



Victor Power Technologies

Global DC/DC Converter Manufacturer



VDB05 Series

5 Watts

5W SINGLE AND DUAL OUTPUT
2:1 and 4:1 INPUT
ISOLATED & REGULATE
5 DIP PACKAGE
SHORT LEAD TIME

- 2:1 Input Nominal
 - 12VDC: 9~18VDC
 - 24VDC: 18~36VDC
 - 48VDC: 36~72VDC
- 4:1 Input Nominal
 - 24VDC: 9~36VDC
 - 48VDC: 18~72VDC
- Efficiency up to 82%
- Operating Temperature: -40°C~+85°C
- 1.5KVDC Isolation
- Single and dual Output
- Metal Shielding Package
- No Heat Sink Required
- Industry Standard Pin out
- MTBF>500,000 hours
- Short circuit protection
- RoHS

Product Program

Part Number	Input		Output Voltage (VDC)	Output Current (mA)	Efficiency (% Typ)	Package Style
	Nominal	Range				
VDB05-12S33	12	9~18	3.3	1000	76	DIP
VDB05-12S05	12	9~18	5	1000	79	DIP
VDB05-12S12	12	9~18	12	420	81	DIP
VDB05-12S15	12	9~18	15	330	80	DIP
VDB05-12S24	12	9~18	24	210	82	DIP
VDB05-12S48	12	9~18	48	104	82	DIP
VDB05-24S33	24	18~36	3.3	1000	77	DIP
VDB05-24S05 (W)	24	18~36(9~36)	5	1000	79	DIP
VDB05-24S12 (W)	24	18~36(9~36)	12	420	81	DIP
VDB05-24S15 (W)	24	18~36(9~36)	15	330	82	DIP
VDB05-24S24 (W)	24	18~36(9~36)	24	210	82	DIP
VDB05-24S48(W)	48	18~36(9~36)	48	104	82	DIP
VDB05-48S33	48	36~72	3.3	1000	74	DIP
VDB05-48S05 (W)	48	36~72(18~72)	5	1000	77	DIP
VDB05-48S12 (W)	48	36~72(18~72)	12	420	81	DIP
VDB05-48S15 (W)	48	36~72(18~72)	15	330	82	DIP
VDB05-48S24 (W)	48	36~72(18~72)	24	210	82	DIP
VDB05-48S48(W)	48	36~72(18~72)	48	104	82	DIP
VDB05-12D05	12	9~18	±5	±500	79	DIP
VDB05-12D12	12	9~18	±12	±210	81	DIP
VDB05-12D15	12	9~18	±15	±170	82	DIP
VDB05-24D05 (W)	24	18~36(9~36)	±5	±500	78	DIP
VDB05-24D12 (W)	24	18~36(9~36)	±12	±210	81	DIP
VDB05-24D15 (W)	24	18~36(9~36)	±15	±170	82	DIP
VDB05-48D05 (W)	48	36~72(18~72)	±5	±500	78	DIP
VDB05-48D12 (W)	48	36~72(18~72)	±12	±210	81	DIP
VDB05-48D15 (W)	48	36~72(18~72)	±15	±170	82	DIP

ISOLATION SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute	1500			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

COMMON SPECIFICATION

Output Short Circuit Protection	Continuous
Temperature Rise at Full Load	40°C (typ)
Cooling	Free Air Convection
Operating Temperature Range	-40°C~+85°C (with derating)
Storage Temperature Range	-55°C ~+125°C
Lead Temperature***	300°C (1.5mm from case for 10 seconds)
Storage Humidity Range	≤ 95%
Case Material	Metal
Dimensions	31.75x23.32x11.2 mm (1.25x0.8x0.44 inch)
MTBF	>1,000,000 hours

***Lead Temperature 1.5mm from case for 10 seconds.

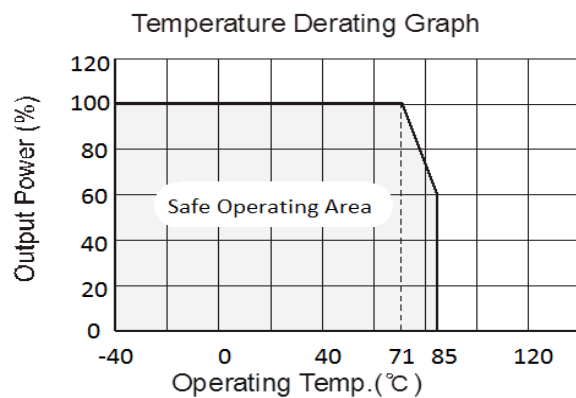
Output SPECIFICATION

Item	Test conditions	MIN	TYP	MAX	Units
5W output power	See below products program			5	W
Output Voltage accuracy	Refer to recommended circuit		±1	±3	%
Load regulation	From 10% to 100% load		±0.5	±1	
Line regulation	Input Voltage From Low to High		±0.2	±0.5	
Temperature drift (Vout)	Refer to recommended circuit		0.02		%/°C
Ripple	20Hz-300KHz bandwidth		30	50	mVp-p
Noise	DC-20MHz bandwidth		100	300	

Note:

- All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- See below recommended circuits for more details.

