TPC/PD-25-XS series

DESCRIPTION: **24-25.2W Wide input AC/DC switching power supply**

The rated output power of TPC/PD-25-XS series is 24-25.2W，input voltage range：88-264VAC, output voltage : 5V,12V ,24V. High reliability, precision,effificency , ultra-small size, with short circuit, overload,internal thermal protection,Widely used in telecommunications, industrial control, instrument, data acquisition,signal control , New Energy, Security,and other electronic systems.

FEATURES

AC input ： 88VAC-264VAC	100% full load burn-in test	short circuit, overload,over-voltage protection
Operating temperature：-20℃~70℃	RoHS complaint	Low standby power consumption<1W
All using 105℃ long-life electrolytic capacitors	High reliability,effificency ,long life-time	Miniature size

SELECTION GUIDE

Part Number	Input		Output					
	Volatge（VAC）		Voltage (VDC)	Pre-set voltage @25℃(V)	Rated current (A)	Current range(A)	Rated power(W)	Efficiency @25℃, (Typ) %
	Rated	Range values						
TPC/PD-25-5S	220	88-264	5	5.00-5.05	5.0	0-5.0	25	⩾77
TPC/PD-25-12S	220	88-264	12	12.00-12.05	2.1	0-2.1	25.2	82
TPC/ PD-25-24S	220	88-264	24	24.00-24.05	1.0	0-1.0	24	82

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

OUTPUT CHARACTERISTICS

Conditions	Conditions	Parameter
Ripple and noise,Ta is ambient ， 0＜Ta⩽70℃	5V output voltage	⩽80mVp-p
	12V output voltage	⩽120mVp-p
	24V output voltage	⩽120mVp-p
Ripple and noise,Ta is ambient ， -20＜Ta⩽0℃	5V output voltage	⩽80 mVp-p
	12V output voltage	⩽120mVp-p
	24Voutput voltage	⩽120mVp-p
Dynamic load characterstics, -20＜Ta⩽70℃	5V output voltage	0.5A-5A<±400mv 0.5A~2.5A:<±200Mv 2.5A~5A: <±200mV
	12V output voltage	0.21A-2.1A:<±400mv 0.21A~1.05A:<±200mv 1.05A~2.1A: <±200mV
	24V output voltage	0.1A-1A:<±400mv 0.1A~0.5A:<±200mv 0.5A~1A: <±200mV
Output adjustment range @25℃	5V output voltage	4.75V-5.5V
	12V output voltage	11.4V-12.6V
	24V output voltage	22.8V-26.4V

OUTPUT CHARACTERISTICS

Voltage regulation accuracy@-20~70℃	±2%
Line regulation@-20~70℃	±1%
Load regulation@-20~70℃	±2%
Temp. coefficient@-20~70℃	±0.03%/℃
Set-up time@25℃	⩽1S /230Vac full load ⩽2S /120Vac full load
Hold-up time@25℃	⩾10mS(120Vac input, Full load) ⩾20mS(230Vac input, Full load)
Overshoot&Undershoot@-20~70℃	<5.0%

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	88Vac~264Vac
Leakage Current	Input—output:<0.25mA Input—PG:<0.75mA
Rated input voltage range	100Vac~240Vac
Frequency Range	47Hz~63Hz
Set-up voltage@-20~70℃	88Vac（refer to the derating curve）
Input current@25℃	<0.7A
Inrush current @25℃	＜20A@120Vac Cold start ＜40A@230Vac Cold start
Standby power@25℃	＜1W

PROTECTION @-20～70℃

Conditions	Parameter	Notes
Over-power（5Voutput）	26.25W~37.5W	hiccup mode, auto recovery
Over-power（12Voutput）	26.25W~37.8W	
Over-power（24Voutput）	25.2W~36W	
Over-voltage（5Voutput）	5.25V~7.5V	hiccup mode, auto recovery
Over-voltage（12Voutput）	12.6V~18V	
Over-voltage（24Voutput）	25.2V~36V	
Over-current（5Voutput）	5.25A~7.5A	hiccup mode, auto recovery
Over-current（12Voutput）	2.2A~3.15A	
Over-current（24Voutput）	1.05A~1.5A	
Output short circuit protection	Long-term mode, Auto recovery	

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-20℃~70℃; 20%~90%RH No condensing （refer to the derating curve）
Storage Temp. & Humi.	-40℃~85℃; 10%~95%RH No condensing
Vibration	10 ~ 500Hz, 5G 10min./1cycle, period for60min. each along X,Y, Z axes
Pulse	20G/11mS pulse ,3 times at each X,Y,Z axes
Altitude	5000m

