

PPM-Series **PPMxx-S12-xxELF** **UP TO 3 W AC/DC* CONVERTER SINGLE OUTPUT SIP12**

Input Specifications

Input voltage range	85- 264 VAC*, 100- 400 VDC
Input current	40 mA , typ.
External input fuse(recommended)	0.5A/250 V

*** Attention: For AC-Input a capacitor between PIN 7 and PIN 10 is needed!! (See page 3)**

Output Specifications

Voltage set accuracy	±2%
Input variation	±0.5%, typ.
Load variation (10-100%)	±1%, typ.
Ripple& noise(p-p) 20MHz Bandwidth	See Table, typ.
Short circuit protection	Continuous, auto resume
Over current protection	150 °C, max.
Over output voltage protection	Chip lock up

Common Specifications

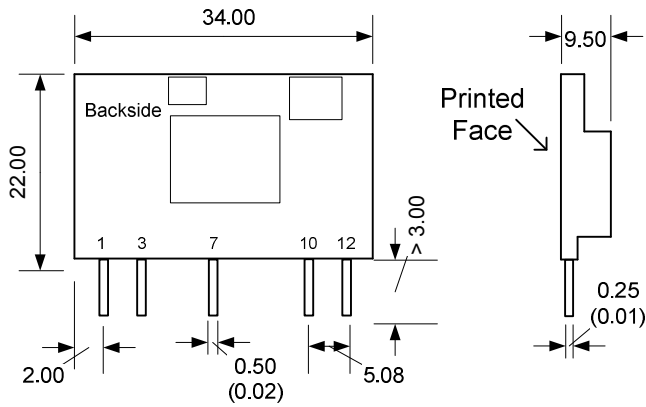
Temperature ranges	Operating : Power derating above 55 °C: Storage: Case temperature:	-40 °C to +85 °C 1.33% / °C -40 °C to +105 °C +90 °C max
Weight		~10g,
Hold-up time	(Vin=230VAC)	50ms(typ.)
Humidity (non condensing)		85%(max)
Temperature coefficient		0.02% / °C
Switching frequency		100kHz max
Efficiency		See table
I/O-isolation voltage		1000VAC/1Min
Leakage current		None
Case material		UL 94V-0 rated
Install		PCB
MTBF		>200,000h @25 °C
RoHS compliant		Soldering 260 °C / max. 10 sec.

Examples of Partnumbers/Modelcode

PART NO.	Power (Watt)	OUTPUT (Volt)	RIPPLE AND NOISE (typ.)	EFFICIENCY (% min.)
PPM1.65-S12-3R3ELF	1.65	3.3V / 500mA	50mV	70
PPM2.5-S12-05ELF	2.5	5V / 500mA	50mV	70
PPM3-S12-09ELF	3	9V / 330mA	150mV	75
PPM3-S12-12ELF	3	12V / 250mA	150mV	78
PPM3-S12-15ELF	3	15V / 200mA	150mV	78
PPM3-S12-24ELF	3	24V / 125mA	150mV	78

Other specifications please enquire.

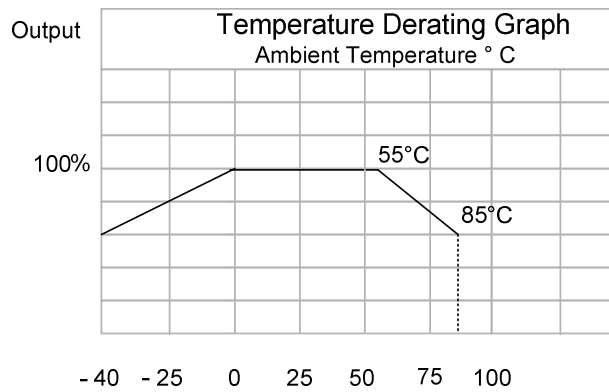
Dimensions / Pinning



CONNECTION	
No.	SINGLE
1	+Vout
3	- Vout
7	- Vin (N)
10	CAP
12	+Vin (L)

All dimensions are typical in millimeters (inches).
 - Pin pitch tolerance: +/-0.35 (+/-0.014)
 - Case tolerance +/-0.5 (+/-0.02)
 Specification may change without notice.