TYPICAL CHARECTERISTICS

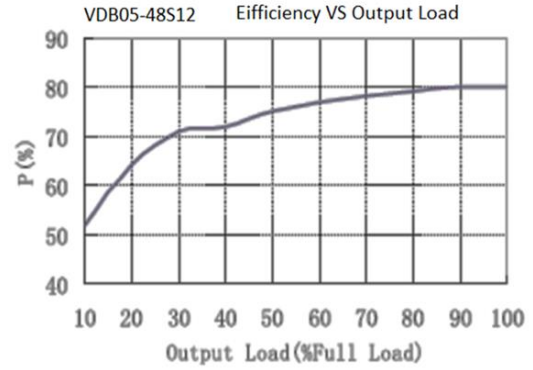
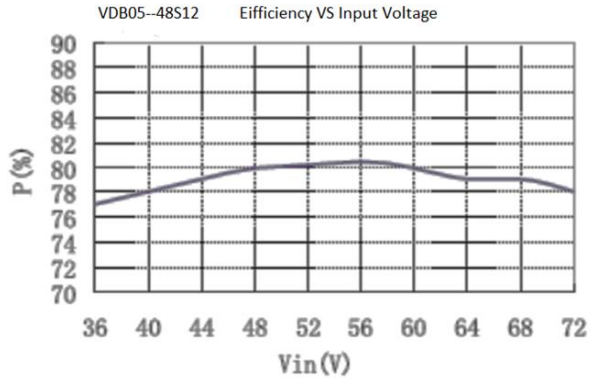


FOOTPRINT DETAILS

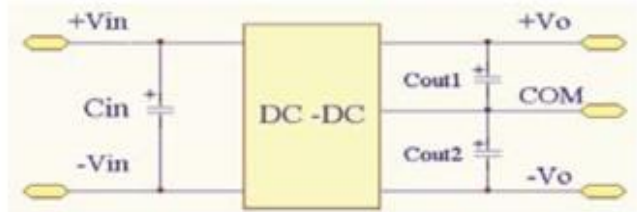
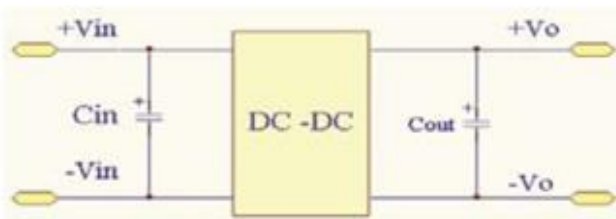
PIN	1	2	3	4	5
SINGLE	+Vin	-Vin	-Vout	NC	+Vout
DUAL	+Vin	-Vin	-Vout	COM	+Vout

Note: All Pins on 2.54mm pitch; All Pin diameters are 0.50 mm(Tolerance: ±0.50); All dimensions in mm.

EFFICIENCY AND OUTPUT

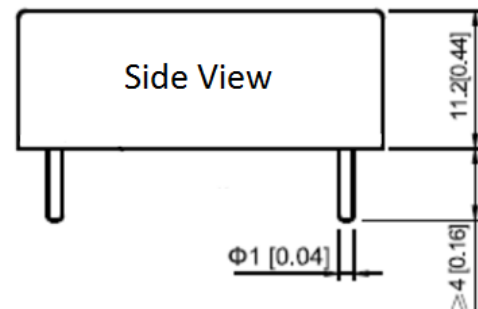
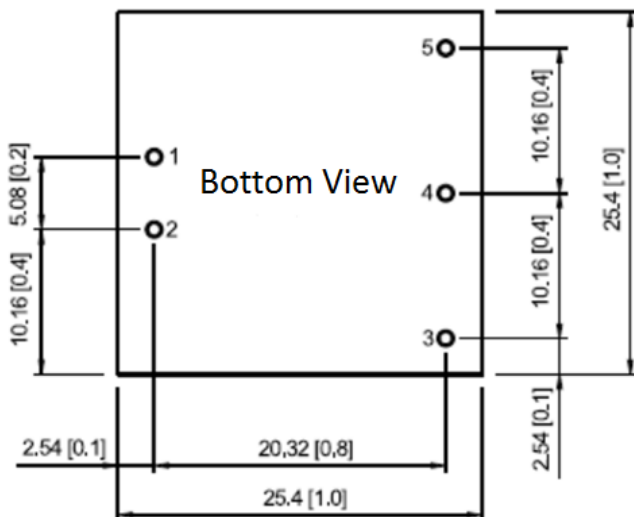


Recommended Circuit



1. An extra capacitor C_{in} (Electrolytic capacitor, $47\mu F \sim 100\mu F$) will improve EMC compatibility.
2. Install C_{out} , C_{out1} , C_{out2} at output will improve ripple noise.
3. Need to add C_{out1} , C_{out2} , C_{out3} at output.
4. The value of C_{out1} , C_{out2} , C_{out3} improper will cause output instability or decrease over current protection.
5. The value of C_{out1} , C_{out2} , C_{out3} is $100\mu F/A$ (A is the output current).

OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT



Dimensions: mm (Inch)
 Pin tolerance: ± 0.2 (± 0.008)
 Pin pitch tolerance: ± 0.25 (± 0.01)