

Features

- ★ Small Footprint
- ★ In-Out Isolation Voltage 1000 VDC
- ★ 14 PIN DIP Package
- ★ Temperature Range:-40℃ to +85℃
- ★ UL94V-0 Inflaming retarding package
- ★ MTBF>1million hours(25℃)



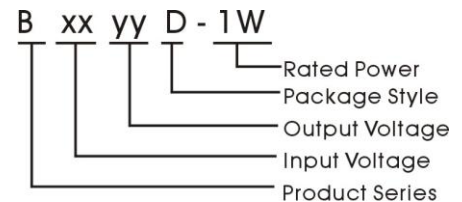
Applications

The B_D-1W Series are designed for application where isolated output is required from a distributed power system.

These products apply to where:

- 1) 1000 VDC input and output isolation;
- 2) Input voltage variation $\leq \pm 10\%$;
- 3) Regulated and low ripple noise is not required.

Such as: digital circuits, and IGBT power device driving circuits.



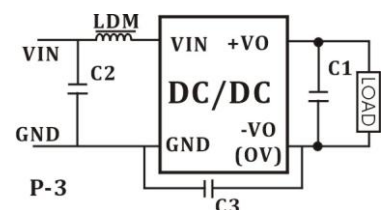
Model Detail List Specification

Model Number	Input Voltage range (nominal voltage)	Output Voltage	Output Current (mA)		Input Current Full load.(mA)		Efficiency	Max. Capacitive Load(μF)
			Min.	Max.	Max.	Min.		
B0505D-1W	4.5~5.5VDC (5VDC)	5.0V	20	200	284	40	78%	200
B0509D-1W		9.0V	11	111	277		80%	
B0512D-1W		12.0V	8	83	283		78%	
B0515D-1W		15.0V	7	67	286		78%	
B1205D-1W	10.8~13.2VDC (12VDC)	5.0V	20	200	115	36	80%	
B1209D-1W		9.0V	11	111	115		80%	
B1212D-1W		12.0V	8	83	116		79%	
B1215D-1W		15.0V	7	67	116		79%	
B2405D-1W	21.6~26.4VDC (24VDC)	5.0V	20	200	59	24	78%	
B2409D-1W		9.0V	11	111	57		80%	
B2412D-1W		12.0V	8	83	59		78%	
B2415D-1W		15.0V	7	67	59		78%	

Recommended Circuit

If the capacitance load is too big, a startup problem might arise. For every channel of output, provided the safe and reliable operation is ensured, there recommend capacitance of its filter capacitor. Refer to recommend see – Model Specification detail list.

Model test circuit



BD-1W Series



Output Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Output Power		0.1		1	W
Line Voltage Regulation	For Vin change of $\pm 1\%$			± 1.5	%
Load regulation	10% to 100% load	5V output	10	15	
		12V output	8	15	
		15V output	6	15	
		24V output	6	15	
Ripple	20MHz Bandwidth		50		mVp-p
Noise			75		
Temperature Drift	100% full load			± 0.03	$\%/^{\circ}\text{C}$
Input Filter		C Filter			

Environmental Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Storage Humidity	Non condensing			95	%
Temp. rise at full load			-25		°C
Operating Temperature		-40		+85	
Storage Temperature	Power derating (above 85°C)	-55		+125	
Cooling		Free air convection			

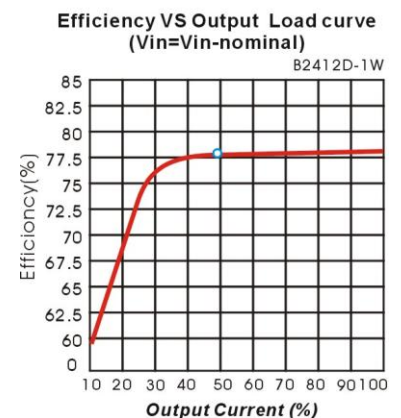
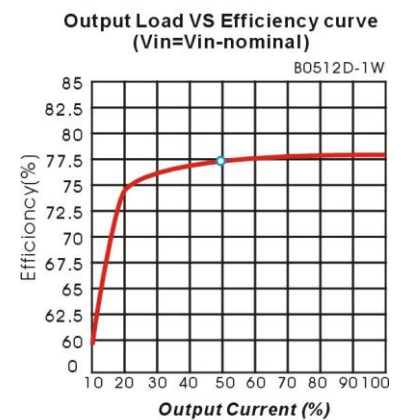
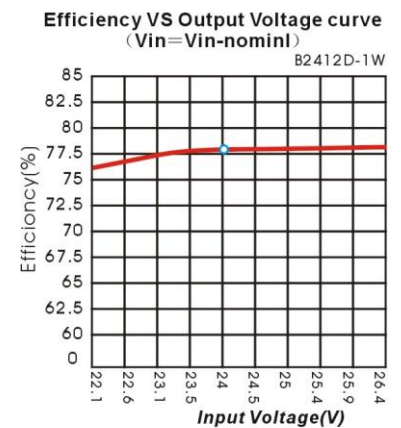
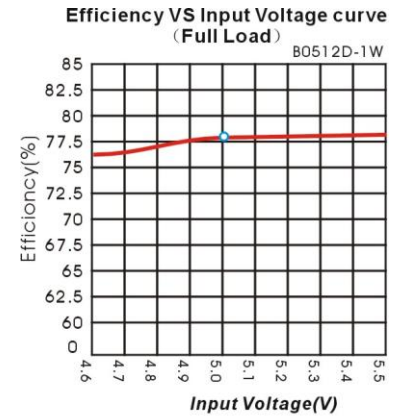
Common Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Tested for 1 minute and leakage current less than 1 mA	1000			VDC
Switching Frequency	Full load, nominal input		100		KHz
MTBF	MIL-HDBK-217F@ 25°C	1000			K hours
Isolation Resistance	Test at 500VDC	1000			M Ω
Weight			2.6		g

