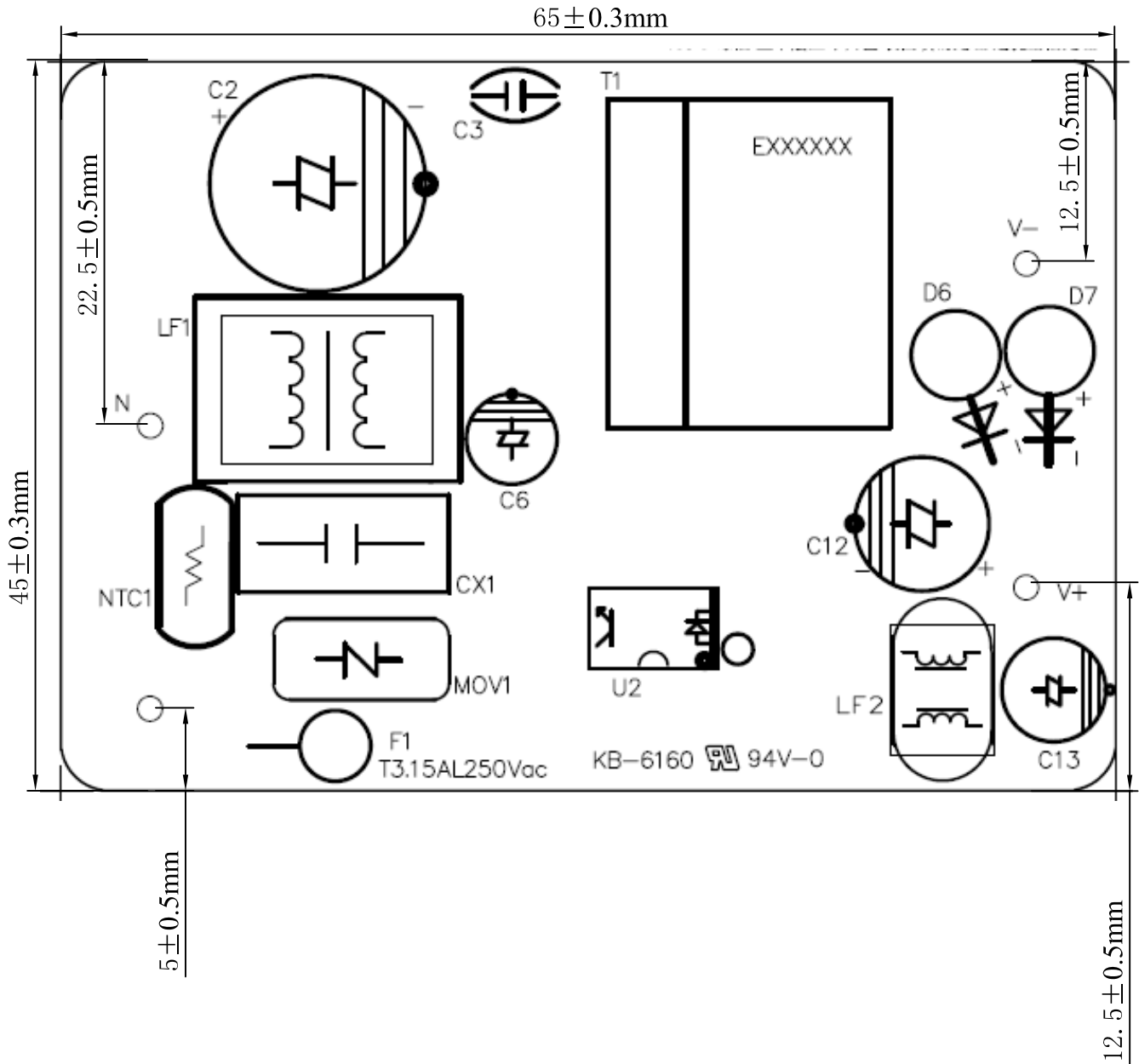
### 8.3 OUPUT/输出:

Output/输出	Polarity/极性	V+    V-
-----------	-------------	----------



Model No./型号	UES12LCP-120100SPA-OP	Pages /页码	8 of 9
Part No./ 编号	UE190116DGFL1RI	Edition /版本	A/0

### Dimensions/外形图 (Unit/单位:mm)



Model No./型号	UES12LCP-120100SPA-OP	Pages /页码	9 of 9
Part No./ 编号	UE190116DGFL1RI	Edition /版本	A/0

## Packing/包装(Unit/单位:mm)

### Requirement/要求:

1. Carton/纸箱:  
Dimension/尺寸: 584mm×384mm×220mm;
2. PE bag/PE袋:  
Each adaptor packed in a small PE bag  
每个电源单体放在一个PE袋里
3. Quantity/数量:  
120PCS;
4. Weight/重量:  
Gross weight/毛重: 6.2kg ;  
Net weight/净重: 4.68kg .

