

规格书

Electrical Specification

Description/产品名称: CHARGER

Model No./产品型号: LS-G140L-48V

Specification/产品规格: USBC:DC5V/9V/12V/15V3A/20V5/28V3.25A/
36V2.77A/48V2.08A PD3.1/QC5 100W Max

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1. SCOPE

The document provides a detailed description of an output charger that supports USBC:DC5V/9V/12V/15V3A/20V5/28V3.25A/36V2.77A/48V2.08A PD3.1/QC5 100WMax (Intelligent Power Distribution Output) The electrical, structural, and environmental requirements of the output charger are specified. The charger is compliant with PD3.1/QC5 standards.

资料详细描述了一款 USBC:DC5V/9V/12V/15V3A/20V5A/28V3.25A/36V2.77A/48V2.08A PD3.1/QC5 100WMax (智能功率分配输出), 输出充电器的电气, 结构及环境等要求。该充电器符合 PD3.1/QC5 标准。

The product shall meet the RoHS requirement.

此款产品符合 RoHS 要求.

1.1. Description

- ☒SMPS Charger(Wall mount)/插墙式充电器
- ☐SMPS Charger(Desk-top)/桌面型充电器
- ☐SMPS Adaptor/适配器
- ☐SMPS Unit(With Case)/带铝壳型
- ☐Open Frame/开放式结构
- ☐Others/其他

2. Input Characteristics/输入特性

2.1. Input Voltage & Frequency/输入电压与频率

The input voltage range is from 90V AC to 264V AC single-phase.

输入电压范围：从 100V AC 到 264V AC，单相输入。

	Minimum/最小	Nominal/额定值	Maximun/最大
Input Voltage/输入电压	90Vac	100Vac-240Vac	264Vac
Input Frequency/输入频率	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current/输入电流

1.5A max. @ 100-240V AC input & Full load/满载

2.3.Inrush Current (cold start)/浪涌电流(冷启动)

80A max. @ 240V AC input

2.4.Power Factor/功率因素

0.9min@ Nominal input 110V AC & Full load/额定输入 110V&满载

0.9min@ Nominal input 230V AC & Full load/额定输入 230V&满载

3. Output Characteristics/输出特性

3.1 Output specification table/输出规格表

NO. 序号	Item/项 目	Specification/规 格	Remark/备 注
1	USB-C output port: /输出 端口 USB-C	DC5V/9V/12V/15V3A/20V5A/28 V3.25A/36V2.77A/48V2.08A (PPS:5~21V5A) ,	
	Total Power/总功率	100W	
2	Net Weight/净重	229g	

3.2 No-load power consumption≤0.3W/空载功耗≤0.3W

3.3 The output load characteristics/输出负载特性

Measurement method: Use an oscilloscope with a bandwidth of 20M, and parallel a 0.1uF ceramic capacitor and a 10uF tantalum capacitor. Measure with a 0.7mm², 0.3m long cable.

测量方法：用示波器 20M 带宽，并联 0.1uF 陶瓷与 10uF 钽电容器，用 0.7mm²长 0.3m 的电缆线端进行测量。

Input Voltage AC100-240V /输入电压: AC100-240V

Output port/ 输出端口	No load Output Voltage/ 空载输出 电压	Rated Output Current /额定输出 电流	Rated load Output Voltage /额定负载电压	Ripple and Noise Range/ 纹波与噪音	Remark/备 注
USB C	5V	3A	4.75V - 5.3V	≤200mV	
USB C	9V	3A	8.55-9.45V	≤200mV	
USB C	12V	3A	11.4-12.6V	≤200mV	
USB C	15V	3A	14.25-15.75V	≤200mV	
USB C	20V	5A	19 -21.0V	≤200mV	
USB C	28V	3.25A	26.6-29.2V	≤200mV	
USB C	36V	2.77A	34.2-37.8V	≤200mV	
USB C	48V	2.08A	45.6-49V	≤200mV	

