



Victor Power Technologies

Global DC/DC Converter Manufacturer

VDA10 Series 10 Watts

10W SINGLE AND DUAL OUTPUT

2:1 AND 4:1 INPUT

ISOLATED & REGULATED

SIX SIDE SHIELD

HIGH EFFICIENCY

HIGH DENSITY

DIP PACKAGE STYLE

- 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 83%
- Operating Temperature: -40°C~+85°C
- 1,500VDC Isolation
- Metal Shielding Package
- No Heat Sink Required
- Industry Standard Pin out
- RoHS



Product Program

Part Number	Input		Output Voltage (VDC)	Output Current (mA)	Efficiency (% Typ)	Package Style
	Nominal	Range				
VDA10-12S33	12	9~18	3.3	2000	76	DIP
VDA10-12S05	12	9~18	5	2000	77	DIP
VDA10-12S12	12	9~18	12	840	80	DIP
VDA10-12S15	12	9~18	15	660	83	DIP
VDA10-24S33	24	18~36	3.3	2000	76	DIP
VDA10-24S05 (W)	24	18~36(9~36)	5	2000	78	DIP
VDA10-24S12 (W)	24	18~36(9~36)	12	840	82	DIP
VDA10-24S15 (W)	24	18~36(9~36)	15	660	83	DIP
VDA10-48S33	48	36~72	3.3	2000	76	DIP
VDA10-48S05 (W)	48	36~72(18~72)	5	2000	81	DIP
VDA10-48S12 (W)	48	36~72(18~72)	12	840	82	DIP
VDA10-48S15 (W)	48	36~72(18~72)	15	660	83	DIP
VDA10-12D05	12	9~18	±5	±1000	81	DIP
VDA10-12D12	12	9~18	±12	±420	81	DIP
VDA10-12D15	12	9~18	±15	±330	82	DIP
VDA10-24D05 (W)	24	18~36(9~36)	±5	±1000	81	DIP
VDA10-24D12 (W)	24	18~36(9~36)	±12	±420	81	DIP
VDA10-24D15 (W)	24	18~36(9~36)	±15	±330	82	DIP
VDA10-48D05 (W)	48	36~72(18~72)	±5	±1000	81	DIP
VDA10-48D12 (W)	48	36~72(18~72)	±12	±420	81	DIP
VDA10-48D15 (W)	48	36~72(18~72)	±15	±330	82	DIP

ISOLATION SPECIFICATIONS

Item	Min	Units
Isolation voltage	1500	VDC
Isolation resistance	10 ⁹	Ω
Isolation capacitance	300	pF

COMMON SPECIFICATION

Efficiency		See table
Switching frequency		300KHz, typ
Approvals and standard		IEC60950-1, UL60950-1, EN60950-1
Case material		Metal Case
Base material		Plastic Case
Potting material		Epoxy (UL94-V0)
Dimensions		50.8 X 25.4 X 11.2 mm (2.00 X 1.00 X 0.44 Inch)
Weight		26g (0.91oz)
MTBF		5 x 105 hrs

OUTPUT SPECIFICATION

Output power			10 Watts
Voltage accuracy	Full load and nominal Vin		± 1%
Minimum load			10%
Line regulation	LL to HL at Full Load		± 0.2%
Load regulation	10% to 100% FL	Single	± 0.5%
		Dual	± 1%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise	20MHz bandwidth	Single	50mVp-p
		Dual	75mVp-p
Temperature coefficient			±0.02% / °C, max
Transient response recovery time	25% load step change		400uS
Over voltage protection	3.3V output		4.2V
	5V output		6.2V
	12V output		14V
	15V output		17V
Over load protection	% of FL at nominal input		120%,max
Short circuit protection			Hiccup, automatic recovery

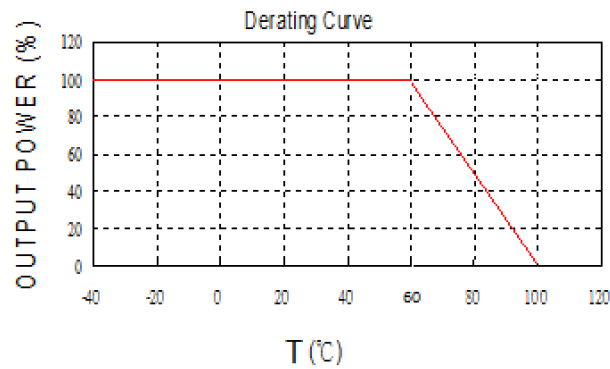
INPUT SPECIFICATION

Input filter			Pi type
	2:1	12V	9~18 VDC
		24V	18~36 VDC
Input voltage range		48V	36~72 VDC
	4:1	24V	9~36 VDC
		48V	18~72 VDC
Input reflected ripple	Nominal Vin and full load		30mAp-p
Start up time	Nominal Vin and constant resistive load	Power up	20mS typ
Remote ON/OFF: (Positive logic)	DC-DC ON		Open or 3.5V < Vr < 12v
	DC-DC OFF		Short or 0v < Vr < 1.2v
Remote off input current	Nominal Vin		2.0mA

