TOPPOWER

TPC/NE-15-XS series



15W Wide input AC/DC switching power supply

DESCRIPTION :

The rated output power of TPC/NE-15-XS series is 15W，input voltage range：90~264Vac, output voltage : 5V,12V,24V ,High reliability, precision,effificency , with short circuit,over-load protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control , New Energy, Security,and other electronic systems.

FEATURES

AC input selectable by switch ： 90~264 VAC	100% full load burn-in test	short circuit ,over-voltage, over-load protection
Operating temperature：-20℃~70℃	RoHS complaint	High reliability,effificency
All using 105℃ long-life electrolytic capacitors	Standby power <0.5W	/

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/NE-15-5S	220	90-264	5	5.00-5.05	3	0-3	15	≥76
TPC/NE-15-12S	220	90-264	12	12.00-12.10	1.3	0-1.3	15.6	≥80
TPC/NE-15-24S	220	90-264	24	24.00-24.10	0.7	0-0.7	16.8	≥83

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 @0~70℃	5V output voltage	≤50mVp-p
	12V output voltage	≤120mVp-p
	24V output voltage	≤120mVp-p
Ripple and noise,Ta is ambient @-20~0℃	5V output voltage	≤150mVp-p
	12VV output voltage	≤150mVp-p
	24V output voltage	≤200mVp-p
Output adjustment range @25℃	5V output voltage	4.75V-5.25V
	12V output voltage	11.4V~12.6V
	24V output voltage	22.8V-25.2V
Voltage regulation accuracy@-20~70℃	±2%@5V, ±1%@ others	
Line regulation@-20~70℃	±1%@5V ±0.5%@others	
Load regulation@-20~70℃	±1.5%@5V ±0.5%@others	
Temp. coefficient@-20~70℃	±0.03%/℃	
Set-up time@25℃	≤2.0S (115Vac input, full load), ≤1.0S (230Vac input, full load)	
Hold-up time@25℃	≥10mS(115Vac input, Full load) ≥20mS(230Vac input, Full load)	
Overshoot&Undershoot@-20~70℃	<5.0%	

INPUT CHARACTERISTICS

Conditions	Parameter
Input voltage range	90~264Vac
Rated input voltage range	100~240Vac
Max input voltage	280Vac

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INPUT CHARACTERISTICS

Frequency Range	47Hz~63Hz
Set-up voltage@-20~70℃	85Vac（refer to the derating curve）@-40℃ 220Vac input, full load output,
Input current@25℃	<0.7A
Inrush current @25℃	＜65A@230Vac Cold start
Standby power@25℃	＜0.5W
Capacitive load	5V,12V @10000uF
	24V,48V @5000uF

PROTECTION @-20～70℃

Conditions	Parameter
Over-power	105%~150% of rated power, Hiccup mode, auto recovery
Over-load	105%~150% of rated current ,Hiccup mode, auto recovery
Output short circuit protection	Long-term mode, Auto recovery

ENVIRONMENT CHARACTERISTICS

Conditions	Parameter
Operating amb. Temp.&Humi.	-20℃~70℃; 20%~90%RH No condensing
Storage Temp. & Humi.	-40℃~85℃; 10%~95%RH No condensing
Vibration	10 ~ 150Hz, 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/IEC60950/UL60950 (for reference)
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：40A／2min.；Grounding resistance：＜0.1 ohms.
Leakage Current	I/P-Grounding≤3.5mA； I/P-O/P ≤0.25mA 264Vac input 63Hz
Isolation resistance	I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms
EMC emission	EN55022 EN55024 Class B
EMC immunity	EN61000-4-2,4,5,8,11 light industry level, criteria A

OTHERS

Conditions	Parameter
Cooling method	Cooling by flow air
Dimension (L*W*H)	79*51*28.8mm
Net Weight	0.13kg

