

Features

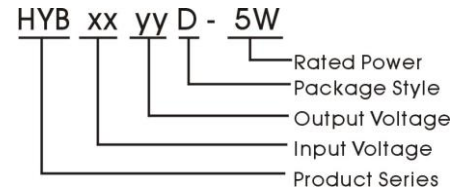
- ★ In-Out Isolation Voltage 1000 VDC
- ★ 8 PIN SIP Package
- ★ Temperature Range:-40℃ to +85℃
- ★ UL94V-0 Inflaming retarding package
- ★ MTBF>1million hours(25℃)
- ★ Short Circuit Protection
- ★ Without overshoot when turning On/Off



Applications

The HYB_D-5W Series are specially designed for applications where a wide range input voltage power supplies are isolated from the input power supply in a distributed power supply system on a circuit board. For these DC-DC converters, you can reduce the design point of failure and save the development of micro power supply's manpower, material and time costs, also better ensure product quality stability, protect safety and reliability of the end of products. These products apply to where:

1. Input voltage range $\leq 2:1$.
 2. Input and output isolation noise is required.
 3. Regulated and low ripple noise is required.
- Such as: tele-communications etc, industrial control.



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.	No.		
HYB1205D-5W	9~18VDC (12 VDC)	5.0V	100	1000	570	48	73%	1000
HYB1209D-5W		9.0V	55	555	555		75%	
HYB1212D-5W		12.0V	41	416	507		82%	
HYB1215D-5W		15.0V	33	333	533		78%	
HYB2405D-5W	18~36VDC (24 VDC)	5.0V	100	1000	285	34	73%	
HYB2409D-5W		9.0V	55	555	277		75%	
HYB2412D-5W		12.0V	41	416	266		78%	
HYB2415D-5W		15.0V	33	333	266		78%	
HYB4805D-5W	36~72VDC (48 VDC)	5.0V	100	1000	142	28	73%	
HYB4809D-5W		9.0V	55	555	138		75%	
HYB4812D-5W		12.0V	41	416	133		78%	
HYB4815D-5W		15.0V	33	333	130		80%	

Output Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Output Power		0.25		5	W
Line Regulation	Full load, Input voltage from low to high		±0.2	±0.5	%
Load regulation	5% to 100% load		0.01	0.02	
Voltage Accuracy	No-load output		1.5	5	
Output Voltage Balance	Dual output, balanced loads		0.3	0.5	
Output Accuracy	5% to 100% load		1	3	
Ripple	20MHz Bandwidth		10		mVp-p
Noise			20		
Temperature Drift	100% load		±0.02	±0.03	%/°C
Short Circuit Protection		Continuous, automatic recovery			
Input Filter		C Filter			

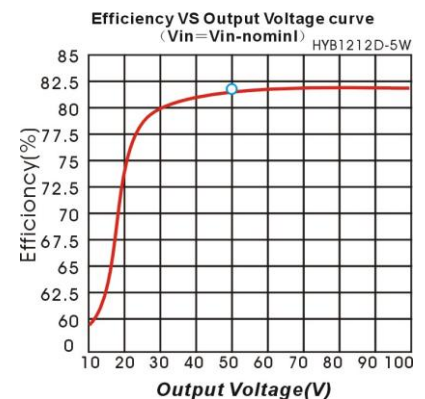
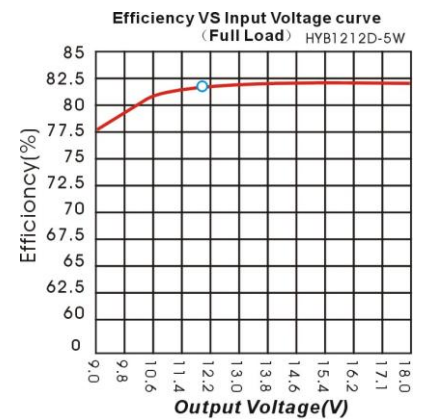
Common Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Tested for 1 minute and leakage current less than 1 mA	1000			VDC
Switching Frequency	100 % load, Stand input voltage		200		KHz
MTBF	MIL-HDBK-217F@25°C	1000			K hours
Isolation Resistance	Test at 500VDC	100			MΩ
Isolation Capacitance			300		pF
Weight			5.5		g

Environmental Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Storage Humidity	Non condensing			95	%
Temp. rise at full load	Ta=25℃		25		℃
Operating Temperature	Power derating (above 85℃)	-40		85	
Storage Temperature		-55		125	
Lead Temperature	1.5mm from case for 10 seconds			300	
Cooling		Free air convection			

Product typical Curve



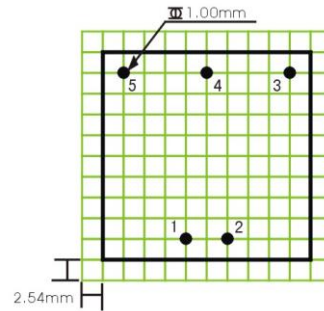
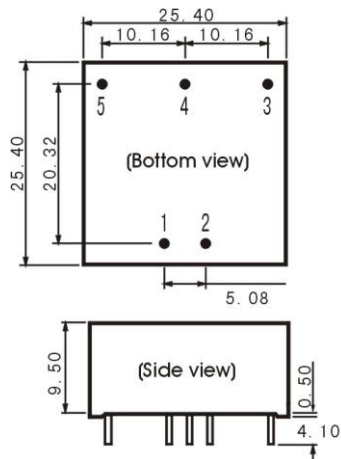
Input Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Input Max. voltage	12 VDC Input (9~18V)	5	8	9	VDC
	24 VDC Input (18~36V)	12	16	18	
	48 VDC Input (36~72V)	24	32	36	
Input surge voltage (1 sec. Max.)	12 VDC Input (9~18V)			50	
	24 VDC Input (18~36V)			100	
	48 VDC Input (36~72V)			200	

HYBD-5W Series

HOPOWER

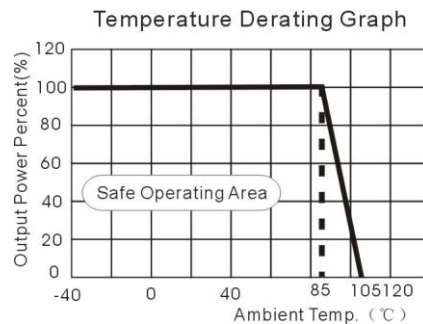
Mechanical Dimensions & Recommended Footprint



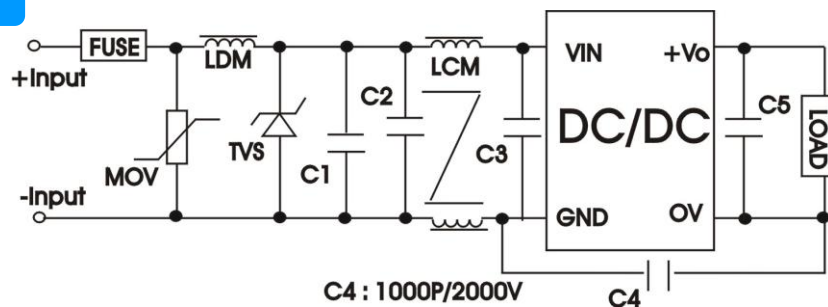
Note:
Unit: mm
General tolerances: 0.20mm

Package	Vin	GND	-Vo	OV	+Vo
HYBD	2	1	5	4	3

Temperature Derating Graph



EMC Recommended Circuit



EMC Module Application Circuit

