

## PV15 SERIES

### NEW POWER SOURCES 100-1200VDC OVERWIDE AND OVERHIGH INPUT VOLTAGE ISOLATION CONVERTER

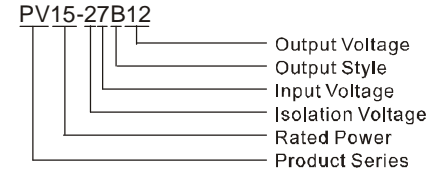
PV15 series are 100-1200VDC input voltage regulated DC-DC converter. It features ultra-high input voltage, high efficiency, high reliability, it can be widely used in PV power generation and high voltage inverter occasion, provide a stable operating voltage to the load equipment. Its own multiple protection features can enhance the safety performance of the power and load when

#### FEATURES

- I 12:1 ultra-wide input voltage range: 100 ~ 1200VDC
- I Industrial operating temperature: -40°C ~ 70°C
- I 4000VDC high isolation voltage
- I high efficiency, Low ripple& noise
- I Over output voltage protection(automatic recovery)
- I Short circuit protection(automatic recovery)
- I Input against reverse protection
- I MTBF>300 K hours
- I High reliability, long life, three years warranty
- I Offer custom products



#### PART NUMBER SYSTEM



#### SELECTION GUIDE

Model	Package	Input Voltage Range (VDC)	Output		Isolation Voltage (VDC)	Efficiency (% Typ)	Ripple& noise (Max.)
			Voltage (VDC)	Current (mA)			
PV15-27B12	70.0x48.0x23.5mm	100~1200	12	1250	4000	78	100mV
PV15-27B24			24	625		80	

#### INPUT SPECIFICATIONS

Input Voltage Range	100~1200VDC		
Input Current	200VDC 92mA(Typ.)	600VDC 31mA (Typ.)	1200VDC 17mA (Typ.)
Inrush Current	200VDC 7A (Typ.)	600VDC 23A (Typ.)	1200VDC 50A (Typ.)
External input fuse	2A Slow blow		

#### OUTPUT SPECIFICATIONS

Output voltage accuracy		±1% (Typ.)	±2% (Max.)
Line regulation		±0.5% (Typ.)	±1% (Max.)
Load regulation		±0.5% (Typ.)	±1% (Max.)
Ripple& noise(p-p)	20MHz Bandwidth	100mV (Typ.)	200mV (Max.)
Short circuit protection		Continuous, and auto resume	
Over output voltage protection	PV15-27B12	(Feedback-clamp) Voltage limited < 15V	
	PV15-27B24	(Feedback-clamp) Voltage limited < 27V	
Max. Capacitive Load (Full load)	PV15-27B12	2000µF	
	PV15-27B24	680µF	
Output Power		15W	

#### COMMON SPECIFICATIONS

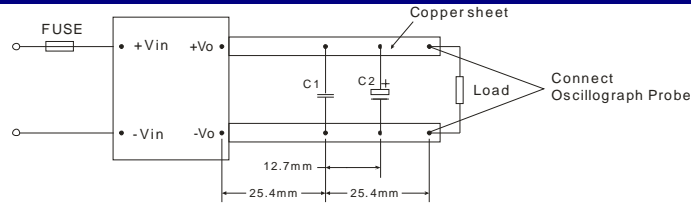
Temperature ranges	Operating	-40°C ~ +70°C
	Storage	-40°C ~ +105°C
	Case temperature	+90°C Max.
	Temperature Drift	±0.02 %/°C (Max.)
Humidity		20~95%

