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# **SPECIFICATION**

# **Model Name:**

# TC1GPS21Y series

**Description:** 

400W . 500W . 600W 2U Single Power Supply

Version: A0

**Issued Date: 20240305** 



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#### 1. General Description

This specification defines the characteristic of single power supply with 2 Unit high. And *SURE STAR* model name is TC1GPS21Y401 for 400W \ TC1GPS21Y501 for 500W \ TC1GPS21Y601 for 600W output.

#### 2. Input Characteristic

# 2.1. Input connector

The input connector shall be an IEC60320 C14 inlet, rated for 10A/250Vac.

#### 2.2. Input Voltage and Frequency

Minimum	Nominal	Maximum	Measure
90	100~240	264	Vac
47	50~60	63	Hz

# 2.3. Input Current and Inrush Current

Input Voltage	MAX. Input Current	Inrush Current
115Vac	6.5A/6.5A/7A	25A
230Vac	3.5A	50A

#### 2.4. Power Factor

The minimum power factor shall be 0.95 with full load and input 230Vac/50Hz.

# 3. Output Characteristic

#### 3.1. DC Output Characteristic

Output Voltage	Min. Current	Max. Current	Regulation	Ripple & Noise
+3.3V	0.1A	15A	±5%	50mV
+5V	0.1A	15A	±5%	50mV
+12V	0.1A	32A/40A/48A	±5%	120mV
-12V	0A	0.5A	±10%	120mV
+5VSB	0A	3A	±5%	50mV

#### Note:

- 1. The combined power from +3.3V and +5V shall not exceed 80W.
- 2. The max total power shall not exceed 400W/500W/600W.
- 3. Ripple and noise bandwidth is set to 20MHz.
- 4. Add a 0.1uF ceramic capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.

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#### 3.2. Efficiency

The power efficiency shall meet 80plus GOLD 115Vac/60Hz input.

#### 3.3. Hold up Time

The output voltages stay in regulation at least 18ms with 75% load after loss of AC input.

#### 3.4. Rise Time

The output voltages rise from 10% to 90% with full load shall be in 20ms maximum.

# 3.5. Dynamic Loading

The output voltages shall remain in regulation for the step loading, and in the limits for the capacitive loading specified below:

Output	Step Load Size	Load Slew Rate	Capacitive Load
+3.3V	30% of max load	0.5A / μ sec	1000uF
+5V	30% of max load	0.5A / μ sec	1000uF
+12V	65% of max load	0.5A / μ sec	2200uF
+5VSB	25% of max load	0.5A / μ sec	1uF

#### 3.6. PSON Remote on/off Control

The PSON signal is required to remotely turn on/off the power supply.

PSON is an active low TTL compatible signal that turns on the main power rails.

	PSU On	PSU Off
PSON Signal	LOW (0.8V max.)	HI (2V min.)

#### 3.7. Power Good Signal

Power Good, also called PG or PWOK, is an active high TTL compatible signal.

PG signal is to indicate that all output voltages are in regulation and ready for use.

Below is for a representation of the timing characteristics of PG signal.

Power Good on delay time	100ms to 500ms
Power Good off delay time	1ms (min.)



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#### 4. Protection

#### 4.1. Over Current Protection

Output	Min.	Max.	Comment
+3.3V	110%	150%	PSU shutdown
+5V	110%	150%	PSU shutdown
+12V	110%	150%	PSU shutdown

# 4.2. Over Voltage Protection

Output	Min.	Мах.	Comment
+3.3V	3.7V	4.1V	PSU shutdown
+5V	5.7V	6.5V	PSU shutdown
+12V	13.1V	14.5V	PSU shutdown

# 4.3. Short Circuit Protection

Output	Comment
+3.3V	PSU shutdown
+5V	PSU shutdown
+12V	PSU shutdown

# 4.4. Over Temperature Protection

The power supply would be protected against over temperature condition by loss of cooling or excessive ambient temperature. The PSU will shutdown in an OTP condition.



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#### 5. Insulation

# 5.1. Dielectric Withstand Voltage

Primary to Ground 1500Vac (10m	nA) for 1 second
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# 5.2. Leakage Current

Leakage current is 3.5mA maximum at 240Vac/50Hz.

#### 6. Safety

CB · CE · TUV · UL · BSMI · CCC ·

Please visit our website and get the latest safety certificate.

