

# IPC--12U Dual Lan 6\*COM Industrial Mini PC



## Features

- Optional Intel®12th /13th Core™ I3/I5/I7 Mobile Processor
- 1\*HDMI1.4 4096\*2160@24HZ
- 1\*VGA 1920\*1080@60HZ
- DDR4 SODIMM \*2, max support 64GB
- 2\*INTEI-I226V2.5G NIC, support Wake on LAN, NIC boot up
- Timed boot, PXE diskless boot
- Low power consumption and ultra quiet fanless design

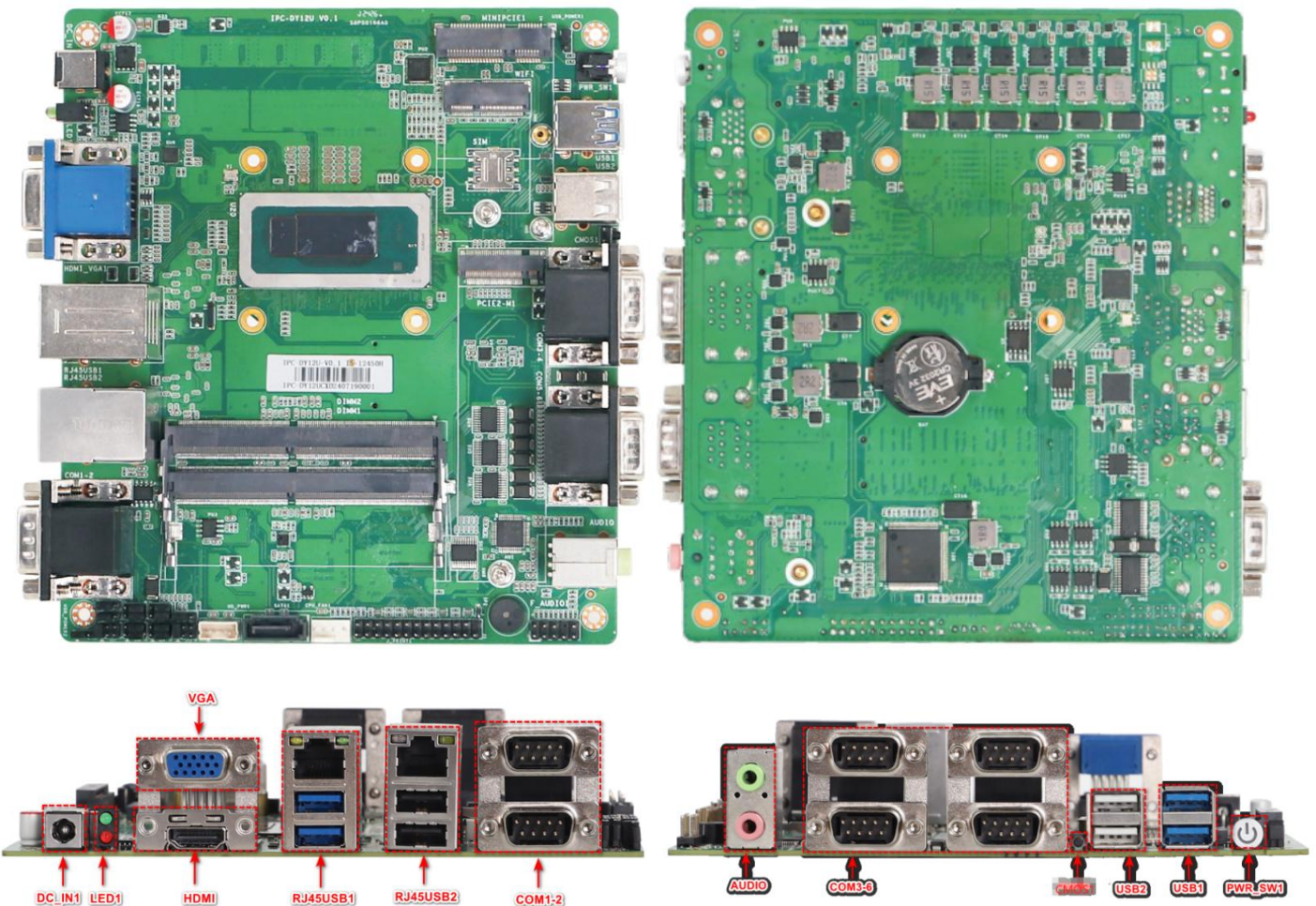
## Specification

System	
Processor	Intel®12th /13th Core™ I3/I5/I7 Mobile Processor
RAM	8GB DDR4 (SODIMM *2, max support 64GB)
Internet	2*RJ45 Port (INTEI-I226V2.5G NIC), support Wake on LAN, NIC boot up
I/O Port	4*USB3.0 4*USB2.0 1*VGA 1920*1080@60HZ, 1x HDMI1.4 support 4096*2160@24HZ 6*DB9RS232 <COM1-COM2 can set RS232/422/485 from BIOS> 1* power button 1 *SPK audio output 1*MIC audio input 1*DC12V power input
Storage	512GB (1*m.2 NVMe) Optional(1*SATA 2.5inch support SSD or HDD)
Extension Slot	1*MINIPCIE socket Support WiFi/ Bluetooth Module 1*MINIPCIE socket Support 3G/4G/WIFI Module 8*GPIO 4*input 4*output <Notice: It is motherboard pins, custom extensions available>
