

**APVD15 SERIES**

**15W Ultra Wide Input Voltage DC-DC Converter for PV**

- Wide Input voltage range 200-1000VDC
- Typical Efficiency 86%
- Switching frequency: 65-100 KHz
- Over current / Short circuit protection, Self-recovery
- Input-output isolated
- PCB mounting
- Plastic/Metal case

**3 Year Warranty**
**Approvals: CE ROHS**
**Typical product list**

Part No	Input voltage range	Output voltage / current					
		VO1		VO2		VO3	
		V	mA	V	mA	V	mA
APVD15-500S05	500VDC (200-1000VDC)	5	3000				
APVD15-500S12		12	1250				
APVD15-500S24		24	625				
APVD15-500E0524		5	2000	24	208		

Test Condition: Unless otherwise specified, data in the datasheet should be tested under the conditions of inputting nominal voltage, pure resistance rated load and Ta=25°C.

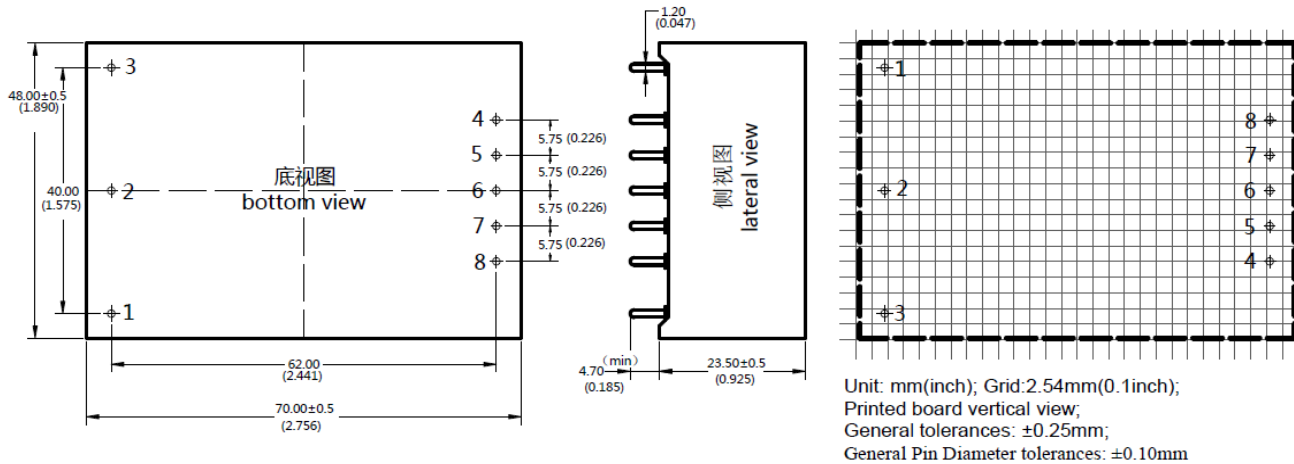
Input Specifications	Min	Nom	Max	Unit
Input voltage Vdc	200	430-780	1000	V
Input Current			180mA(TYP)	mA
Surge Current	10A(TYP) 100V		20A(TYP) 1200V	

**Output Specifications**

Output Voltage accuracy		Vo	±2.0%
Line regulation	Nominal Load, full voltage range	Vo	±1.0%
Load regulation	20% ~ 100% nominal load	Vo	±2.0%
Ripple and noise	20MHz BM (Full Load) ≤100mVp-p		
Short circuit protection	Continuous, self-recovery		
Output over current protection	≥1.1n		
Output over voltage protection	yes		
Turn-on delay time	Typical value	≤500mS(TYP)/at Vin:1200VDC	

Note: ripple & noise are tested by parallel cable test method.

General Specifications			
Transfer Efficiency	Nominal input, Full load	86% Typical	
Switching frequency		65-100KHz Typical	
Operating temperature	Free air convection	Industrial Level	-40 ~ +55
Storage temperature		Industrial Level	-40 ~ +105
		Power derating	3.75%/
Relative humidity		98%(MAX) no condensing	
Temperature drift		0.02%/	
Insulation	Overshoot withstand voltage 6000VAC	4000VDC/1Min(Special 3000VAC)	
Insulation resistance		Input to Output 500Vdc 1000M	
Leakage current		0.5mA RMS typ. 1200VDC	
Power off holding time		80ms(TYP) at Vin:1000VDC	
Dynamic Response		25% nominal load step change $\pm 0.5\%$ /500uS	
Safety Class		CLASS	

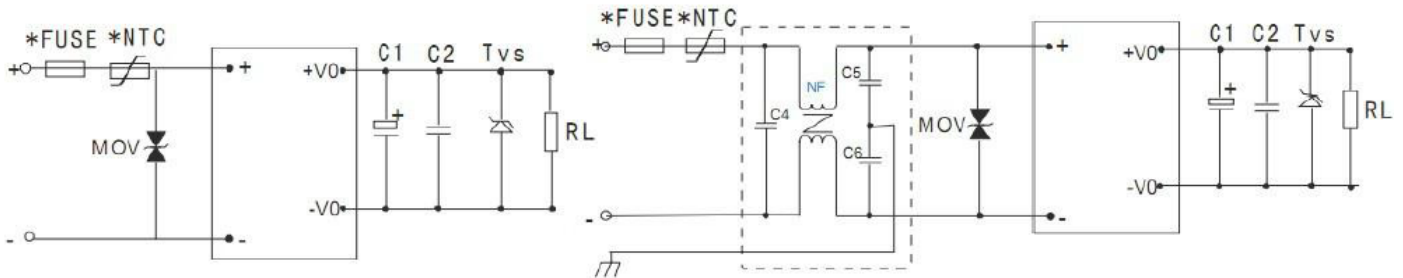
**Dimension:**

**Packing:**

Packing code	L x W x H	
	70.0x48.0x23.5 mm	2.67 × 1.89 × 0.93 inch

\*Note: If the definition of the pin in the converter does not match with this manual, please refer to the actual item.

**Pin Definition:**

Pin-out	1	2	3	4	5	6	7	8
Single(S)	NP	-Vin	+Vin	+Vo	NP	NP	NP	GND
Dual(D)	NP	-Vin	+Vin	+Vo1	NP	COM	NP	-Vo2
Dual but isolated(E)	NP	-Vin	+Vin	+Vo2	GND2	NP	+Vo1	GND1

**Recommended Circuit (to improve EMI/ EMC)**

**Output filter:**

C1: input filter electrolytic capacitor, recommend to use high frequency low resistance ones, capacitance and the current allowed please refer to each supplier's datasheet. Capacitive withstand voltage derating >80%. C2: filter high frequency noise.

TVS:

to protect back circuit if module fails.

**Input filter:**

1. If the product is used under high EMC situation, need to add "EMC filter" at front, NF: recommend to use 10mH-30mH for common mode inductor.

C4 use 3pc of 0.1UF/275AC in series connection;

C5, C6 use Y capacitor of 102M /400VAC.

2. MOV:14D152K, to protect the module from light surging (necessary).