

SPECIFICATION

Model Name :

TCPS1D41Y series

Description :

400W 、 500W 、 600W 4U Single Power Supply (PSII)

Version : A0

Issued Date : 20170502

1. General Description

This specification defines the characteristic of output 400W、500W、600W
4Unit single power supply, also called PSII single power supply,
model name TCPS1D41Y040、TCPS1D41Y050、TCPS1D41Y060.

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	10A	25A
230Vac	5A	50A

2.4. Power Factor

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

3. Output Characteristic

3.1. DC Output Characteristic

Output Voltage	Min. Current	Rated Current	Regulation	Ripple & Noise
+3.3V	0.1A	25A	±5%	50mV
+5V	0.1A	25A	±5%	50mV
+12V	0.1A	33A/41A/49A	±5%	120mV
-12V	0A	0.8A	±10%	120mV
+5VSB	0A	3.5A	±5%	50mV

Note : 1. The combined power from +3.3V and +5V shall not exceed 170W/170W/180W.

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.

3.2. Efficiency

The minimum efficiency shall be at least 80% with full load and input 115Vac.

3.3. Hold up Time

The output voltages stay in regulation at least 18ms with 70% 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
+3.3V	30% of full load	0.5A / μ sec
+5V	30% of full load	0.5A / μ sec
+12V	65% of full load	0.5A / μ sec
+5VSB	25% of full load	0.5A / μ sec

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.)

4. Protection

4.1. Over Current Protection

Output	Over Current (Min.)	Over Current (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.	Max.	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.

The OTP trip level shall have a minimum of 4degree C of ambient temperature hysteresis.

5. Insulation

5.1. Insulation Resistance

Primary to Secondary	500Vdc · 30M ohm Min. (at room temperature)
Primary to Ground	500Vdc · 30M ohm Min. (at room temperature)

5.2. Dielectric Withstand Voltage

Primary to Secondary	1500Vac (10mA) for 1 second
Primary to Ground	1500Vac (10mA) for 1 second

5.3. Leakage Current

Leakage current is 3.5mA maximum at 240Vac.

6. Safety

CB · CE · TUV · UL · BSMI · CCC ◦

7. EMC

CE · FCC · BSMI · CCC ◦ (Class B)

8. Environmental Requirement

8.1. Temperature

Operating : 0°C to +50°C

Non Operating : -20°C to +70°C

8.2. Humidity

Operating : 5% to 95% , non-condensing

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

8.3. Altitude

Operating : Up to 5000m

9. Reliability

9.1. MTBF

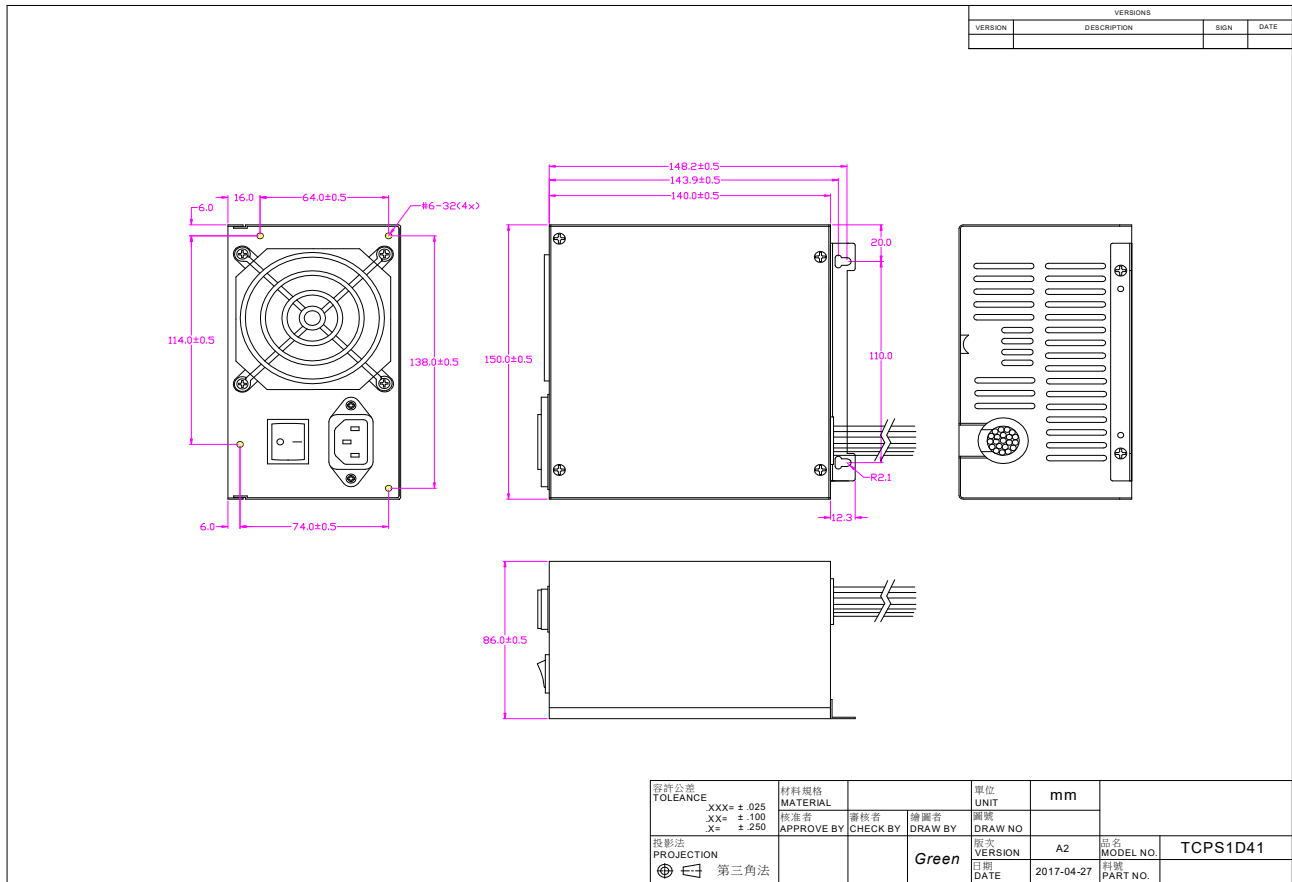
Using MIL - HDBK -217F the calculated MTBF > 100,000 hours at 25°C.