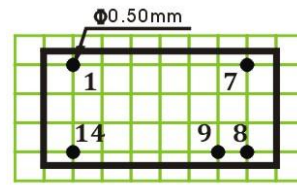
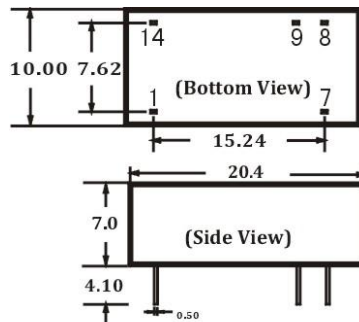
Input Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Input Max. voltage	5 VDC Input (4.5~5.5V)			6	VDC
	12 VDC Input (10.8~13.2V)			14.4	
	24 VDC Input (21.6~26.4V)			28.8	
Input surge voltage (1 sec. Max.)	5 VDC Input (4.5~5.5V)	-0.8		10	VDC
	12 VDC Input (10.8~13.2V)	-0.8		20	
	24 VDC Input (21.6~26.4V)	-0.8		32	

Product typical Curve



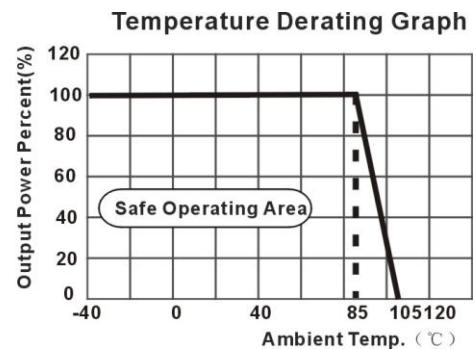
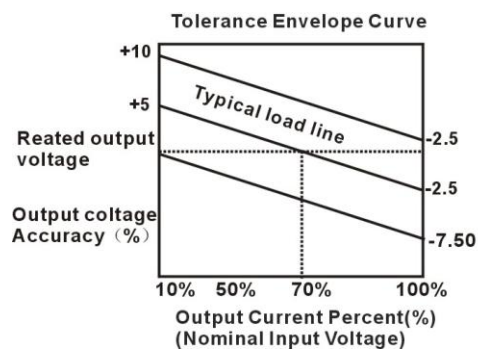
Mechanical Dimensions & Recommended Footprint



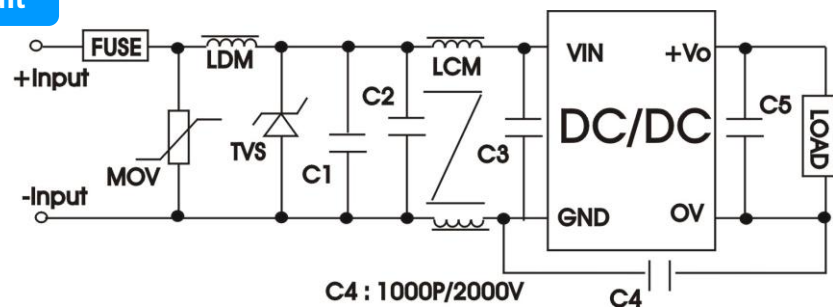
Note: grid 2.54*2.54mm.
Unit: mm
General tolerances : 0.20mm

Package	Vin	GND	OV	+Vo	NC
BD	14	1	8	9	7

Tolerance Envelope Curve & Temperature Derating Graph



EMC Recommended Circuit



EMC Module Application Circuit

