DESCRIPTIONS

15W，DC/DC Converter







RoHS

CE Report UKCA Report

EN62109-1 BS EN62109-1

FEATURES

- Input voltage up to 1200VDC (Transient, duration: 60s)
- Wide 10:1 input voltage range of 100 -1000VDC
- Industrial grade operating temperature -40℃ to +70℃
- High I/O isolation test voltage of 4000VAC
- High efficiency, low ripple & noise
- Input reverse polarity protection, output short circuit, over-current, over-voltage protection
- High reliability, long service life
- Mounting options available for PCB mounting,
- chassis mounting and DIN-Rail mounting
- Reinforced insulation
- Customization is available

APPLICATIONS

- SVG
- Photovoltaic

Selection Guide

Certification	Model*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Efficiency at 200VDC (%) Typ.	Capacitive Load (μF) Max.
EN/BS EN	DPV15-10B-12	15	12V/1.25A	81	2000
	DPV15-10B-15		15V/1.00A	81	1200
	DPV15-10B-24		24V/0.625A	83	470

Note: 1.*Use suffix "E2C" for chassis mounting and suffix "D4C" for DIN-Rail mounting.
2.The product picture is for reference only. For details, please refer to the actual product.

Specifications

Specifications	Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		100	--	1000	VDC
		Transient (60s)	--	--	1200	
	Input Current	200VDC	--	--	120	mA
		600VDC	--	--	40	
		1000VDC	--	--	22	
	Inrush Current	200VDC	--	7	--	A
		600VDC	--	20	--	
		1000VDC	--	30	--	
	Input Under-voltage Protection	Lockout activation range	60	--	85	VDC
		Lockout deactivation range	75	--	95	
	Input Reverse Polarity Protection		Available			
	External Input Fuse		2A/1000V, required			
	Hot Plug		Unavailable			
Output Specifications	Output Voltage Accuracy		--	±1	±2	%
	Line Regulation		--	±0.5	±1	
	Load Regulation		--	±0.5	±1	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	--	100	200	mV
	Stand-by Power Consumption	Full voltage range	--	0.5	2.0	W
	Temperature Drift Coefficient		--	±0.02	±0.15	%/℃
	Short Circuit Protection		Continuous, self-recovery			
	Over-current Protection		≥110%Io self-recovery			
	Over-voltage Protection	12V	≤15V	Output voltage clamp or hiccup		
		15V	≤19V			
		24V	≤ 28V			
	Minimum Load		0	--	--	%
	Start-up Delay Time	100-1000VDC	--	--	1	s
	Hold-up Time	Room temperature, full load, 600VDC input	--	10	--	ms
		Room temperature, full load, 1000VDC input	--	30	--	
General Specifications	Isolation, Input-output	Electric Strength Test for 1min., leakage current < 5mA	4000	--	--	VAC
	Insulation Resistance, Input-output	At 500VDC	100	--	--	MΩ
	Operating Temperature		-40	--	+70	℃
	Storage Temperature		-40	--	+105	
	Storage Humidity		--	--	95	%RH

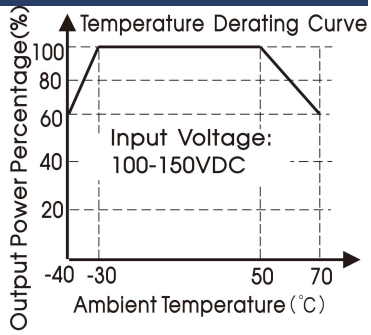
	Soldering Temperature	Wave-soldering		260±5℃; time: 5-10s			
		Manual-welding		360±10℃; time: 3-5s			
	Switching Frequency			--	65	--	kHz
	Power Derating	-40℃ to -30℃	100-150VDC	4	--	--	%/℃
		+50℃ to +70℃		2	--	--	
		100VDC- 200VDC		0.4	--	--	%/VDC
		2000m- 5000m		6.67	--	--	%/km
	MTBF	MIL-HDBK-217F@25℃		> 300,000 h			
Mechanical Specifications	Case Material	Black flame-retardant and heat-resistant plastic (UL94V-0)					
	Dimensions	Horizontal package		70.0 x 48.0 x 23.5 mm			
		E2C chassis mounting		96.1 x 54.0 x 32.0 mm			
		D4C DIN-Rail mounting		96.1 x 54.0 x 36.6 mm			
	Weight	Horizontal package		115g (Typ.)			
		E2C chassis mounting		170g (Typ.)			
		D4C DIN-Rail mounting		210g (Typ.)			
	Cooling method			Free air convection			