SIP12 – AC/DC



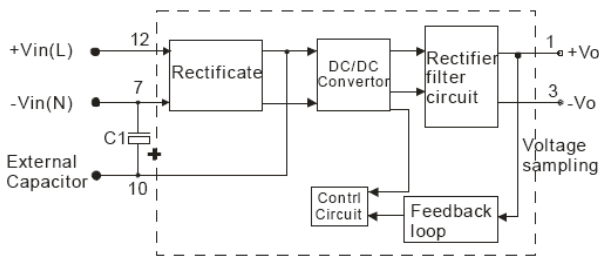
Notes:

App Notes

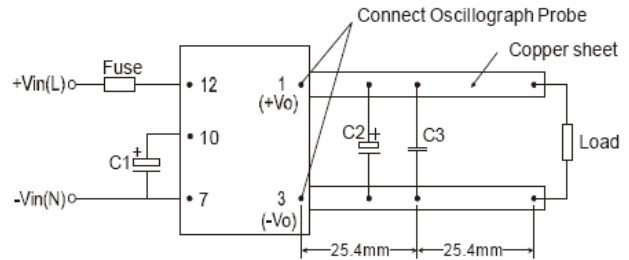
Remarks :

1. Ripple and Noise were measured by the method of parallel lines;
2. Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, TA=25°C, humidity < 75%;
3. All specifications stated in this datasheet are subject to the above listed model only. For specifications of non-standard model, please contact our technical support team.

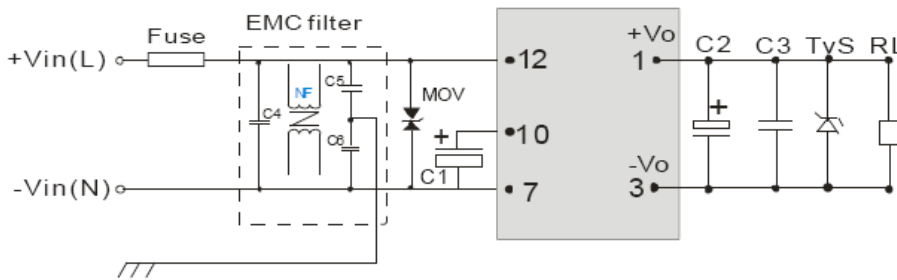
STRUCTURE FIGURE



MEASURE



Typical Applications PPM-Series



External Typical Value

Vout	C1	C2	C3	FUSE	TVS
3.3V	10uF/400V	150uF/25V	0.1uF/50V (ceramic capacitor)	0.5A/250V	P4KE6.8A
5V					P4KE12A
9V		100uF/35V			P4KE20A
12V					P4KE33A
15V					
24V					

Note:

1. Filtering capacitors C1, C2 are electrolytic capacitors, C1 is used in AC input. C2 is recommended to use high frequency and low impedance electrolytic capacitors. For capacitance and current of capacitor please refer to manufacture's datasheet. Voltage derating of capacitor should be 80% or above. C3 is ceramic capacitor it is used to filter high frequency noise. TVS is a recommended component to protect post-circuits (when converter fails).
2. If EMC performance is required, recommended to add "EMC filter" at the input end. C4: X capacitor, recommended parameter :0.1uF/275V C5,C6: Y capacitor, recommended parameter:220pF/2000V NF: Common-mode choke, recommended parameter: 10mH-30mH
3. MOV: pressure sensitive resistance, model 471KD05, is used to protect converter in lightning strike surge.

* Attention: For AC-Input a capacitor (10uF/400V) between PIN 7 and PIN 10 is needed!!