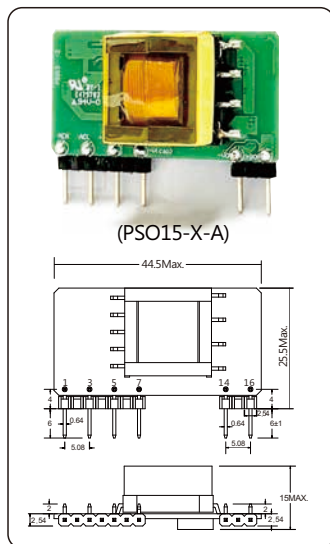
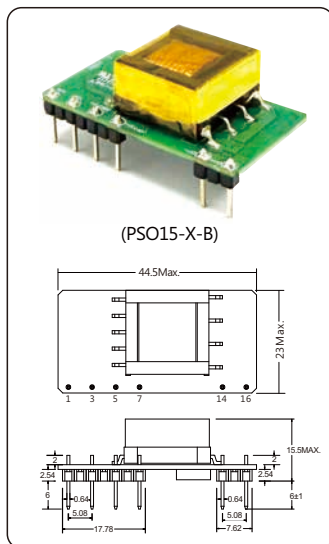


PSO15

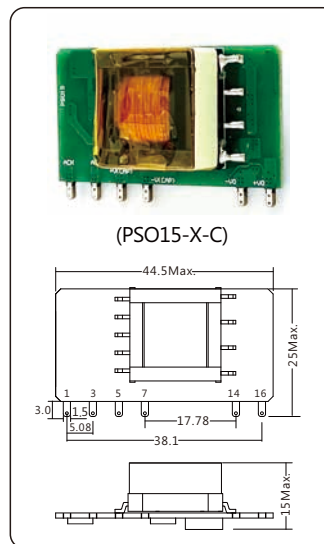
UNIT: mm



(PSO15-X-A)



(PSO15-X-B)



(PSO15-X-C)

■ Plug Assignment

PIN CONNECTIONS	
PIN	Function
1	AC(N)
3	AC(L)
5	+V(cap)
7	-V(cap)
14	-Vo
16	+Vo

■ INPUT

parameter	conditions/description	min	typ	max	units
voltage	AC input	85		305	Vac
	DC input	100		430	Vdc
frequency		47		63	Hz
current	at 115 Vac			0.4	A
	at 230 Vac			0.25	A
inrush current	at 115 Vac		18		A
	at 230 Vac		35		A
no load power consumption	at 230 Vac			0.25	W

■ PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	output voltage clamp			9.0	Vdc
	3.3 & 5 Vdc output models			12.0	Vdc
	9 Vdc output models			16.0	Vdc
	12 Vdc output models			20.0	Vdc
	15 Vdc output models			30.0	Vdc
over current protection	auto recovery	110			%
short circuit protection	continuous, auto recovery, hiccup				

■ SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute, leakage current <5mA	3,000			Vac
safety approvals	certified to LVD 62368: IEC, EN designed to meet 60335: IEC, EN,UL				
safety class	class II				
EMI/EMC	CISPR32/EN55032 CLASS A (Recommended circuit 1, 4) CISPR32/EN55032 CLASS B (Recommended circuit 2, 3)				
ESD	IEC/EN 61000-4-2 Contact ± 6 KV perf. Criteria B				
radiated immunity	IEC/EN61000-4-3 10V/m perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ± 2 KV (Recommended circuit 1, 2) perf. Criteria B				
	IEC/EN61000-4-4 ± 4 KV (Recommended circuit 3, 4) perf. Criteria B				
surge	IEC/EN61000-4-5 line to line ± 1 KV (Recommended circuit 1, 2) perf. Criteria B				
	IEC/EN61000-4-5 line to line ± 2 KV (Recommended circuit 3, 4) perf. Criteria B				
conducted immunity	IEC/EN61000-4-6 10Vr.m.s perf. Criteria A				
voltage dips and interruptions	IEC/EN61000-4-11 0%, 70% perf. Criteria B				
MTBF	as per MIL-HDBK-217F at 25 °C	1,000,000			hours
RoHS	yes				

■ OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	3.3 Vdc output models			20,000	μ F
	5 Vdc output models			15,000	μ F
	9 Vdc output models			5,000	μ F
	12 Vdc output models			4,000	μ F
	15 Vdc output models			2,000	μ F
	24 Vdc output models			1,000	μ F
initial set point accuracy	3.3 Vdc output other outputs	± 3 ± 2			%
line regulation	at full load	± 0.5			%
load regulation	0% ~ 100% load, 3.3 Vdc output	± 2			%
	0% ~ 100% load, 5 Vdc output	± 1.5			%
	0% ~ 100% load, other output	± 1			%
hold-up time	at 115 Vac	10			ms
	at 230 Vac	40			ms
switching frequency		65			kHz
temperature coefficient		± 0.02			%/°C

■ Safety agency approvals:



Model name ¹	Output Voltage(VDC)	Output Current(A)max.(A)	Output powermax.(W)	ripple and noise ² typ(mVp-p)	efficiency ³ typ(%)
PSO15-0-X	3.3	3.0	9.9	150	75.0
PSO15-1-X	5.0	2.8	14.0	150	77.0
PSO15-2-X	9.0	1.67	15.0	150	82.0
PSO15-3-X	12.0	1.25	15.0	150	82.0
PSO15-4-X	15.0	1.0	15.0	150	84.0
PSO15-6-X	24.0	0.625	15.0	150	85.0

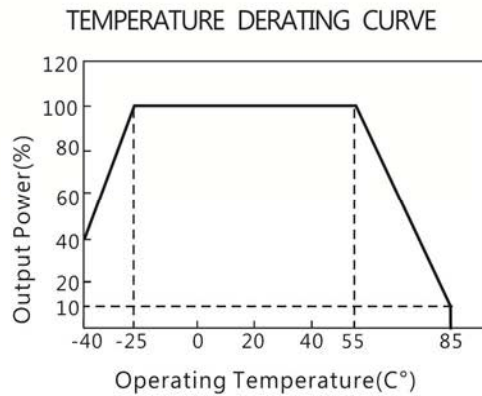
Note: 1.X: Mounting style=**A**: Straight pin ; **B**: Bent pin ; **C**: Golden finger PCB type

2.At full load, nominal input, 20 MHz bandwidth oscilloscope, see Application Circuit.

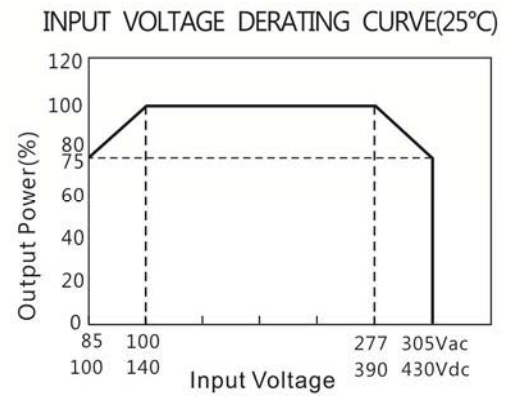
3.At 230 Vac input.

4.Weight: 11.2g/PC, PSO15-X-A_ PSO15-X-C: 660g/TRAY, PSO15-X-B: 745g/TRAY

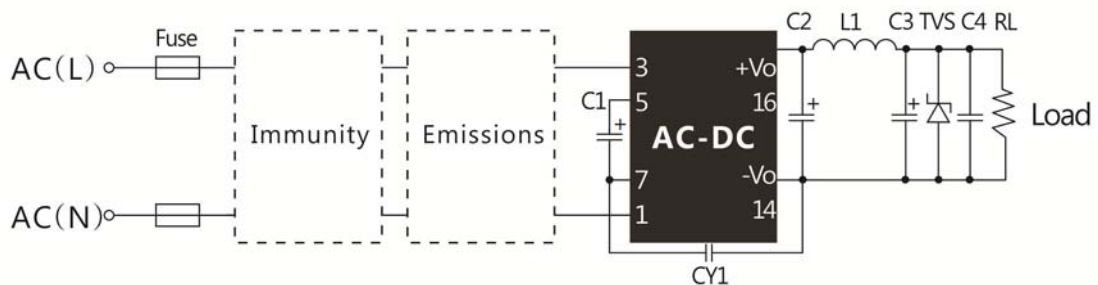
● DERATING CURVES



Key
 Input Voltage:
 85-305 Vac
 100-430 Vdc



● APPLICATION DESIGN REFERENCE



Note: All applications must follow this minimum circuit implementation. Additional environmental and application-specific variations are listed in the following pages.

