ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

APPROVAL SHEET

for POE POWER SUPPLY

RoHS RoHS

CUSTOMER: F0552

P/N:

DESIGN NO.:A1510110300R

REV: 01

MODEL NO.:PGSC20D01-540035

TYPE: C6

OUTPUT:54V/0.35A (3645+1278-)

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

Table of Contents

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

1.0 SCOPE

This document details the electrical, mechanical and environmental specifications of a POE power supply. Delivers power and data through one Ethernet cable for easy network extension. Compatible with 802.3af compliant PDs(Powered Devices) Use of IC is PD69101, companies from the Microsemi. Transmits power on Ethernet cable up to 100 meters away. Plug and play design provides a hassle free setup. Please used the cable see IEEE 802.3af. 10M/100M/1000M compliant.

1.1 Description

☐ Wall Mount ■ Desk-Top ☐ Open Frame ☐ Others

2.0 INPUT REQUIREMENTS

2.1 Input Voltage & Frequency

The range of input voltage is from **90Vac** to **264Vac** Minimum input voltage **90Vac** with 57-63Hz Maximum input voltage **264Vac** with 47-53Hz. Normal input voltage **100Vac** & **240Vac** with 50/60Hz

2.2 Input Current

The maximum input current is max **0.5 A** at **100 ~ 240Vac** .

2.3 Inrush Current

The inrush current will not exceed **40A** at **100Vac and 60 A** at **240Vac** input and Max load for a cold start at 25℃.

2.4 No Load Power Consumption

The input power should be less than **0.1W** with output **0A** at 115Vac/230Vac input.

3.0 OUTPUT FEATURES

3.1 Static Load

3.1.1	Output #	**V1**	
3.1.2	Output Voltage:	**54V**	
3.1.3	Minimum Load:	**0A**	
3.1.4	Maximum Load:	**0.35A**	
3.1.5	Output Power	**18.9W**	
3.1.6	Load Regulation:	**±5%**	
3.1.7	Line Regulation:	**±2%**	
3.1.8	Voltage Accuracy:	**Min**	**51.3V**
		Max	**56.7V**
3.1.9	Ripple & Noise(*)	**200mVp-p**	

*Measuring is done by 20MHz bandwidth oscilloscope and terminated each output with a 47uF aluminum electrolytic capacitor and a 0.1uF ceramic capacitor.

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

3.2 Capacitive Load Test

Unless otherwise specification output load must set at CC mode at 100Vac/240Vac.

3.3 Output Over Current

In the input voltage range the over current range Iocp: **0.35A MAX**.

3.4 Turn On Delay

During turn on and turn off, no output voltage shall exceed its nominal voltage by more than 5% and no output shall change its polarity with respect to its return line. All outputs shall reach their steady state values within **6 seconds** of turn on at 100～240Vac input

3.5 Hold Up Time

10mS minimum from loss of 115Vac/60Hz input at maximum load, and **20**mS minimum at 240Vac/50Hz input at maximum load.

3.6 Fall Time **30**mS maximum at 100～240Vac input at maximum load.

3.7 Rise Time **100**mS maximum at 100～240Vac input at maximum load.

3.8 Output Transient Response

3.8.1 Transient Response Deviation: The power supply shall maintain output transient response time within **10**mS with a current change from **25%** to **50%** or **50%** to **75%**of maximum current and 0.5A/us slew rate in load for the output 10%.

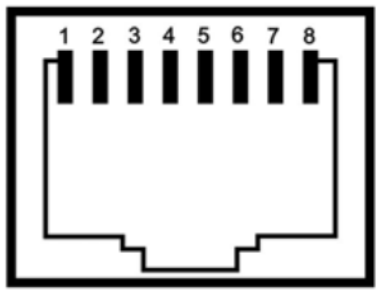
3.8.2 Transient Response Recovery Time: **200**uS maximum @ **25%** to **50%** or **50%** to **75%** Load & 50% Duty & 100Hz/200Hz.