10. Customization Note

Customization note shall be listed here.

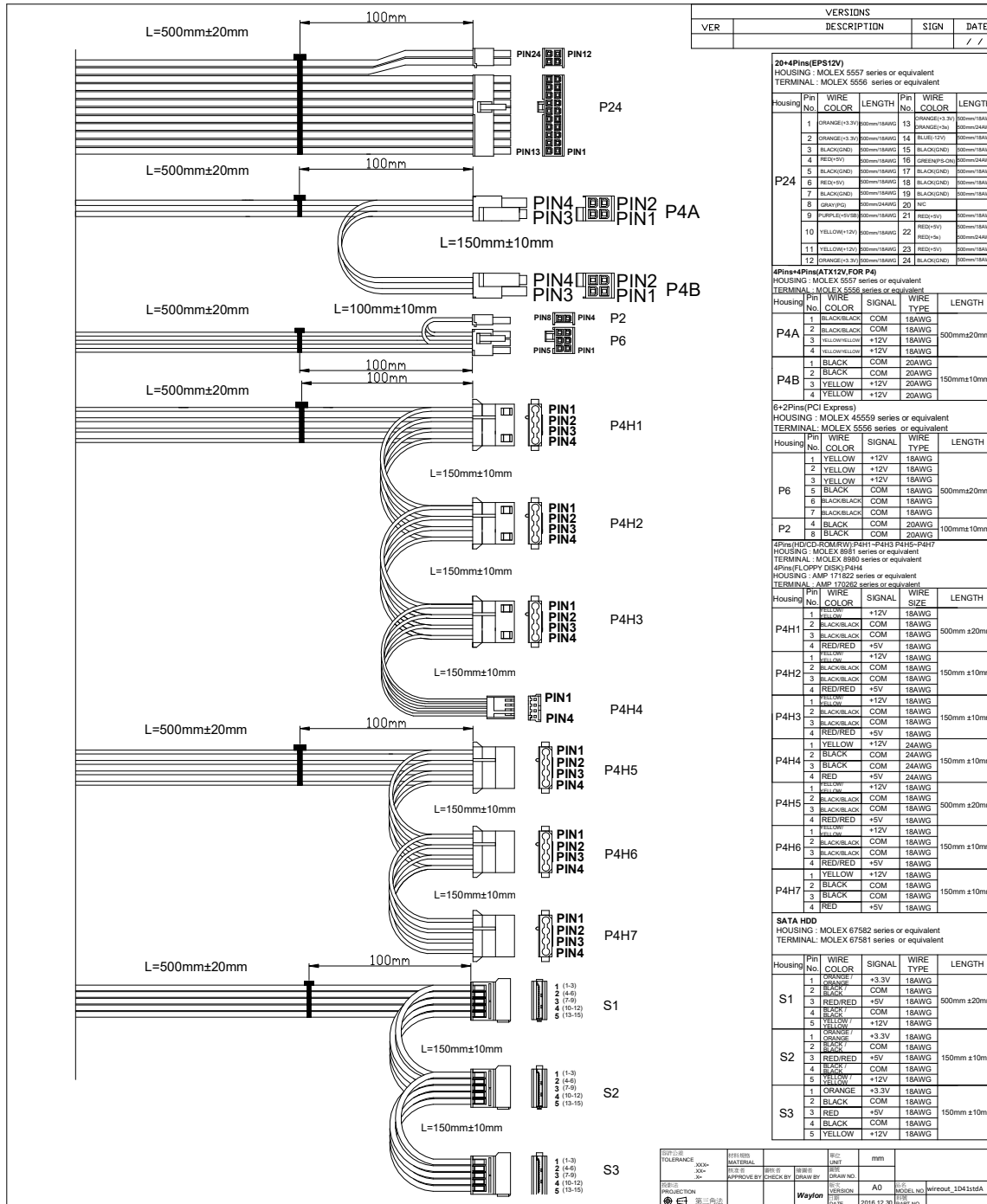
11. Mechanical Drawing and Output Wire

11.1. Outline (bracket optional) : W150 * H086 * D140mm.

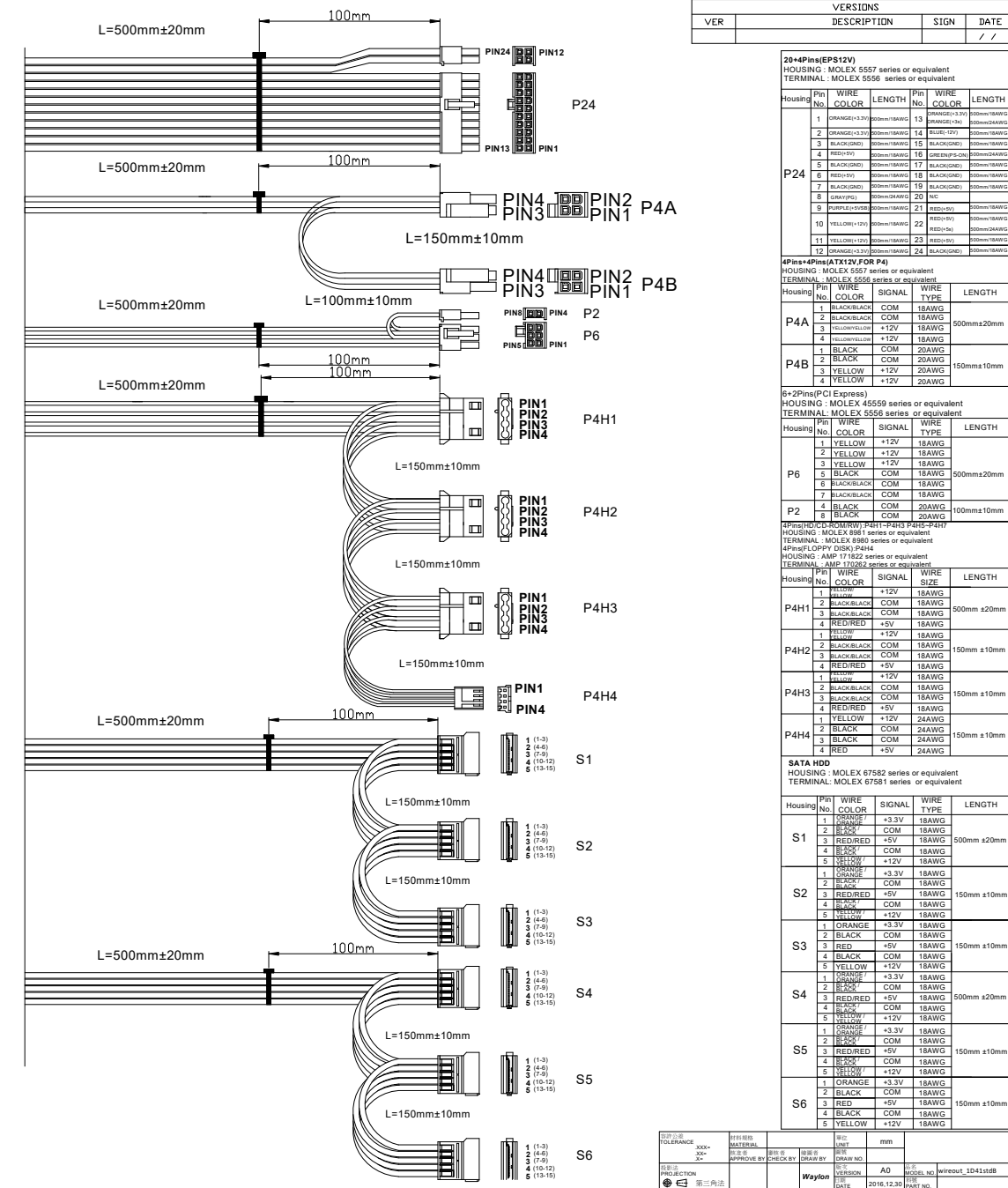


11.2. Output Wire (could be customization) :

11.2.1. Output Wire STANDARD A



11.2.2. Output Wire STANDARD B



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NOTE : This data is subject to change without notice.