PSO-15 Series additional component selection guide										
Part no.	FUSE (required)	C1 (required)	C2 ² (required)	L1 (required)	C3 ² (required)	C4	CY1 (required)	TVS		
PSO15-0-X ¹	1A/300V	33uF/450V	470 uF /16V (Polymer capacitor)	2.2uH(Max 22mΩ)	220 uF /16V	0.1 uF /50V	2.2nF/400Vac	SMBJ7.0A		
PSO15-1-X ¹								SMBJ7.0A		
PSO15-2-X ¹								SMBJ12A		
PSO15-3-X ¹			680 uF /25V		220 uF /35V			SMBJ20A		
PSO15-4-X ¹								SMBJ20A		
PSO15-6-X ¹								SMBJ30A		

Note:

1. X: Mounting style=**A**: Straight pin ; **B**: bent pin ; **C**: PCB type
2. C2,C3 is recommended to be a high frequency electrolytic capacitor with low ESR.
3. Recommended to use a polymer capacitor (at -40°C) with at least 20% margin on voltage rating

PSO-15 Series Environmental and EMC selection guide					
Recommended circuit	Typical application	Input voltage range	Environment temperature	Emissions	Immunity
1	General purpose	85~305Vac	-40°C to 85°C	Class A	Class III
2	Smart home, home appliances, intelligent building, intelligent agriculture		-25°C to 55°C	Class B	Class III
3	Indoor industrial		-25°C to 55°C	Class B	Class IV
4	Outdoor, video monitoring, charging point, communications, security		-40°C to 85°C	Class A	Class IV

● APPLICATION DESIGN REFERENCE (CONTINUED)

Circuit 1

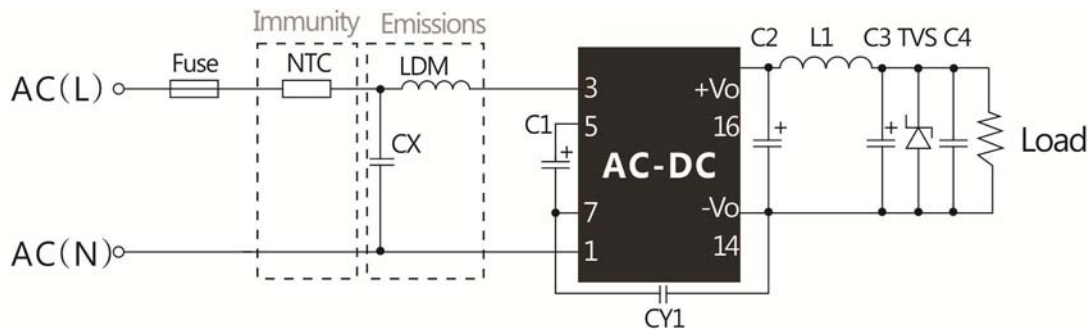


Table 1

Ambient temperature range	Immunity Class	Emissions Class
-40°C~85°C	Class III	Class A

Component	Recommended value
NTC	10D-10
LDM	1.2mH (min: 0.4A, max: 4Ω)
CX	0.1uF/310Vac
FUSE(required)	1A/300V, slow blow