3.8.3 Transient Response Over Shoot:±**10%**Vo.

3.9 Output Connector Assignment

RJ45 POE Port Pin assignment

Pin	Definition
1	Tx1(+)& Power -
2	Tx1(-)& Power -
3	Rx1(+)& Power+
4	Tx2(+)Power+
5	Tx2(-)Power+
6	Rx1(-)& Power+
7	Rx2(+)Power -
8	Rx2(-)Power -



ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

4.0 PROTECTION REQUIREMENT

4.1 Over Voltage Protection

The power supply shall be hiccupped when output voltage reaches to its over

■ The power supply shall be self – recovering when the fault condition is removed.

□ The power supply will go into latch-off mode, and have to OFF and ON the AC input to restart the power supply.

4.2 Over Current & Short Circuit Protection

The power supply shall be hiccupped when operating any output in overload condition, or when operating any output in a short circuit condition.

□ The power supply shall fail but safe – the input power shall be less than / W.

■ The power supply shall be self – recovering when the fault condition is removed.

□ The power supply will go into latch-off mode, and have to OFF and ON the AC input to restart the power supply.

5.0 ENVIRONMENTAL CONDITIONS

5.1 Operating

The power supply shall be capable of operating normally in any mode without malfunction happens in the following environmental conditions.

5.1.1 Operating Temperature: 0℃ ~ 40℃

5.1.2 Relative Humidity: 20% ~ 85%

5.1.3 Atmospheric Pressure: 70Kpa ~ 106Kpa

5.1.4 Altitude: Sea level to **5000m**

5.1.5 Vibration: 1.0G (Amplitude), 5 ~ 20～500Hz (Frequency), 30 minutes per cycle for each axis (X, Y, Z).

5.1.6 Cooling: Natural convection cooling

5.2 Non - Operating

The power supply shall be capable of withstanding the following environmental conditions extended periods of time, without sustaining electrical or mechanical damage and subsequent operational deficiencies.

5.2.1 Storage Temperature: -20℃ ~ 60℃

5.2.2 Relative Humidity: 20% ~ 85%

5.2.3 Atmospheric Pressure: 70Kpa～106Kpa

5.2.4 Altitude: Sea level to **5000m**

5.2.5 Vibration and Shock: The power supply shall be designed to withstand normal transportation

vibration per MIL–STD-810D, method 514 and procedures X, as it is mounted in the chassis assembly and packed for shipping.

5.2.6 Thermal Shock: +85°C for 1 hour; Low: -40°C for 1 hour no work, after repeat for 32 times, normal temperature for 2 hours, the appearance and functions must meet the requirements in ambient temperature.

6.0 RELIABILITY AND QUALITY CONTROL

6.1 MTBF

When the power supply is operating within the limits of this specification the MTBF shall be at Least **50,000** hours at 40℃ (MIL-HDBK-217F).

6.2 Operating Life

Output voltage	Min Voltage	Max Voltage	Current Max	Life Time	Ambient Temperature	Load Condition
54V	51.3V	56.7V	0.28A	26280 Hours	25℃	80%

6.3 Burn-In

The power supply shall withstand a minimum of 4 hours Burn-In test 80%-100% load at 40℃±5℃ room temperatures, after test, product shall operate normally.

6.4 Case Temp. Rise

45℃ maximum @ 100 ~ 240Vac & 80% Load

7.0 INTERNATIONAL STANDARDS

7.1 EMI Standards

The power supply shall meet the radiated and conducted emission requirements for EN55013, EN55020, EN55022, EN55024, FCC Part 15 Class B, GB9254, GB17625.1ect.

7.2 EMS Standards

The power supply shall meet the following EMS standards

7.2.1 EN61000-4-2 Electrostatic Discharge (ESD) Static – discharge test by contact or air should be conducted with Static – discharge teeter, energy storage capacitance of 150pF, and discharge resistance of 330Ω. **±8.0KV,** air discharge, **±4.0KV** contact discharge, Performance Criterion B.

7.2.2 EN61000-4-3 Radiated electromagnetic field (RS) Radio- frequency Electromagnetic Field

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

Susceptibility Test, RS, 80-1000MHz, 3V/m, 80%AM (1 KHz), Performance Criterion A

7.2.3 EN61000-4-4 Electrical Fast Transient / Burst (EFT) Power Line to Line: **±1KV** Performance Criterion B.

7.2.4 ■ EN61000-4-5 Lightning Surge Attachment

□Other Standards: **ITU-T K.21 ,GR1089** Lightning Surge voltage of differential and common modes shall be applied power port and communication port.