SAFETY&EMC STANDARDS @25℃

Conditions	Parameter
Safety Standards	GB4943/EN60950
Withstand Voltage	I/P-O/P:3.0KVac/10mA; I/P-FG:1.5KVac/10mA; O/P-FG:0.5KVdc/10mA test time:1min.
Grounding test	Test condition：32A / 2min.；Grounding resistance：＜0.1 ohms.
Leakage Current	Input—output:<0.25mA Input—PG:<0.75mA
Isolation resistance	I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
EMC emission	EN55032 EN55024, Class B/FCC Part15 Class B
EMC immunity	Compliance to EN61000-4-2,3,4,5,6,8,11; heavy industry level

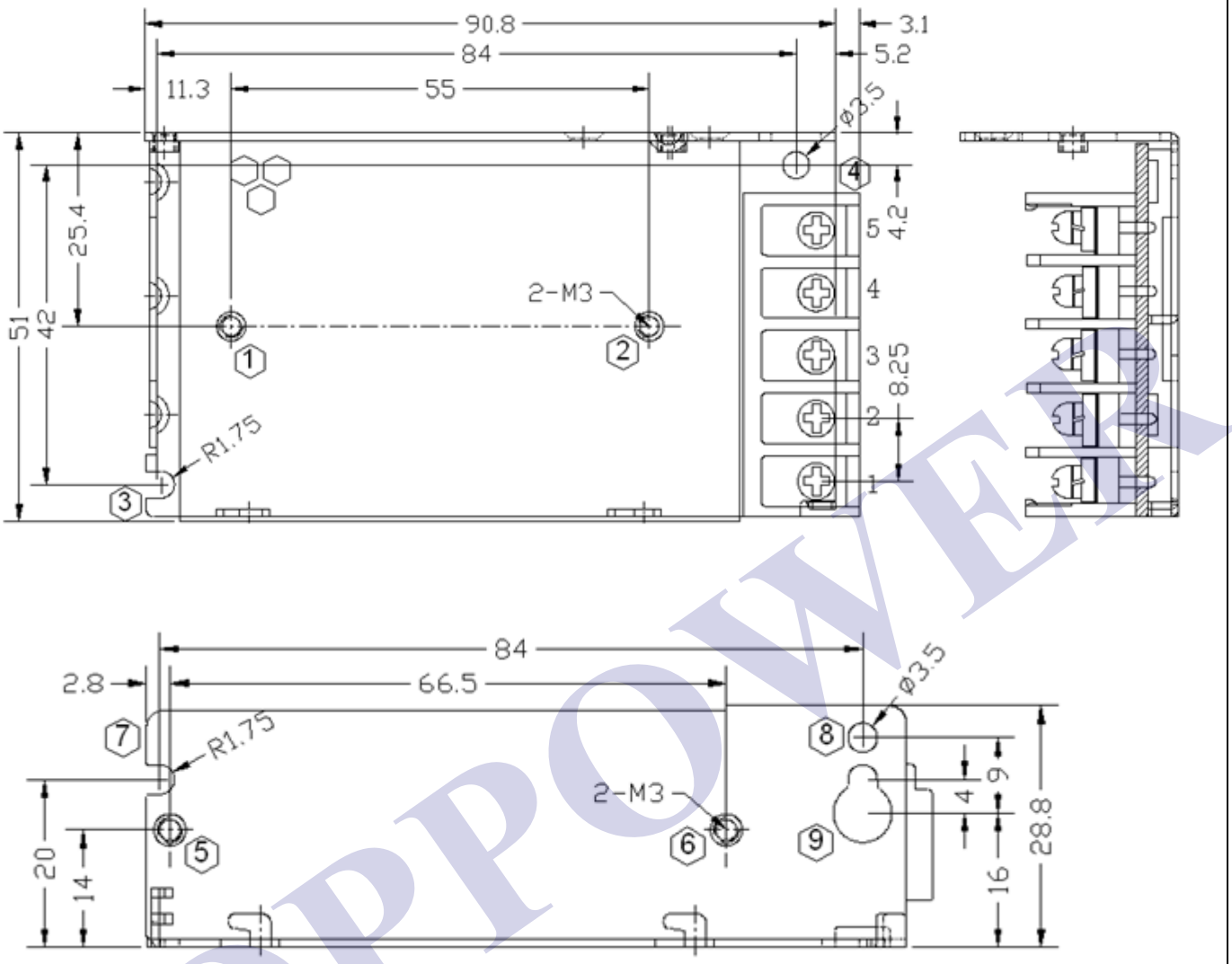
OTHERS

Conditions	Parameter
Cooling method	Cooling by free air flow
Dimension (L*W*H)	94*51*29mm
Net Weight	0.17kg

RELIABIILITY CHARACTERISTICS

Conditions	Parameter
MTBF	200,000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method