Circuit 2

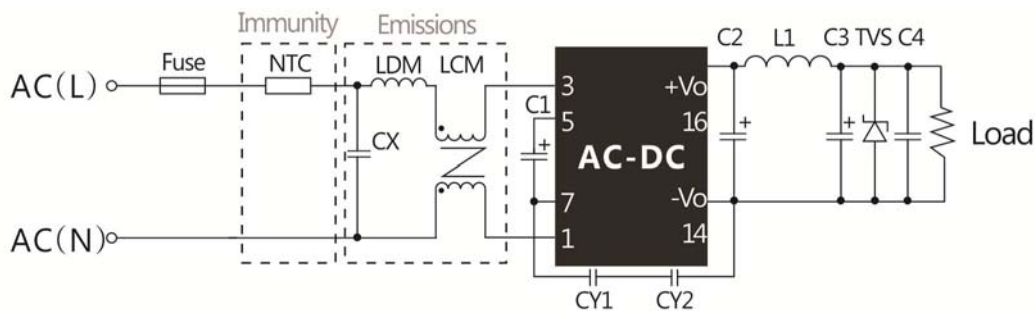


Table 2

Ambient temperature	Immunity Class	Emissions Class
-25°C~55°C	Class III	Class B

Component	Recommended value
NTC	10D-10
CY1 (CY2)	2.2nF/400Vac
LCM	10mH (min: 0.4A,max:600mΩ)
LDM	0.33mH (min: 0.4A,max:1Ω)
CX	0.22uF/310Vac
FUSE (required)	1A/300V, slow blow

Note: When designing applications for household use (e.g. Smart Home or Home Appliance application), two Y-Caps (CY1 & CY2 valued at 2.2nF/400Vac each) are required in series to satisfy 60335 household safety requirements. Non-household applications can use one Y-Cap (CY1 valued at 2.2nF/400Vac).

● APPLICATION DESIGN REFERENCE (CONTINUED)

Circuit 3

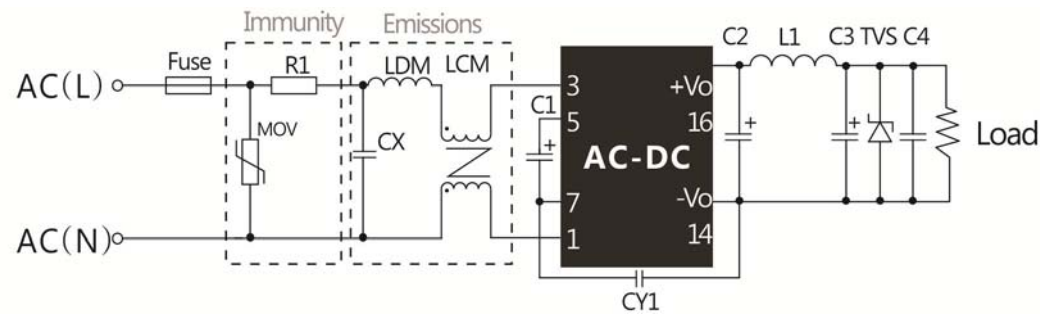


Table 3

Ambient temperature range	Immunity Class	Emissions Class
-25°C~55°C	Class IV	Class B

Component	Recommended value
MOV	S14K350
CY1	2.2nF/400Vac
CX	0.22uF/310Vac
LCM	10mH (min: 0.4A,max:600mΩ)
LDM	0.33mH (min: 0.4A,max:1Ω)
R1(wire-wound resistor, required)	12Ω/3W
FUSE (required)	2A/300V, slow blow