Operation System	Windows 10 IoT ENT LTSC
Others	Timed boot, PXE diskless boot
Power input	DC12V default 12V6A
Structure	
Case Materials	Aluminium
Installation	Supports desktop / wall mounting
Item size	240mm*150mm*69mm
Weight	2.0KG
Storage temperature	-30°C to +70°C
Operation temperature	-20°C to +65°C
Storage humidity	5%~95% Relative humidity, non-condensing

# Chipset Specs

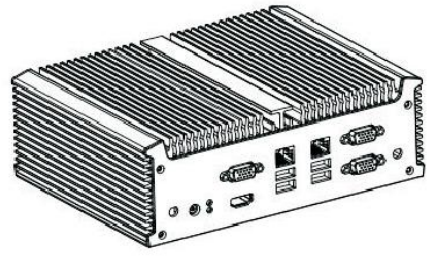
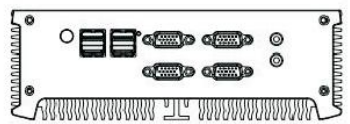
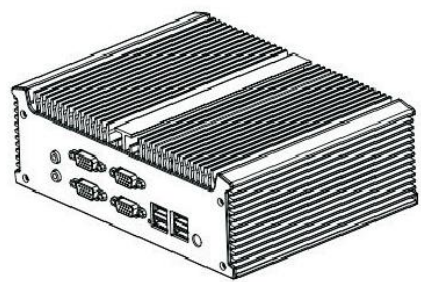
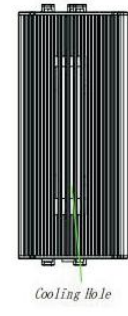
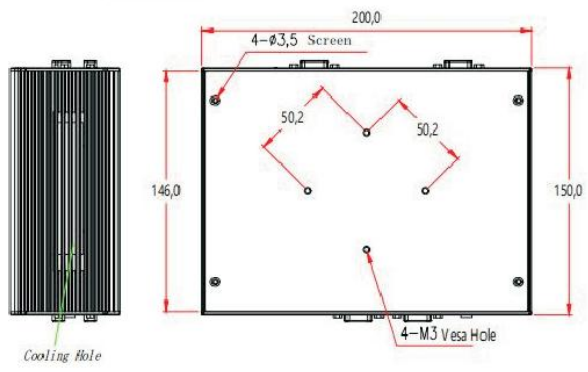
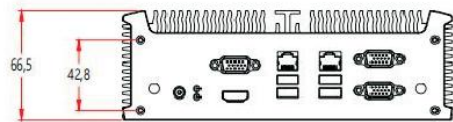
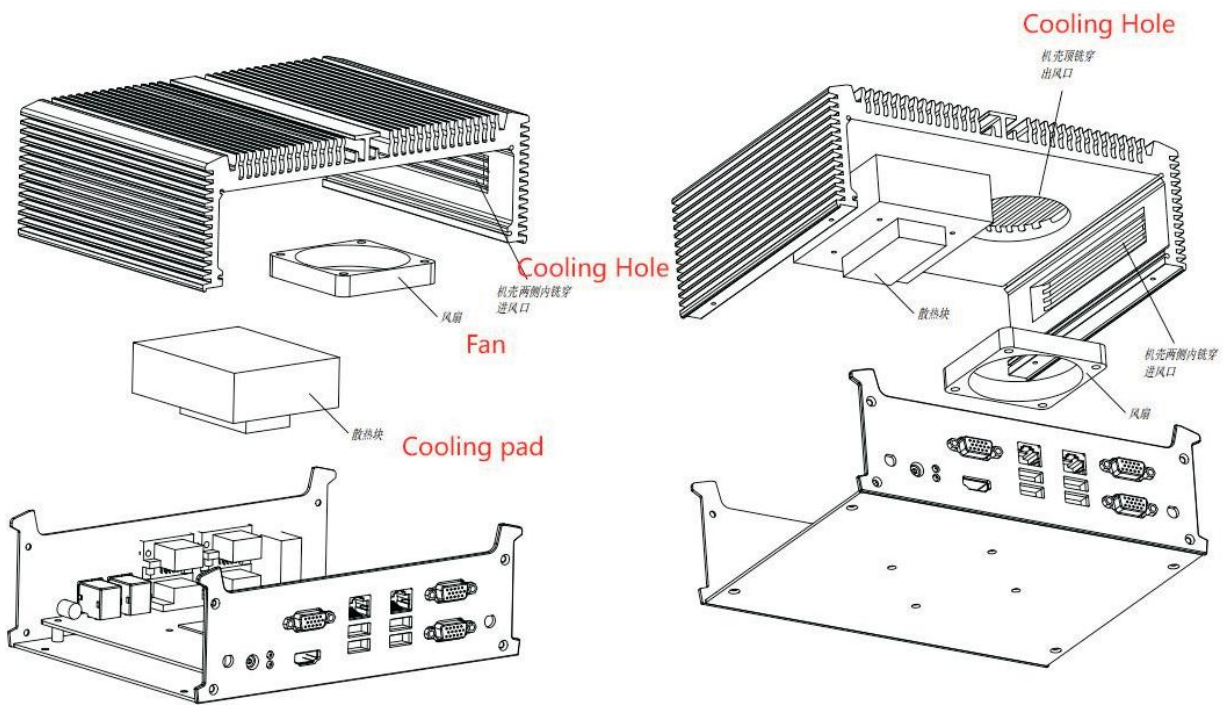
<b>Model Number</b>	I5-1235U 12th Generation Intel® Core™ i5 Processors
<b>Basic info</b>	10cores 12threads, 4.4GHz max turbo frequency, 12MB Intel® Smart Cache
<b>Power</b>	Processor base power is 15W, maximum turbo power is 55W, Minimum assured power is 12W
<b>GPU</b>	Intel® Iris® Xe Graphics eligible, 1.20GHz graphics max dynamic frequency
<b>Sockets supported</b>	FCBGA1744
<b>Package Size</b>	50x25MM
<b>Max operating temperature</b>	100°C

