DESCRIPTIONS 150W, DC/DC Converter

RoHS

CE Report UKCA Report

EN62109-1 BS EN62109-1

FEATURES

- Ultra-wide input voltage range of 250 - 1500VDC
- Industrial grade operating temperature -40℃ to +70℃
- High I/O isolation voltage up to 4000VAC
- High efficiency, low ripple & noise
- High reliability, long lifespan
- Input under-voltage protection, input reverse polarity protection, output short circuit, over-current, over-voltage protection
- Operating up to 5000m altitude

APPLICATIONS

- Photovoltaic inverter
- Energy storage systems
- Charging pile
- Industrial control

Selection Guide

Certification	Part No.	Output Power(W)	Nominal Output Voltage and Current (Vo/Io)	Efficiency at 800VDC(%) Typ.	Capacitive Load (μF) Max.
EN/BS EN	DPV150-15B-12	120	12V/10000mA	88	3500
	DPV150-15B-15		15V/8000mA	89	3000
	DPV150-15B-24	150	24V/6250mA	90	2000
	DPV150-15B-28		28V/5360mA	91	2000
	DPV150-15B-32		32V/4690mA	91	1500
	DPV150-15B-48		48V/3125mA	92	1000

Note:The product picture is for reference only. For details, please refer to the actual product.

Specifications

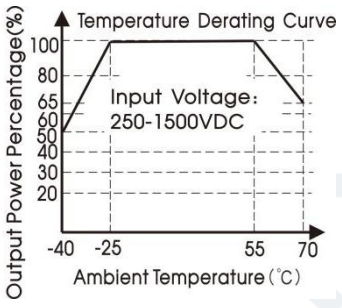
Product characteristics	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range				250	--	1500	VDC
	Input Current		250VDC		--	--	0.63	A
			800VDC		--	--	0.4	
	Inrush Current		800VDC		--	--	100	
			1500VDC		--	--	200	
	Input Under-voltage Protection		Lockout activation range		125	175	225	VDC
			Lockout deactivation range		150	210	250	
	External Input Fuse				4A/1500VDC, required			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		All load range		--	±1.0	±2.0	%
	Line Regulation		Rated load		--	±0.25	±0.5	
	Load Regulation		0% - 100% load		--	±0.5	±1.0	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)		--	--	300	mV
	Temperature Coefficient				--	±0.02	--	%/℃
	Short Circuit Protection				Hiccup, continuous, self-recovery			
	Over-current Protection				≥110%Io, hiccup, self-recovery			
	Over-voltage Protection		12V output		≤20VDC			
			15V output		≤25VDC			
			24V output		≤32VDC			
			28V output		≤35VDC			
			32V output		≤45VDC			
			48V output		≤60VDC			
	Minimum Load				0	--	--	%
	Hold-up Time		Room temperature, full load	800VDC input	--	2	--	ms
				1500VDC input	--	10	--	
	Start-up Delay Time		Room temperature		--	--	3	s
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current < 5mA		4000	--	--	VAC
		Input - PE			2000	--	--	
		Output - PE			2000	--	--	
	Insulation Resistance	Input - output	500VDC		50	--	--	MΩ
	Operating Temperature				-40	--	+70	℃
	Storage Temperature				-40	--	+85	
	Operating Humidity				--	--	85	%RH
	Storage Humidity				--	--	95	
	Power Derating		-40℃ to -25℃		3.33	--	--	%/℃
			+55℃ to +70℃		2.4	--	--	

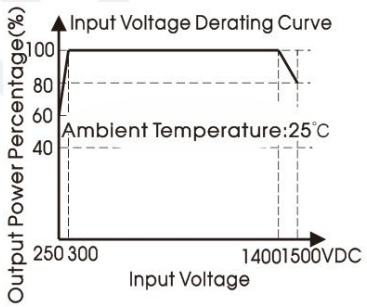
General Specifications	Power Derating	250VDC - 300VDC	0.8	--	--	%/VDC
		1400VDC - 1500VDC	0.2	--	--	
	Power Derating	2000m - 5000m	10	--	--	%/Km
	Switching Frequency		--	65	--	kHz
	MTBF	MIL-HDBK-217F@25℃	≥300,000 h			
Mechanical Specifications	Case Material	Metal				
	Dimensions	168.00 x 111.20 x 42.50 mm				
	Weight	860g (Typ.)				
	Cooling Method	Free air convection				
Note: * The " Tip and barrel method" is used for ripple and noise test.						

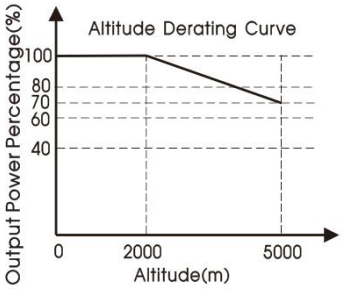
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032 CLASS A	
		RE	CISPR32/EN55032 CLASS A	
	Immunity	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 ±2KV	Perf. Criteria B
		Surge	IEC/EN61000-4-5 Line to line ±1KV/ line to ground ±2KV	Perf. Criteria B
		CS	IEC/EN61000-4-6 10Vr.m.s	Perf. Criteria A

Characteristic Curve



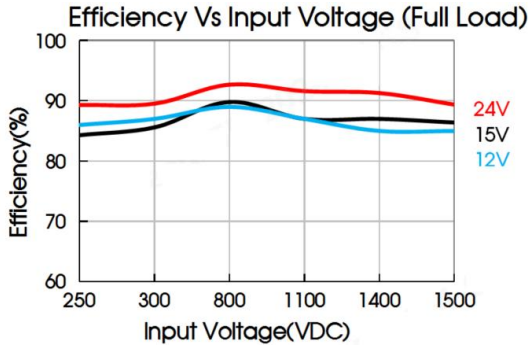


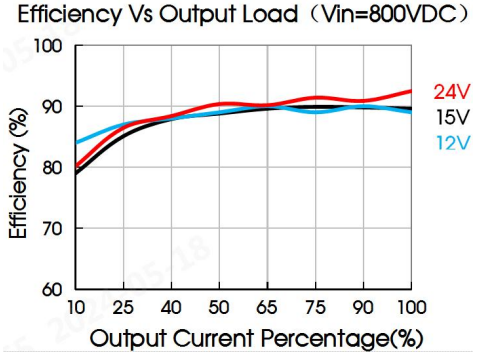


Note:

① With an input between 250 - 300VDC/1400 -1500VDC, the output power of parts must be derated as per temperature derating curves;

② This product is suitable for applications using natural free air convection.