RELIABIILITY CHARACTERISTICS

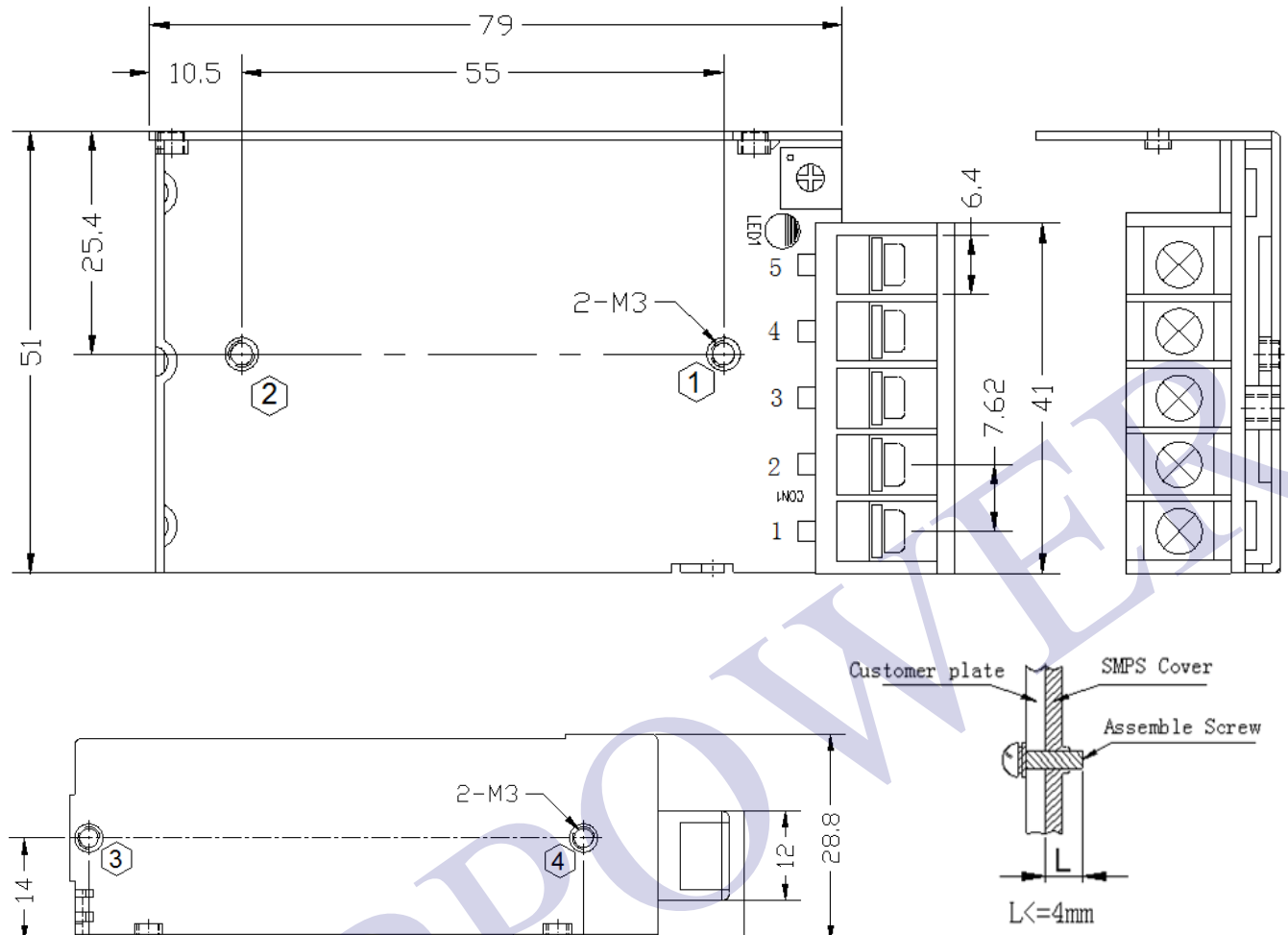
Conditions	Parameter
MTBF	100,000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method
Design electrolytic capacitor life-time	>2years AT 50℃ full load

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MECHANICAL DIMENSIONS

Unit: mm



1.Mounting Way

Mounting position	Mounting type	Mounting position No.	Screw Type	L max	Mounting Torque(max)
Bottom mounting	Fixing by Screw	①—②	M3	3mm	6.5Kgf.cm
Side mounting		③—④	M3	3mm	

2.Instruction of AC output Connector

Part No.	Function	Terminal Connector	Requirement for Cable	Torque(max)
1	AC-L	7.62	22-14AWG	7.5Kgf.cm
2	AC-N			
3	⏚			