Delay time	200~1200VDC	1s (Max.)	
Cooling		Free air convection	
Hot-plugging		No support	
Isolation Voltage		4000VDC/1Min	
Isolation Resistance	Test at 500VDC	> 100 MΩ	
EMC	EMI	CE	CISPR22/EN55022 CLASS A (with typical applications Figure 1)
		RE	CISPR22/EN55022 CLASS A (with typical applications Figure 1)
	EMS	ESD	IEC/EN61000-4-2 Contact ±6KV / Air ±8KV perf. Criteria B
		RS	IEC/EN61000-4-3 10V/m perf. Criteria A
		EFT*	IEC/EN61000-4-4 ±4KV perf. Criteria B
		Surge*	IEC/EN61000-4-5 ±2KV/±4KV perf. Criteria B
		CS	IEC/EN61000-4-6 10 Vr.m.s perf. Criteria A
		PFM	IEC/EN61000-4-8 10A/m perf. Criteria A
		Voltage dips、short and interruptions immunity	IEC/EN61000-4-11 0%-70% perf. Criteria B
Case Material		UL 94V-0	
Install		PCB	
MTBF		>300,000h @25°C	
Weight		120 g	

Note:

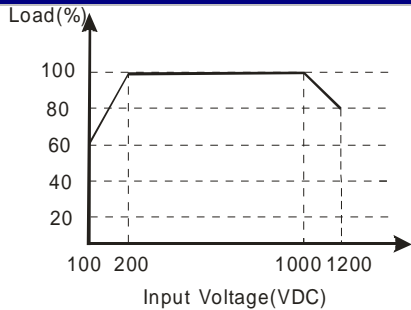
1. Test ripple and noise by "parallel cable" method. Test efficiency at normal temperature and input voltage is 200VDC.
2. Unless otherwise specified, all specifications above are measured at rated input voltage and rated output load, TA=25°C, humidity < 75%;
3. All specifications stated in this datasheet are subject to the above listed models only. For specifications of non-standard models, please contact our technical support team.

## PARALLEL LINES MEASURE

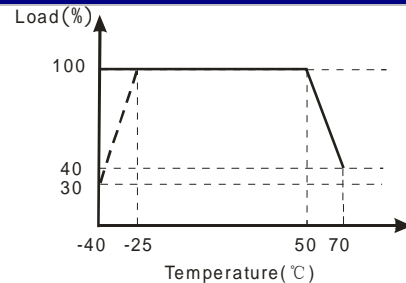


Note: C1: 1μF (ceramic capacitor) C2: 10μF (electrolytic capacitor)

## INPUT VOLTAGE VS LOAD

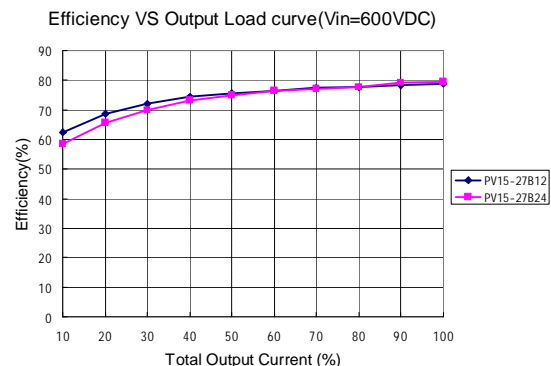
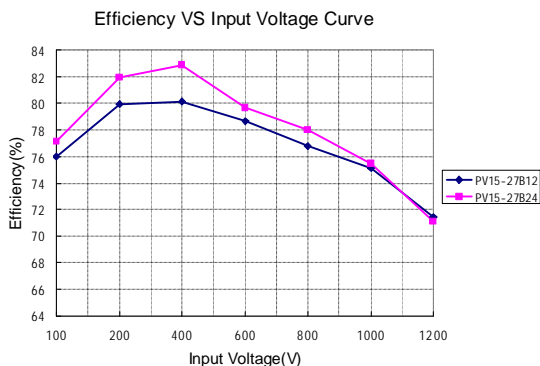


## TEMPERATURE VS LOAD



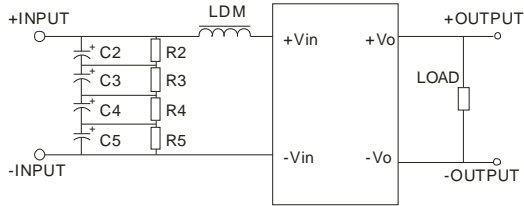
Note: When Vin=100-200VDC, derating curve is dotted line.