# Motherboard Photos



# Case Structure Photos

Size: 200\*150\*66.5MM



## Product Photos



## I/O Ports:

6\*COM,2\*LAN,8\*USB,HDMI,VGA,Audio,Mic

# Fan Specs:

## I. SCOPE (范围) :

This specification defines an axial flow type DC brushless fan electrical and mechanical characteristic. The fan motor is a two-phase quadrupole type.

(本承认书定义了轴流式直流无刷风扇的电气特性和机械特性。此风扇马达为两相四极式。)

## II. ELECTRICAL (电气特性) :

ITEM	DESCRIPTION
RATED VOLTAGE (额定电压)	12 V DC
OPERATION VOLTAGE (允许电压)	10.8V ~13.5V.DC
START VOLTAGE (启动电压) (ENVIRONMENT TEMPERATURE AT -10°C TO +55°C) (环境温度 -10°C— +55°C)	6V DC
RATED CURRENT (额定电流)	0.15A (MAX: 0.1A)
INPUT POWER (输入功率)	1.8W
SPEED (转速)	5000RPM.± 10%
MAX.AIR FLOW (最大风量) (AT ZERO STATIC PRESSURE)	18.12CFM
MAX.AIR PRESSURE (最大风压) (AT ZERO AIRFLOW)	4.15mmH <sub>2</sub> O
ACOUSTICAL NOISE (AVG) (最高噪音)	39.12dB(A)
INSULATION STRENGTH (绝缘强度)	10 MEG OHM MIN. AT 500 VDC(BETWEEN FRAME AND (+) TERMINAL) (在通入 500 伏直流电压条件下, 外框与端子线间阻抗不低于10兆欧)
DIELECTRIC STRENGTH (介质强度)	5mA MAX. AT 500 VAC 60Hz ONE MINUTE.(BETWEEN FRAME AND(+) TERMINAL) (在通入 500 V/60Hz 交流电一分钟条件下, 外框与端子线 间电流不超过 5mA)
LIFE EXPECTANCY (预期寿命)	50,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15~65 %RH (在环境温度为 40°C, 相对湿度为 15~65 %RH的条件下预期能正常工作 50,000小时)
LEAD WIRE (线材)	2510-3P 1007 26# 黑红并线 全长210MM BLACK ----- (-) RED -----(+)
ELECTRONIC CIMPONENT(电子元件)	ALELECTRONICCIMPONENTWORKINNORMAL CONDITION WHEN≥85°C 所有电子元件耐温≥85°C