Design Reference

1. Typical application circuit

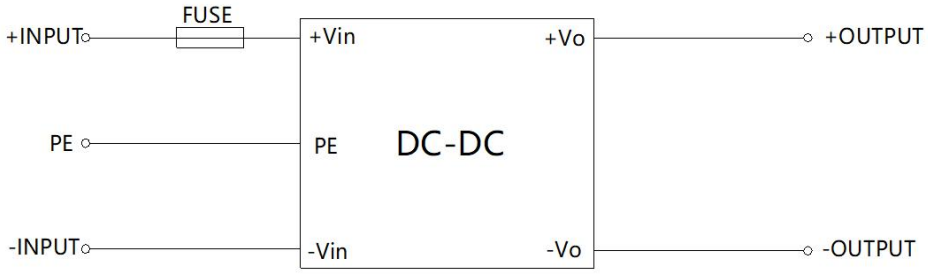


Fig. 1

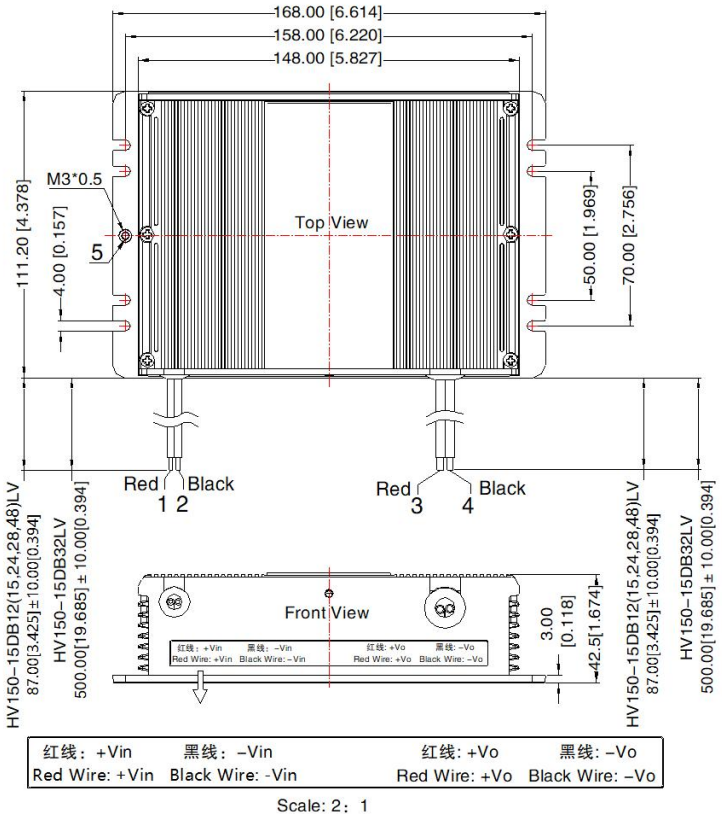
Model	Recommended value
FUSE	4A/1500VDC (UL/VDE), required

2. IMPORTANT SAFETY INSTRUCTIONS

Additional protective devices, such as lightning protector need to be added if there is an transient pulse voltage greater than 6KV at the input of products in system applications.

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	+Vin
2	-Vin
3	+Vo
4	-Vo
5	PE

Input wire spec.	
Product Model	Spec.(18AWG)
12V	UL3239
15V	UL3239 UL1015
24V	UL3239 UL1015
28V	UL3239
32V	UL3239 UL1015
48V	UL3239 UL1015

Note:
The input wire spec. is UL1015 heated shrinkable tube, which meets the requirements of 1500V voltage class
Output wire spec.: UL1015 14AWG
Unit: mm[inch]
General tolerances: ± 1.00[± 0.039]

"IMPORTANT SAFETY INSTRUCTIONS"

SAVE THESE INSTRUCTIONS -

1. Listed JFGA fuse rated 4A, 1500Vdc overcurrent protection device shall be provided in the input circuits .

2.In the end product, a R/C or Listed, clamping voltage rated 6000V, Surge Protection Device must be provided at the input circuit.

⚠ WARNING:
1. WARNING: SHOCK HAZARD. HORIZONTAL PACKAGE ONLY FOR MOUNTING IN A RACK OR ENCLOSURE FULLY ENCLOSING ALL
LIVE PARTS.
2. DANGER – HIGH VOLTAGE.

AVERTISSEMENT:
1. AVERTISSEMENT: PAQUET HORIZONTAL RISQUE D'ÉLECTROCUTION. UNIQUEMENT POUR LE MONTAGE DANS UN RACK OU UN
ENCEINTE ENFERMANT ENTIÈREMENT TOUTES LES PIÈCES SOUS TENSION.
2. DANGER : HAUTE TENSION.

Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. We can provide product customization service, please contact our technicians directly for specific information;
4. Products are related to laws and regulations: see "Features" and "EMC";
5. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
6. When the photovoltaic array is exposed to light, it supplies a d.c. voltage to the PCE.