## TYPICAL EFFICIENCY CURVE



## EMC TYPICAL APPLICATIONS

### EMI Recommended Circuit:

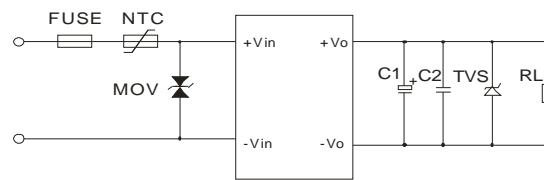


(Figure 1)

### Recommended parameters:

- ① C2、C3、C4、C5:22 $\mu$ F/400V
- ② R2、R3、R4、R5:1M $\Omega$ /2W
- ③ LDM:1.2mH/0.5A

### EMS Recommended Circuit:



### Recommended parameters:

Vout	12V	24V
TVS	SMCJ15A	SMCJ33A
C2	0.22 $\mu$ F/50V	0.22 $\mu$ F/50V

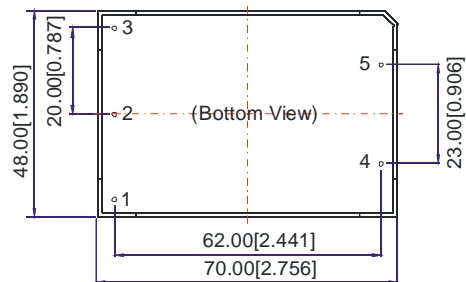
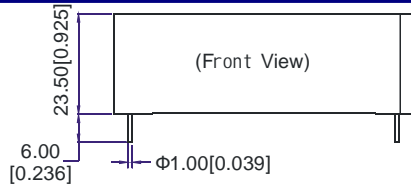
### Note:

Output filtering capacitor C1 is electrolytic capacitors, It 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%. TVS is a recommended component to protect post-circuits (if converter fails).

External input NTC is recommended to use 5D-9.

MOV: Varistor, model: 152KD14, it is used to protect the device under surge. Access as needed.

## OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT

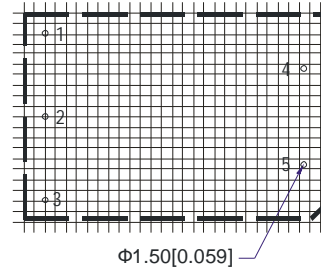


### Note:

Unit:mm (inch)

Pin diameter tolerances: $\pm 0.10$ mm [ $\pm 0.004$ inch]

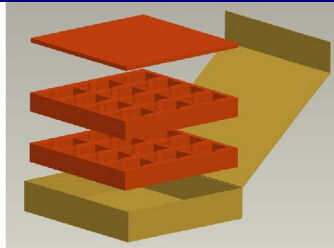
General tolerances: $\pm 0.50$ mm [ $\pm 0.020$ inch]



Note:grid 2.54\*2.54mm.

Pin	Function
1	NC
2	-Vin
3	+Vin
4	-Vo
5	+Vo

## PACKAGE DIAGRAM



Inner packaging box dimensions:L\*W\*H=365\*350\*105mm

Package quantity: 24 PCS

Outer package box dimensions:L\*W\*H=390\*360\*245mm

Package quantity: 48 PCS

### MORNSUN Science & Technology Co.,Ltd.

Address: No. 5, Kehui St. 1, Kehui development center, Science Ave., Guangzhou Science City, Luogang district, Guangzhou,P.R.China.

Tel: 86-20-28203030

Fax:86-20-38601272

[Http://www.mornsun-power.com](http://www.mornsun-power.com)

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Specifications subject to change without notice.  
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