3.4 Turn-on Delay Time/开机延迟时间

5.0S max. @ 100V AC to 240V AC input & Full load/满载

3.5 Hold-up Time/关机维持时间

6mS min. @ Full load &115Vac/60Hz input turn off at worst case/在最差情况关机

10mS min. @ Full load &230Vac/50Hz input turn off at worst case/在最差情况关机

3.6 Rise Time/上升时间

50mS max. @ Rated load/额定负载

3.7 Fall Time/下降时间

50mS max. @ Full load/满载

3.8 Output Overshoot/Undershoot/输出电压过冲/欠冲

10% max. When the power on or off/当电源开/关机最大过冲 10%.

3.9 Output Load Transient Response/输出负载瞬态响应

Output voltage at 28V for load step from 20% to 80%,R/S:0.5ms, frequency: 100Hz

输出电压在 48V 时, 负载变化:从 20%到 80%, 斜率:0.5mS, 频率:100Hz

4. Protection Requirements/保护要求

4.1 Short Circuit Protection/短路保护

When output is short-circuited, the product's input power will decrease without damage, and the product will automatically return to normal when the short-circuit condition is removed.

当输出短路时, 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。

4.2 Over Voltage Protection/过压保护

When the output voltage exceeds 53V, the product enters into protective mode. If hiccup or quasi-state in a certain output highest voltage state, the product is not damaged. When the fault is eliminated or the power is restarted, the power supply works normally.

当输出电压超过 53V 时, 产品进入保护状态, 如打嗝或钳在某输出最高电压状态, 产品不受损伤, 当故障排除或重新起机时, 电源工作正常。

4.3 Over Current Protection/过流保护

When the output current exceeds 6.2A, the product enters a protection state, similar to hiccup mode, and the product is not damaged. When the fault is resolved or the power is restarted, the charger works normally.

当输出电流超过 6.2A 时, 产品进入保护状态, 如打嗝状态, 产品不受损伤, 当故障排除或重新起机时, 电源工作正常。

5 . Environment Requirements/环境要求

5.1 Operating Temperature and Relative Humidity/操作温/湿度要求

0°C to +25°C

20% RH to 80% RH

5.2 Storage Temperature and Relative Humidity/存储温/湿度要求

-20℃ to +70℃

10% RH to 90% RH non-condensing @ Sea level shall be low 10,000 feet/低于 10,000 英尺

5.3 Vibration/振动

The scanning frequency is 10 to 300Hz, the acceleration is 1.0G (displacement: 3.5mm), and the product is subjected to 1 hour of vibration on the X, Y, and Z vertical coordinate axes.

扫描频率:10 to300Hz,加速度:1.0G(位移:3.5mm),X,Y,Z 三垂直坐标轴向各振动 1 小时。

6. Reliability Requirements/可靠性要求

6.1 /Aging test 老化

The product needs to be run for 4 hours at full load and at an environmental temperature of 25℃ ± 5℃. 产品至少要在 25℃ ±5℃的环境下及满载条件下煲机 4 小时。

6.2 MTBF Qualification/平均间隔故障时间估算

The MTBF should be at least 50,000 hours under a rated input, full-load condition in an environment of 25℃. 平均间隔故障时间:至少 50,000 小时，25℃环境及额定输入与满载条件下

7. EMI/EMS Standards/EMI/EMS 标准

7.1 EMI Standards/EMI 标准

EN55032:2015+A11:2020, EN55035:2017+A11:2020
FCC PART 15, SUBPART B
VCCI Class B CNS
IEC61000-3.2:2019,EN61000-3-3:2013+A1:2109
GB/T 9254.1-2021 信息技术设备、多媒体设备和接收机电磁兼容 第 1 部分

7.2 EMS Standards/EMS 标准

Test Item	Test Specification	IEC Standards
ESD	Contact +/-4KV	61000-4-2
ESD	Air +/-8KV	61000-4-2