## III. MECHANICAL (部件材质) :

3-1.DIMENSIONS (尺寸) : Reference Dimensional Drawings (参考尺寸图)

3-2.FRAME (框) : UL:94V-0 (环保防火料 94V-0)

3-3.IMPELLER (扇叶) : PBT UL:94V-0 (环保防火料 94V-0)

3-4.BEARING SYSTEM (轴承类别) : TWO BALL (结构) (结构)

3-5.WEIGHT (重量) : 25.0GRAMS (克)

## IV. ENVIRONMENTAL (参考环境) :

4-1.OPERATING TEMPERATURE (运行温度) : -10 TO +70 DEGREE C

4-2.STORAGE TEMPERATURE (储存温度) : -40 TO +75 DEGREE C

4-3.OPERATING HUMIDITY (运行湿度) :

5 TO 90% RH

4-4.STORAGE HUMIDITY (储存湿度) :

5 TO 95% RH

## V. PROTECTION (品质保证) :

DROP TEST (落体试验) :

IN MINIMUM PACKAGING CONDITION FAN WITHSTANDS EACH ONE-DROP OF THREE FACES FROM 30 CM DISTANCE HEIGHT ONTO 10 MM THICKNESS OF WOODEN BOARD.

(在正常的包装情况下, 风扇能够经受将整体包装的三个面分别从 30cm 高度跌落至 10cm 厚的木板上, 风扇将安然无恙。)

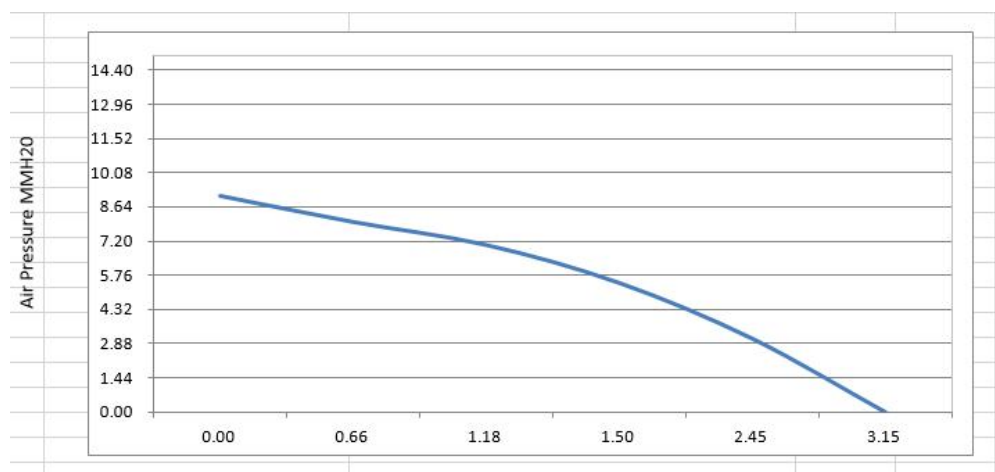
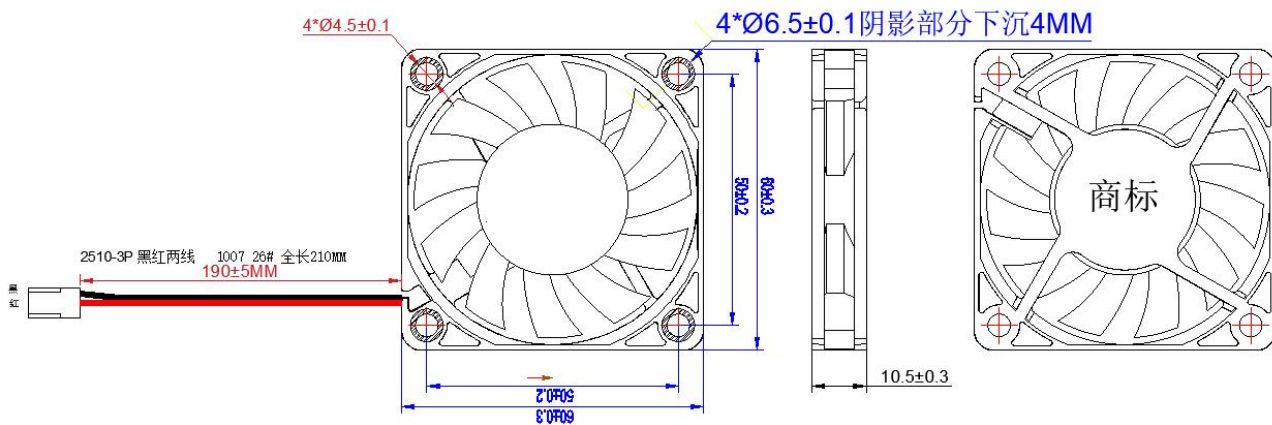
## VI. RE OZONE DEPLETING SUBSTANCES (环保) :