MECHANICAL DIMENSIONS

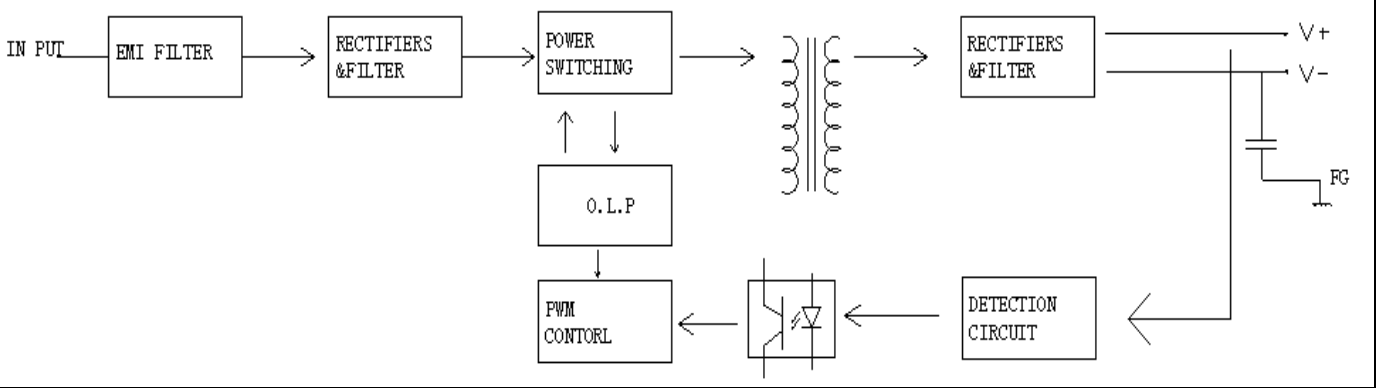


Mounting location	Mounting method	Mounting holes	Screw Spec	Lmax	Torque(max)
Bottom mounting	Fix by Screws	1~2	M3	3mm	6.5Kgf.cm
		3~4	M3	/	
Side mounting	Fix by Screws	5~6	M3	3mm	6.5Kgf.cm
		7~9	M3	/	

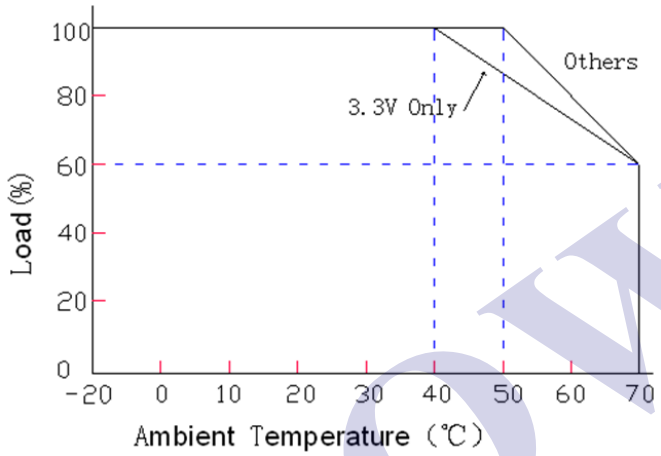
1.AC input terminals definition			
No.	Function	Wire specs	Torque(max)
1	L	22-14AWG	7.0Kgf.cm
2	N		
3	PE		

2.DC output terminals definition			
No.	Function	Wire specs	Torque(max)
4	V-	22-14AWG	7.0Kgf.cm
5	V+		

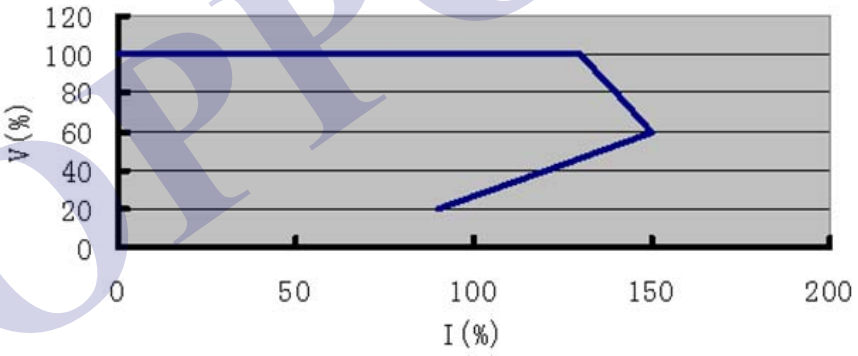
RECOMMEND CIRCUIT



DERATING CURVE



OUTPUT CHARACTERISTICS CURVE



MODEL SELECTION

TP C / PD -25 – 12 S

- S: Single ouput; D: Dual output
- Output voltage
- Delimiter
- Rated output power
- Delimiter
- Series
- Delimiter
- Type
- Brand

TOPPOWE