ENVIRONMENTAL SPECIFICATIONS

Operating temperature range	Standard	-40°C ~ +85°C (with derating)	
	T1	-40°C ~ +85°C (no derating)	
	T2	-55°C ~ +85°C (no derating)	
Maximum case temperature	Standard	+85°C	
	T1, T2	+115°C	
Storage temperature range	Standard	-55°C ~ +105°C	
	T1, T2	-55°C ~ +125°C	
Thermal impedance	Nature convection		12 °C/watt
			10 °C/watt
Thermal shock			MIL-STD-810D
Vibration			10~55Hz, 10G, 30minutes along X,Y and Z
Relative humidity			5% to 95% RH

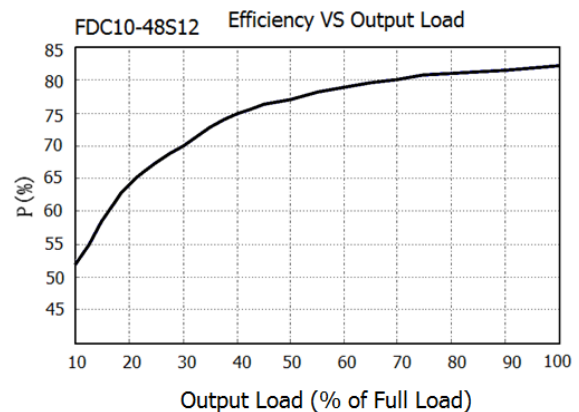
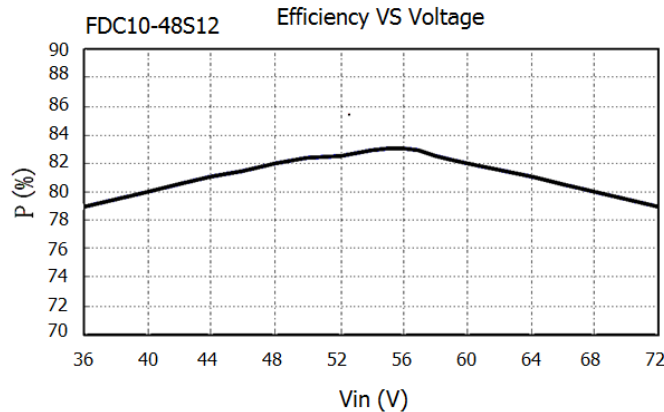
TYPICAL CHARECTERISTICS



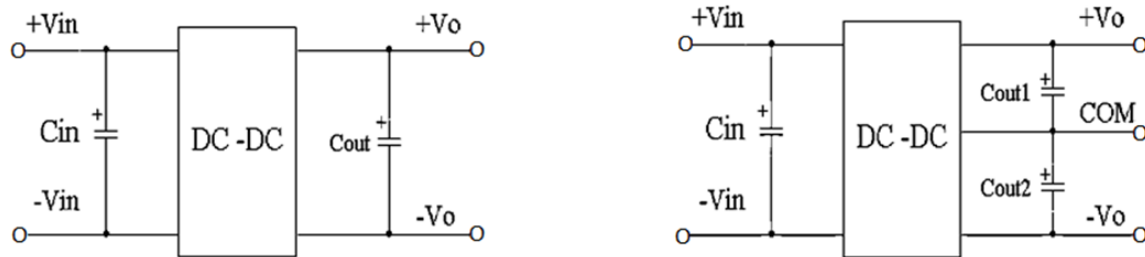
FOOTPRINT DETAILS

PIN	1	2	3	4	5	6
SINGLE	+Vin	-Vin	+Vout	No Pin	-Vout	CTL (Optional)
DUAL	+Vin	-Vin	+Vout	COM	-Vout	CTL (Optional)

EFFICIENCY AND OUTPUT

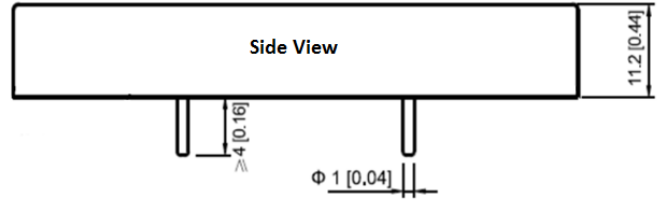
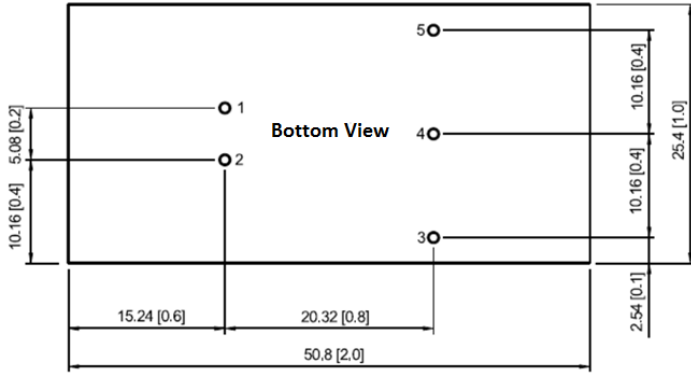


Recommended Circuit



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)