NO CONTAINING PBBs, PBBOs, CFCs, PBBEs, PBDPEs AND HCFCs.

(不会产生对臭氧破坏的 PBBs, PBBOs, CFCs, PBBEs, PBDPEs 和 HCFCs 等物质.)

## VII. OUTLINE (外观图) :

7.1风扇颜色: PBT黑色 供参考



7.2.风压风量图;

## VIII. 噪音值:

在噪音测试房中, 放置麦克风于进风口一米处, 并参考ISO-7799规格测量出来。

背景噪音: 20.0dba 最大

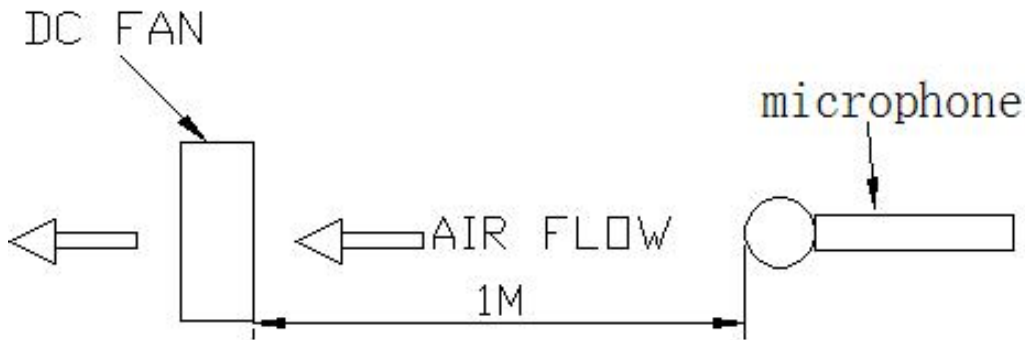
Noise level: In the noise test room, put the microphone in the inlet one meters, and refer to the ISO -7799 specification is measured. background noise: 20 dba is the largest.

在无声室额定电压之噪音测试

Noise is Measured At Rated Voltage In Anechoic

在空气自由流动的测试室

Chamber in free air As Below



#### IX. NOTES (注意事项) :

9.1 Please do not touch the impeller and never carry the fan the lead wires. The bearings and the lead wires may be damaged.

(请不要碰触扇叶和拉扯线材，以免损坏轴承及导线。)

9.2 For the purpose of MIS, please specify the Model No. on every order.

(便于订单管理，请在每一订单上详细注明其型号。)

9.3 Please do not use the fan in the environment of corrosive gas or liquid.

(请不要将风扇置于腐蚀的气体 and 液体内。)

9.4 Please do not store the fan in the environment of high humidity. Please avoid storage of the fan over 6 months . For long term storage, please connect power to the fan shortly every 6 months even through the fan is stored in room temperature.

(请不要将风扇储存在高湿度的环境中，请尽量避免将风扇储存期超过 6 个月。如果要长期储存，请将其在室温的环境下，且每隔 6 个月须通上电源让风扇短时间运转。)

9.5 While the fan is in operation, please do not lock the fan intentionally for a long period of time to prevent over heating which may cause permanent damage.