7.2.4.1 The power port across AC input lines and across input and frame ground.

Power Line to Line:**±2.5KV**

Line to Ground: **±4KV**

The Power communication port across Ethernet Cable twisted-pair and across Ethernet and frame ground.

7.2.4.2 ■ This product have no special communication port Lightning Surge protection

□Ethernet Cable twisted-pair line to line: **±1KV**

Cable to Ground: **±6.0KV**

Performance Criterion B.

7.2.5 EN61000-4-6 Conducted Radio Frequency Disturbances (CS) Conducted Radio Frequency Disturbances Test, CS, 0.15-80 MHz, 3V/m, 80%AM, 1 KHz, Performance Criterion A.

7.2.6 EN61000-4-11 Voltage Dips/Short Interruption/Variations Voltage Dips, 30% Reduction - 10ms, Performance Criterion B, 60% Reduction – 100ms, Performance Criterion C, Voltage Interruptions>95% Reduction- 5000ms, Performance Criterion C.

8.0 MECHANICAL CHARACTERISTICS

8.1 Physical Dimensions

The detail dimension of the power supply, please see attachment.

L113*W53.5*H35mm

8.2 Label

The label of the power supply, please see attachment.

8.3 Connector Type

AC INPUT：**C6**

DC OUTPUT：**RJ45**

8.4 Packing

The packing of the power supply, please see attachment.

L530*W396*H215mm

8.5 Drop Test

From 75cm onto hardwood, 3 times (1/face), no surface crack, functions are normal, can be passed dielectric strength and insulation resistance test.

8.6 Swing Test

☐ 1000 times (go and back as 1 time) 120 degree ,with load 200g, 60 times per minute.

■ No test(No DC line).

8.7 Weight The weight of the power supply shall be **140g (Ref)**

9.0 SAFETY

9.1 Safety Standard

The power supply shall be certified under the following international regulatory standards

Item	Country	Certified	Standard

9.2 Insulation Resistance

500VDC 60 second for type test，2 second for production.

Primary to Secondary >30MΩ (Below at R.H 70%) >20MΩ (Below at R.H 85%)

(Primary-Secondary ≥ 50MΩ @ 500VDC for product line test)

Secondary to EG >10MΩ Environmental Reliability Test: Put it into normal temperature & humidity for 24H (Ta: 20-30℃, below R.H 70%).

9.3 Dielectric Strength (Hi-Pot)

Primary to Secondary **AC 3000V,5mA** 1 minute for type test, **AC 3600V,5mA** 2 seconds for product.
Secondary to EG **AC 1500V,5mA** 2 seconds for product.

9.4 Leakage Current

The leakage current shall be less than **3.5mA** for Class II when the power supply is operated maximum input voltage and maximum frequency.

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

10.0 GREEN REQUIREMENTS

10.1 Hazardous Substances

The components and used materials shall be in compliance with

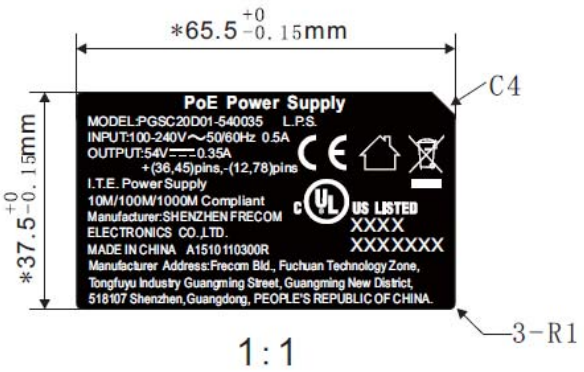
- ■ Lead free process
- □ Halogen free process
- ■ EU Directive 2011/65/EU “RoHS”
- □ EU Directive 2002/96/EC “WEEE”
- ■ REACH

10.2 Energy Efficiency.

The Averaged Efficiency shall be more than **83%** at 115V/230VAC input and 100%,75%,50%,25% load for cable end.(After Full load Aging, more than 30 min)