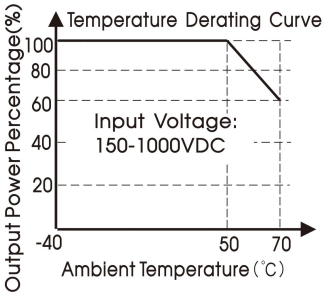
Note: * The "parallel cable" method is used for ripple and noise test.

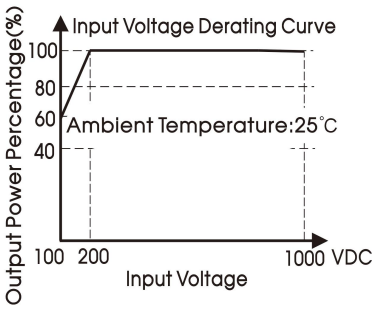
Electromagnetic Compatibility (EMC)

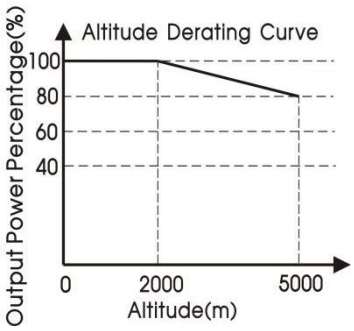
Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032 CLASS A (See Fig. 2 for recommended circuit)	
		RE	CISPR32/EN55032 CLASS A	
	Immunity	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV	Perf. Criteria B
		RS	IEC/EN61000-4-3 10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4 ±4KV	Perf. Criteria B
		Surge	IEC/EN61000-4-5 Line to line ±1KV	Perf. Criteria B
			IEC/EN61000-4-5 Line to line ±2KV (See Fig. 2 for recommended	Perf. Criteria B
		CS	IEC/EN61000-4-6 10Vr.m.s	Perf. Criteria A

Product Characteristic Curve



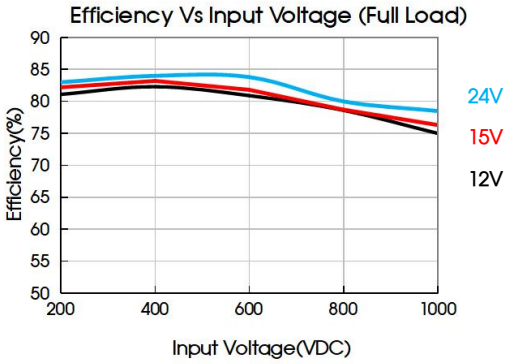


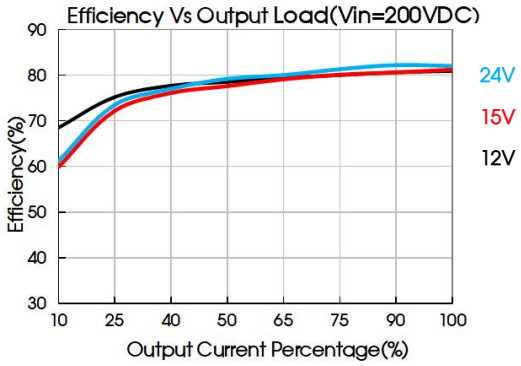




Note: ① With an input between 100 - 200VDC, the output power of DPV15-10B-xx parts must be derated as per temperature derating curves;

② This product is suitable for use in natural free air convection environments.