(当风扇在正常运转时，请不要长时间故意地锁定风扇，那样会使风扇过热从而有可能导致风扇的永久性损坏。)

# Power Adapter Specs:

## 2.1 Power Supply Description 产品概述

This is a series of general purpose AC/DC adapters which convert 100Vac ~240Vac to a stabilized DC voltage of [12V](#) with rated output current of [6 A](#).

本通用型电源是将100Vac ~240Vac 交流输入电压转换成稳定的直流电压[12VDC](#)，额定输出电流[6A](#)。

## 2.2 Power Supply Change Notification 变更事前通知

The vendor shall notify customer of significant design changes, prior to implementation. However, process improvements can be an exception.

有重大设计变动时,在变更实施之前,供应商将通知到客户,工艺改善可以例外。

## 2.3 Power Supply Frame 电源结构型式

Wall mount 插墙式

Desk-top 桌上式

Open frame 开放式结构/裸板

Other 其它

## 3 ELECTRICAL CHARACTERISTICS 电气性能

### 3.1 AC Input Voltage and Frequency 输入电压及频率

2.1.1 Rated Input Voltage 额定输入电压: AC[100-240V](#)

2.1.2 Reliable Input Voltage 可输入电压范围: AC[90-264V](#)

2.1.3 Rated Input Frequency 额定输入频率: [50/60Hz](#)

2.1.4 Reliable Input Frequency 可输入频率范围: [47-63Hz](#)

### 3.2 Maximum AC Current 最大输入电流

Input rated voltage, Output rated load. Input AC Current [1.8Amps](#) Maximum.

输入额定电压,输出额定负载条件下,最大输入电流为:[1.8Amps](#)。

### 3.3 Input Inrush Current 最大浪涌(突入)电流

maximum surge is not damaged under the condition of output rated load(cold start);

输出额定负载(冷启动)条件下,最大浪涌不损坏;

### 3.4 No-load Loss Power 空载功耗

Input [115/230Vac](#), Output no load. Maximum loss power [0.21Watts](#).

输入[115/230Vac](#),输出空载,最大空载功耗为:[0.21瓦](#)。

### 3.5 Output Voltage 输出电压

负载 (Load)	最小负载 (Min. Load)	最大负载 (Max. Load)
电流(Current)	<a href="#">0A</a>	<a href="#">6A</a>
电压(Voltage)	<a href="#">12Vdc±5%</a>	<a href="#">12Vdc±5%</a>

### 3.6 Output Ripple Voltage 输出纹波电压

3.6.1 Test the output ripple voltage at rated input and output (25°C).

在额定输入及输出的条件下 (25°C) 测试输出纹波电压。

3.6.2 Peak to peak ripple is measured with an oscilloscope with a bandwidth of 20MHz.

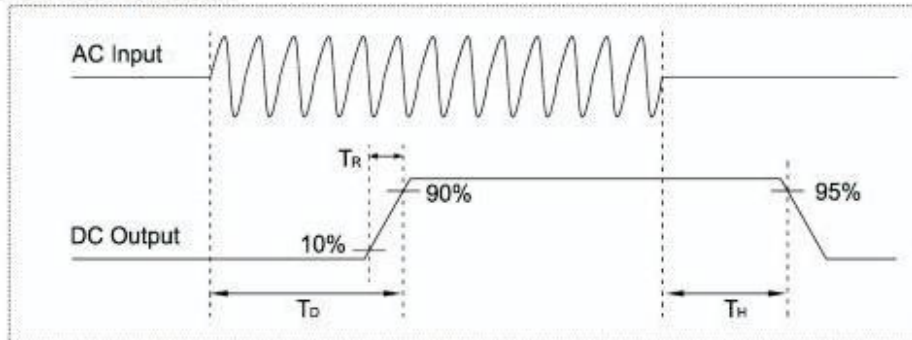
纹波量测时示波器选用20MHz带宽限制。

3.6.3 Measurement of ripple should include a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor at the input of the measuring oscilloscope.

测试时在输出端要并联一颗0.1uF的陶瓷电容和一颗10uF的电解电容。

Input	Output Rated Voltage	Output Current	Output Ripple & Noise
100Vac-240Vac	+12V	6A	200mVp-p Max.

### 3.7 Time Sequence 时序特性



#### 3.7.1 Turn-On Delay Time( $T_D$ ) 开机输出延迟时间:

The maximum cold start turn-on delay shall not exceed 5 second at input 100-240Vac and the rated load condition.