12.0 MECHANICAL DRAWING

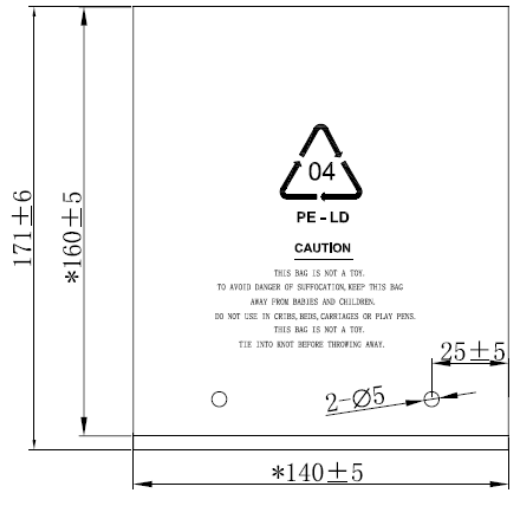
Model Label



TECHNIQUE REQUEST:
1. Material:200#CPC+ Fog film
2. Back Ground:Black
3. Print color:White
4. Printing content must be complete and accurate.
5. Dimensions with "*" are important controlled
6. All materials must meet the requirements of RoHS and REACH
7. 1:1 Height not less than 5mm
8. 1:1 Height not less than 7mm

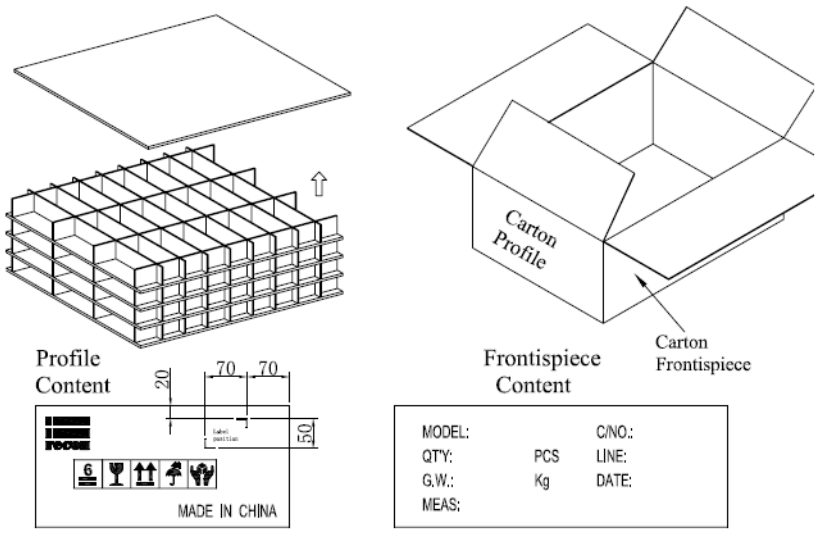
ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

PE Bag



TECHNIQUE REQUEST:
1. color: Green(潘通号：334C)
2. products can not be damaged, dirt etc. Bad phenomenon
3. Dimensions with "*" are important controlled
4. All materials must meet the requirements of RoHS and REACH

Package Details



Note: PE bag are not sealed

TECHNIQUE REQUEST:
Product is loaded into the PE bag package Good, then a good product into the knife Card slot, each knife card slot on 1PCS, each layer of 27PCS, every box 4
Layer is placed 108PCS: 27PCS/ per layer*4 =108PCS/ box
Two. The bag material description:
Name specifications

1. PE bag: according to BOM specifications 108PCS/ box
2. Paper space Material" K3K Spec:L519*W384mm
3. Four "+"Space Material: K3K Spec:384*45mm
4. Eight"+"Space Material: K3K Spec:518*45mm
5. outside the box (size): (L)520*(W)386*(H)200mm
Material:K=K 1PCS/ box
6. All materials must meet the requirements of RoHS and REACH

ATCOM Technology Co.,Limited
Add: A2F,Block 3,Huangguan Technology Park,#21 Tairan9th RD, Futian district,Shenzhen,China.
Tel : +86(755) 8301 8618 | **Fax:** +86(755) 8301 8319 |

13.0 SCHEMATIC