Design Reference

1. Typical application

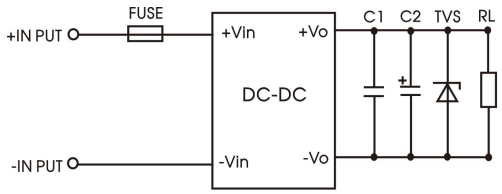


Fig. 1: Typical application circuit

Model	FUSE	C1(μF)	C2(μF)	TVS
DPV15-10B-12	2A/1000VDC, required	1	120	SMBJ20A
DPV15-10B-15				
DPV15-10B-24				SMBJ30A

Note on filter components:

We recommend using an electrolytic capacitor with high frequency and low ESR rating for C2 (refer to manufacture's datasheet). Choose a capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C1 is a ceramic capacitor, used to filter high-frequency noise. TVS is a recommended suppressor diode to protect the application in case of a converter failure.

2. EMC compliance recommended circuit

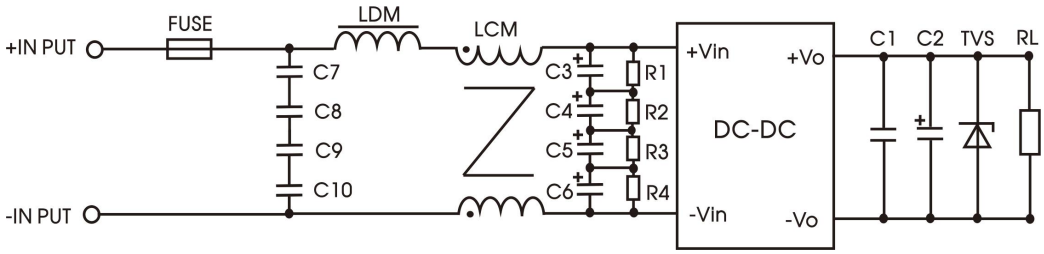
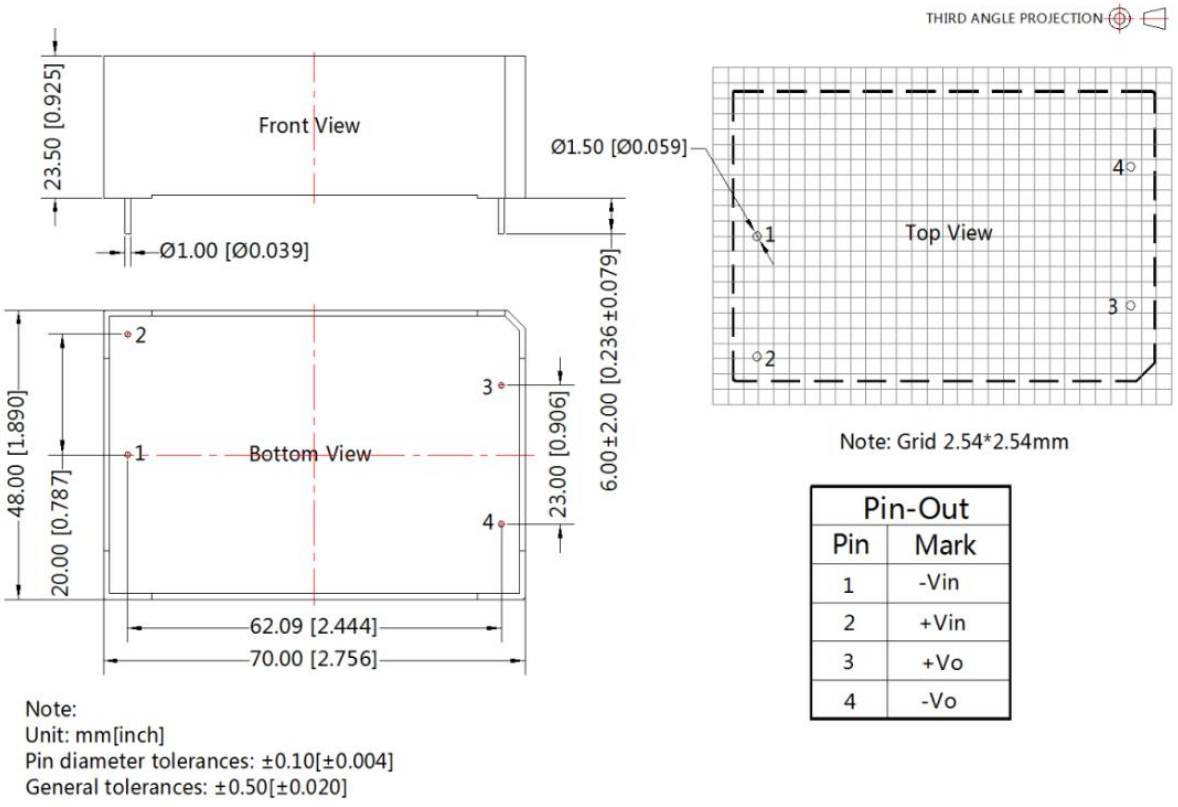