在输入100-240Vac,额定负载情况下,最大冷启动打开的延迟不会超出5秒。

#### 3.7.2 Hold-Up Time( $T_H$ ) 关机输出维持时间:

3.7.2.1 The maximum turn-off hold-up time shall be least 5mS at input 100Vac and the rated load condition.

在输入100Vac及额定负载情况下,关机输出维持时间不低于5mS。

The maximum turn-off hold-up time shall be least 10mS at input 240Vac and the rated load condition.

在输入240Vac及额定负载情况下,关机输出维持时间不低于10mS。

#### 3.7.3 Output Rise Time( $T_R$ ) 输出上升时间:

Input 100Vac/240Vac and rated load. The rise time shall not exceed 100mS that the output voltage rise from 10% to 90% rated voltage.

在输入100Vac/240Vac,输出额定负载条件下,输出电压由10%额定电压上升至90%额定电压的上升时间不会超过100mS。

#### 4.1 Temperature 温度

##### 4.1.1 Storage temperature (Non-operating) 可存储温度(非操作状态):

-20 to 70 degrees C                      [-20] 至 [70]摄氏度.

Typical values:25 degrees C.                      典型值:25摄氏度.

##### 4.1.2 Operating temperature Limits 可操作温度:

0 to 40 degrees C.                      [0] 至 [40]摄氏度.

Typical values:25 degrees C.                      典型值:25摄氏度.

#### 4.2 Relative Humidity 相对湿度

##### 4.2.1 Storage Humidity (Non-operating) 存储湿度(非操作状态):

5% to 90% RH (Non-condensing)                      [5%] 至 [90%],无凝水状态.

##### 4.2.2 Operating Humidity Limits 操作湿度:

5% to 90% RH (Non-condensing)                      [5%] 至 [90%],无凝水状态.

#### 4.3 The Sea Level Altitude 海拔高度

##### 4.3.1 Storage Altitude 可存储海拔度(非操作状态):

0 to +5,000m above the sea level                      [0] 至 [5,000]米.

##### 4.3.2 Operating Altitude 可工作海拔度:

0 to +5,000m above the sea level                      [0] 至 [5,000]米.

#### 4.4 Cooling Method 冷却方法

Natural convection or Forced air 自然冷却或通风冷却

### 5 Reliability 可靠性

#### 5.1 MTBF: Mean Time Between Failure 平均故障间隔时间

The power supply shall be designed and manufactured to have more than20,000 operating hours (about 2.28 years for 24-hour-operation a day) of mean time between failure (MTBF) at 90% of confidence level while operating under the prevailing conditions below.

在如下条件,该电源设计和制造平均故障间隔时间(MTBF)将超过20,000个操作时间(大约操作24小时/每天/2.28年),信心指数为90%。

AC Input Voltage:	115/230Vac
输入电压:	115/230Vac
Output Load:	of Rated load
输出负载:	额定负载条件
Ambient Temperature:	at <u>25</u> degrees C Room Temperature
环境温度:	室温 <u>25</u> 摄氏度

### 7.5.1 Input Connection 输入连接:

#### 7.5.1.1 Wall plug or Cord to Cord Type 插墙式或导线式

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> For EU  | <input type="checkbox"/> For UL 3PIN            | <input checked="" type="checkbox"/> For CCC   |
| <input checked="" type="checkbox"/> For PSE | <input checked="" type="checkbox"/> For UK 3PIN | <input checked="" type="checkbox"/> For Korea |
| <input type="checkbox"/> For IRAM           | <input checked="" type="checkbox"/> For SAA     | <input checked="" type="checkbox"/> For UL    |
| <input type="checkbox"/> For Brazil         | <input type="checkbox"/> For PSB                | <input type="checkbox"/> Others               |

#### 7.5.1.2 Socket and Terminal Type 插座或端子式

- |                                      |   |  |
|--------------------------------------|---|--|
| <input type="checkbox"/> 2PIN Socket | <input checked="" type="checkbox"/> 3PIN Socket | <input type="checkbox"/> Terminal type |
|--------------------------------------|---|--|

### 7.5.2 Output Connector 输出连接:

#### 7.5.2.1 Output Plug 输出插头

[5.5\\*2.1\\*10mm直头](#)

#### 7.5.2.2 Polarity 极性

[内正外负](#)

### 7.5.3 Input & Output Cord 输入输出线材:

#### 7.5.3.1 Length and Cord 长度及颜色

[1500+50/-0mm.BLACK](#)

#### 7.5.3.2 Specification 规格

[UL2468,18AWG/2C](#)

### 7.6 Unit Weight 产品单重

The weight of the unit power supply shall be about \_g(Ref).