Circuit 4

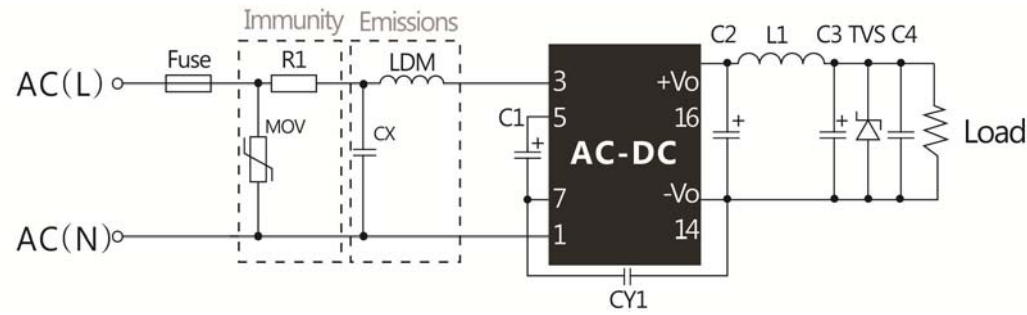


Table 4

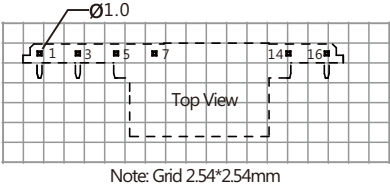
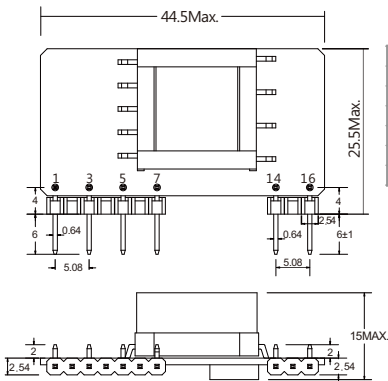
Ambient temperature range	Immunity Class	Emissions Class
-40°C~85°C	Class IV	Class A

Component	Recommended value
MOV	D14K350
LDM	1.2mH (min: 0.4A, max: 4Ω)
CX	0.1uF/310Vac
R1(wire-wound resistor, required)	12Ω/3W
FUSE (required)	2A/300V, slow blow

MECHANICAL DRAWING

Straight-pin configuration

Units: mm
Pin section tolerance: ± 0.30
General tolerance: ± 0.50

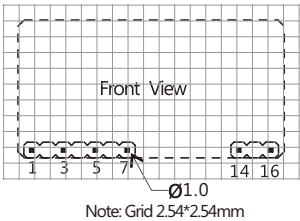
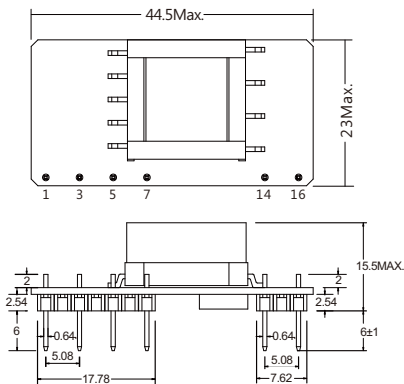


PIN CONNECTIONS	
PIN	Function
1	AC (N)
3	AC (L)
5	+V (cap)
7	-V (cap)
14	-Vo
16	+Vo

(PSO15-X-A)

Bent-pin configuration

Units: mm
Pin section tolerance: ± 0.30
General tolerance: ± 0.50

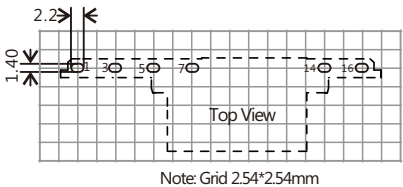
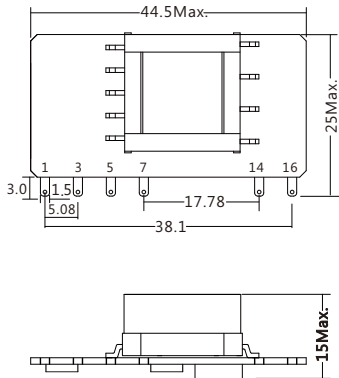


PIN CONNECTIONS	
PIN	Function
1	AC (N)
3	AC (L)
5	+V (cap)
7	-V (cap)
14	-Vo
16	+Vo

(PSO15-X-B)

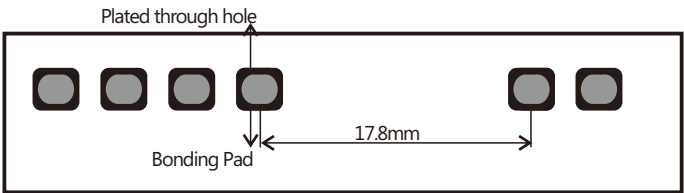
Golden finger PCB configuration

Units: mm
Pin section tolerance: ± 0.30
General tolerance: ± 0.50



PIN CONNECTIONS	
PIN	Function
1	AC (N)
3	AC (L)
5	+V (cap)
7	-V (cap)
14	-Vo
16	+Vo

(PSO15-X-C)



Note: Solderability: 250°C $\pm 5\%$, for 4-6 seconds

Note:
1.X=Output Voltage ;
2.A: Straight pin ; B: Bent pin ; C: Golden finger PCB type
3.The separation between all primary and secondary circuits must be maintained as follows to maintain the safety requirements:
Creepage : >6.4mm
Clearance : >4.0mm