Fig 2: EMC application for higher compliance requirements (output parameters are show in Figure 1)

Component	Recommended value
C3/C4/C5/C6	10uF/400VDC
C7/C8/C9/C10	224K/275VAC
R1/R2/R3/R4	1MΩ/0.25W
LDM	1.2mH/0.38A
LCM	10mH
FUSE	2A/1000V, required

Dimensions and Recommended Layout

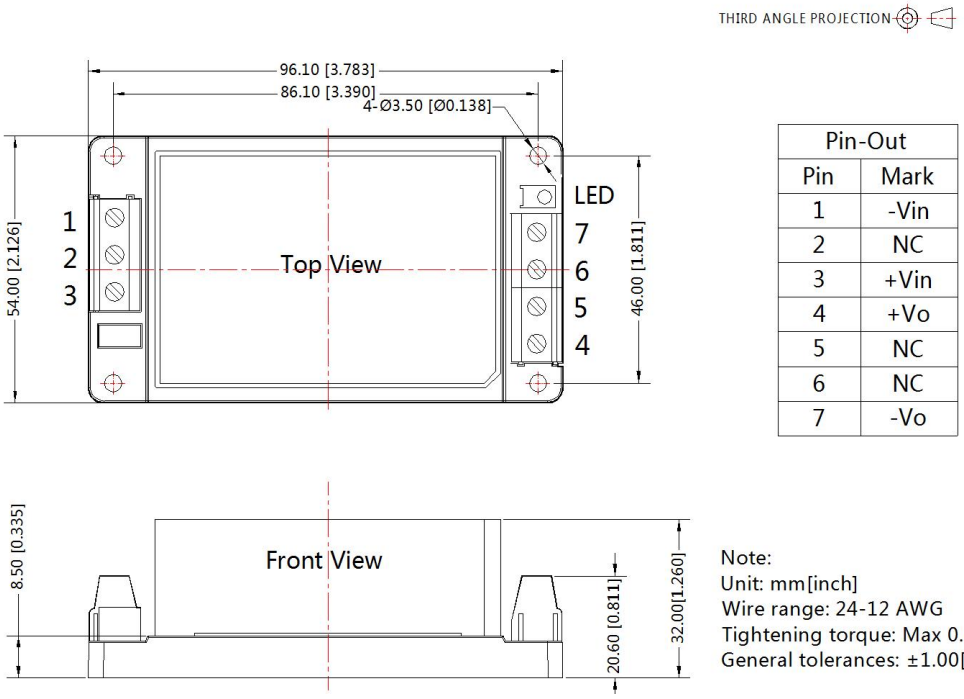


Note: Grid 2.54*2.54mm

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

Note:
Unit: mm[inch]
Pin diameter tolerances: ±0.10[±0.004]
General tolerances: ±0.50[±0.020]