3.Instruction of DC output Connector

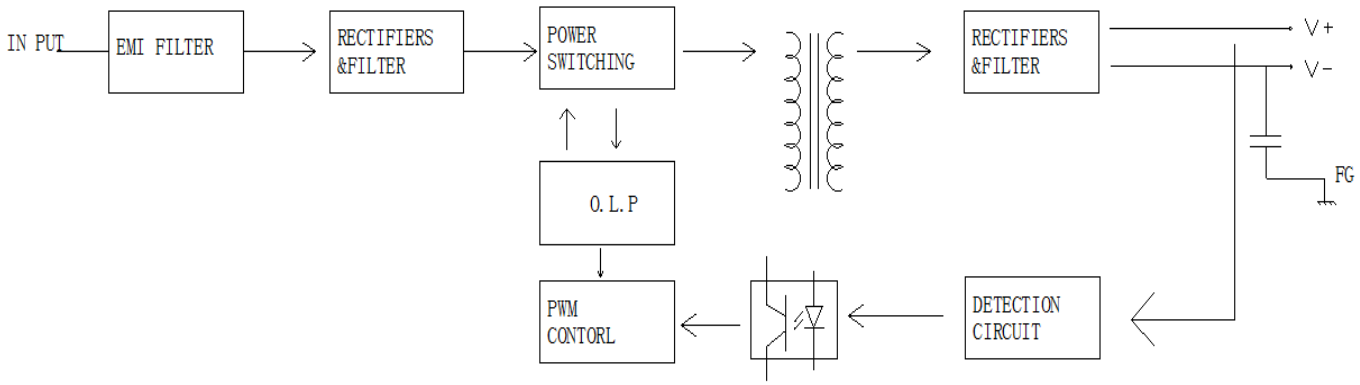
Part No.	Function	Terminal Connector	Requirement for Cable	Torque(max)
4	-V	7.62	22-14AWG	7.5Kgf.cm
5	+V			

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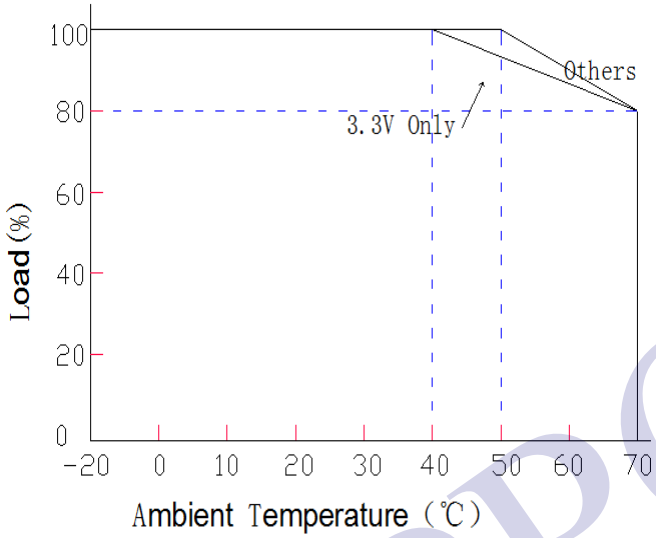
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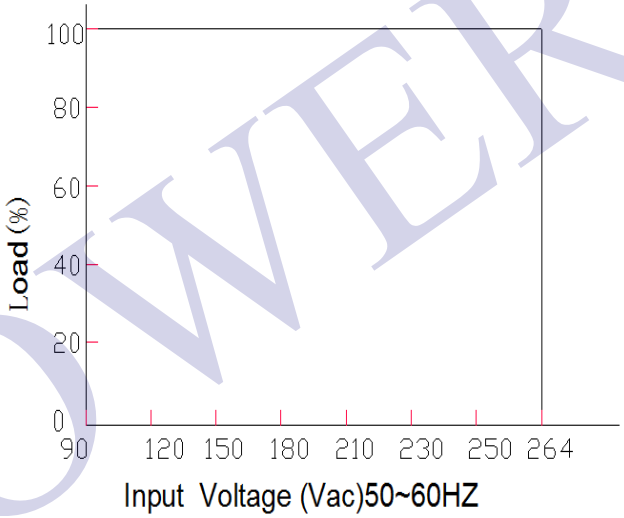
TPC/NE-15-XS series

BLOCK DIAGRAM



DERATING CURVE





MODEL SELECTION

TP C / NE- 15 – X S

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

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