#### 7. EMC

CE · FCC · BSMI · CCC · (Class B)

Please visit our website and get the latest EMC certificate.

# 8. Environmental Requirement

8.1. Temperature

Operating :  $0^{\circ}$ C to +50 $^{\circ}$ C.

Non-Operating :  $-20^{\circ}$ C to  $+70^{\circ}$ C.

#### 8.2. Humidity

Operating : 20% to 90%, non-condensing.

Non-Operating : 5% to 95%, non-condensing.

#### 8.3. Altitude

Operating: Up to 5000m.

# 8.4. Cooling Method

By DC fan.

#### 9. Reliability

#### 9.1. MTBF

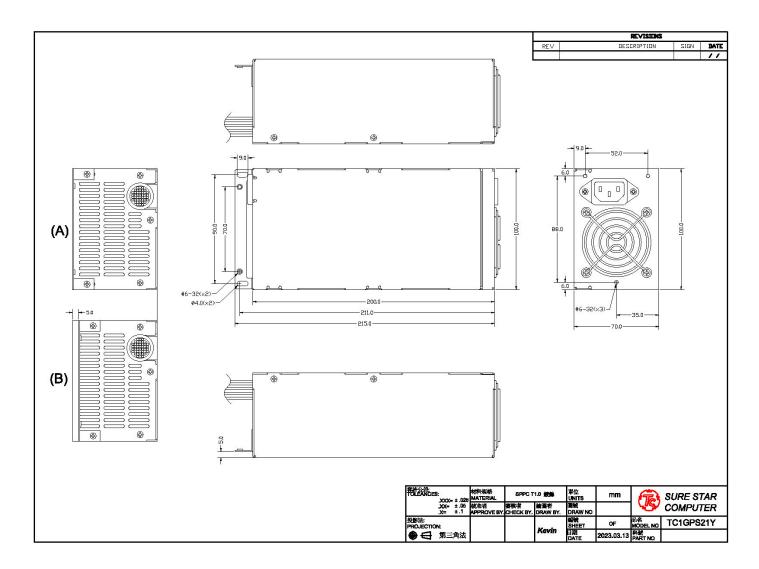
Using MIL - HDBK -217F the calculated MTBF>100,000 hours at 25℃.



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# 10. Mechanical Drawing and Output Wire

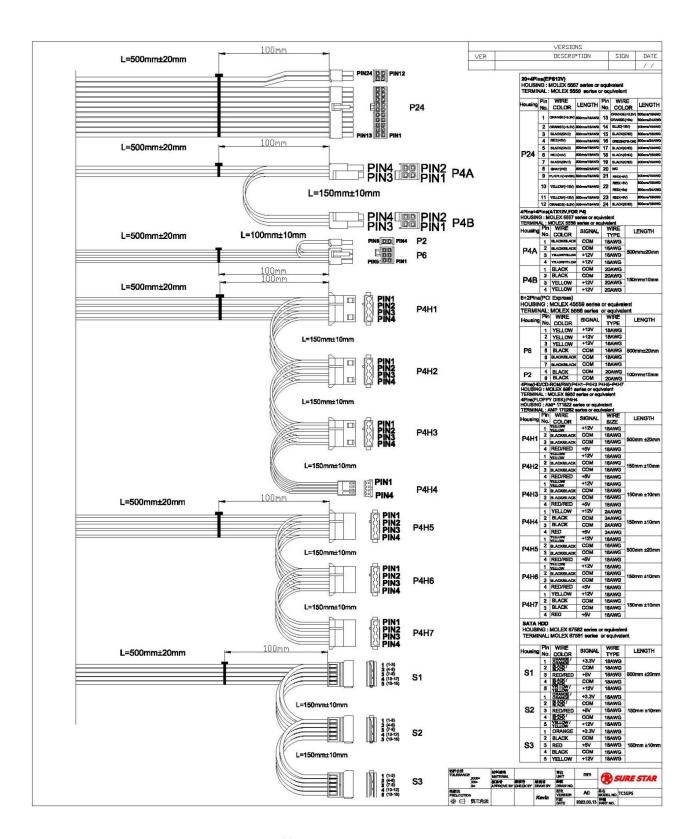
10.1. Outline (bracket optional): W100 \* H070 \* D200mm.





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# 10.2. Output Wire (could be customization):





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# 11. Customization Note

Customization note shall be listed here.

# **End of File**

NOTE: This data is subject to change without notice.