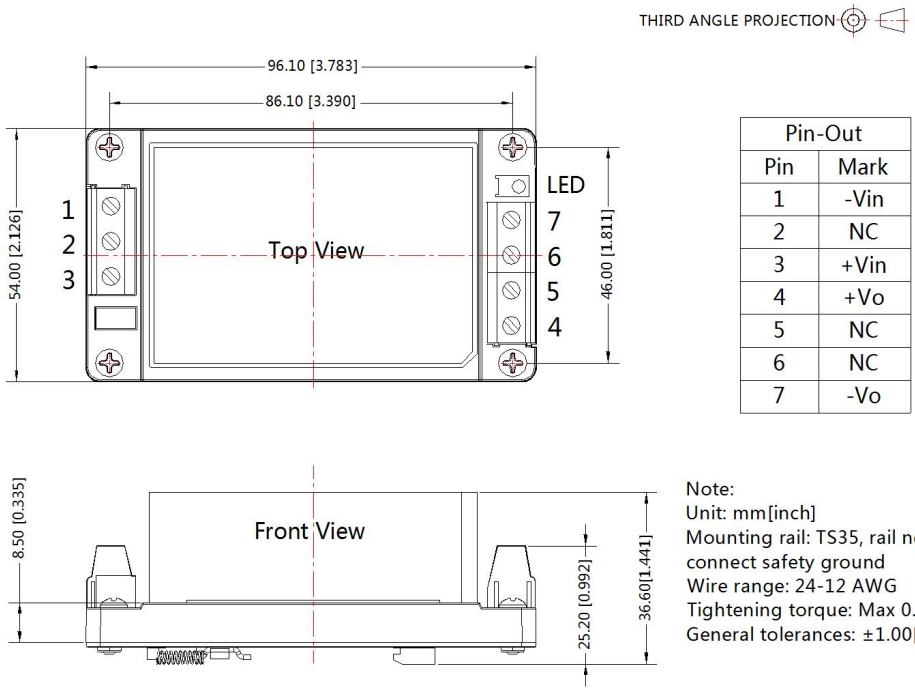
E2C Dimensions and Recommended Layout



Pin-Out	
Pin	Mark
1	-Vin
2	NC
3	+Vin
4	+Vo
5	NC
6	NC
7	-Vo

Note:
Unit: mm[inch]
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N·m
General tolerances: ±1.00[±0.039]

D4C Dimensions and Recommended Layout



Pin-Out	
Pin	Mark
1	-Vin
2	NC
3	+Vin
4	+Vo
5	NC
6	NC
7	-Vo

Note:
Unit: mm[inch]
Mounting rail: TS35, rail needs to connect safety ground
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N·m
General tolerances: ±1.00[±0.039]

1.CAUTION: RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.

1.ATTENTION: RISQUES D'ÉLECTROCUTION. NE PAS RETIRER LE COUVERCLE. NE CONTIENT AUCUNE PIÈCE POUVANT ÊTRE RÉPARÉE PAR L'UTILISATEUR.

2.CAUTION: DISCONNECT ALL SOURCES OF SUPPLY BEFORE SERVICING.

2.ATTENTION: COUPER TOUTES LES SOURCES D'ALIMENTATION AVANT DE FAIRE L'ENTRETIEN ET LESL RÉPARATIONS.

3.CAUTION: RISK OF ELECTRIC SHOCK FROM STORED ENERGY. WAIT 5 MIN AFTER DISCONNECTING ALL SOURCES OF SUPPLY BEFORE ACCESSING.

3.ATTENTION:RISQUE D'ÉLECTROCUTION EN RAISON DE L'ÉLECTRICITÉ EMMAGASINÉE. ATTENDRE 5 MINUTES APRÈS AVOIR DÉBRANCHÉ TOUTES LES SOURCES D'ALIMENTATION AVANT D'Y ACCÉDER.

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. Specifications are subject to change without prior notice.
5. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.