RS	FR: 26MHz-1.0GHz Field Strength: 3V/M	61000-4-3
EFT	+/-2KV on AC power line	61000-4-4
SURGE	+/-1KV (DM) & +/-1KV(CM)	61000-4-5
CS	3V/M	61000-4-6
DIPS	0% 250CY,40% 5CY,70%5CY	61000-4-11

8. Safety Standards/安规标准

8.1 Dielectric Strength(Hi-pot)/介电耐压强度(高压)

Primary to Secondary: 3000Vac 5mA_{Max} / 60second(3 second for production)

初次对次级:3000Vac / 5mA_{Max} 60 秒(生产时高压测试时间:3 秒)

8.2 Leakage Current/泄漏电流

0.25mA_{max}. at240Vac/50Hz

8.3 Insulation Resistance/绝缘阻抗

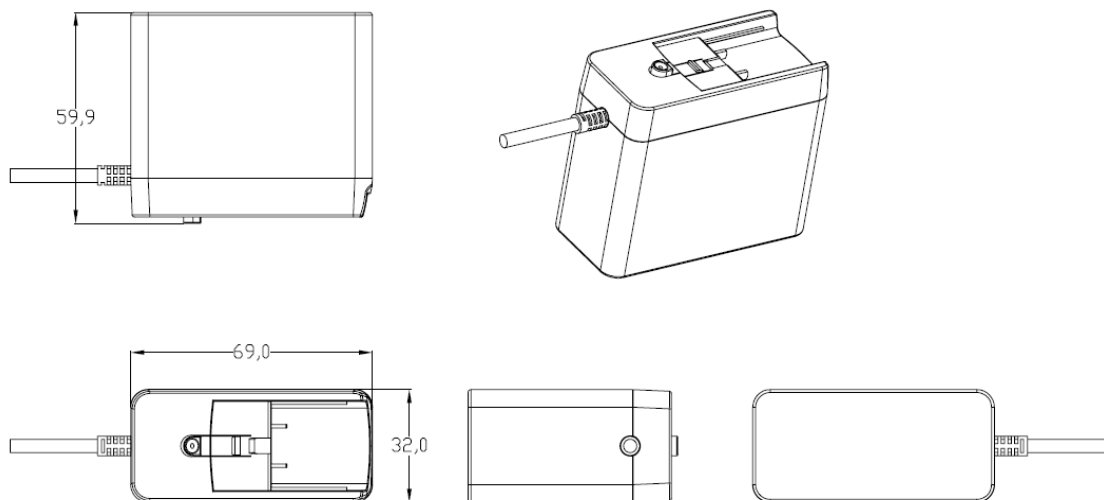
Insulation test between primary and secondary with 500Vdc, minimum insulation resistance of 50MΩ.

在初级与次级间加 500Vdc 进行绝缘测试, 最小绝缘阻抗 50MΩ.

8.4 Regulatory Standards/安规标准

EN62368-1:2014+A11:2017
UL 62368-1:2014 Ed.2, CSA C22.2#62368-1:2014 Ed.2
EN50563:2011/A1:2013
GB4943.1-2022 信息技术设备安全

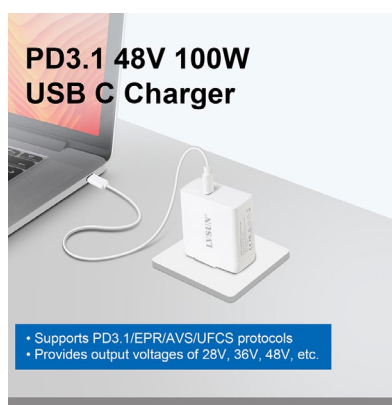
9. Outline Drawing/外观示意图



10. Product figure frame picture/产品轮廓框架图 (Unit: mm)



11. Marking Drawing/铭牌示意图



12. BOX/小白盒

13. Package Drawing/包装示意图