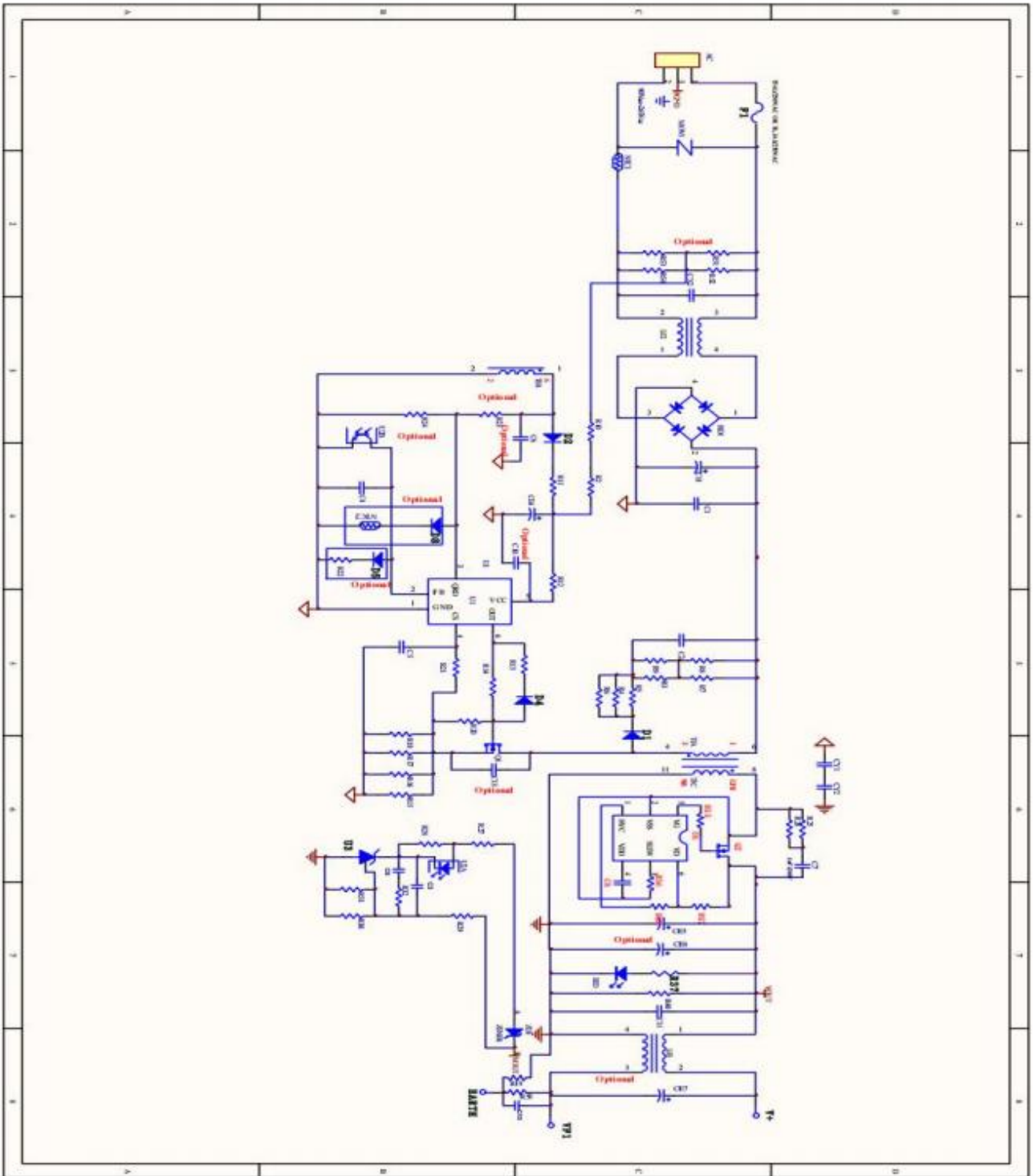
产品单重大约: 克 (供参考).

### 7.7 Dimension 物理尺寸

[L:121\\*W:54\\*H:30mm](#)

See appearance figure 详见外观图.

# 8.1 CIRCUIT DIAGRAM 电路图



### 8.3 Overall Drawing 外观图

外壳(Enclosure):BLACK(LEAD FREE) 外壳: 黑色

外壳尺寸(The power supply size): L:121\*W:54\*H:30mm

