



VHA150 Series

150 Watts

150 W SINGLE OUTPUT
2:1 VOLTAGE INPUT
 18~36VDC & 36~72VDC
ISOLATED & REGULATED
SIX SIDE SHIELD
HIGH EFFICIENCY
HIGH DENSITY
DIP PACKAGE STYLE
RoHS

- Efficiency up to 87%
- Operating Temperature:
-40°C~+85°C
- 1000DC Isolation
- Over Voltage & Current Protection
- Short Circuit Protection
- Industry Standard Pin Configurations

Product Program

Part Number	Input Voltage (VDC)		Output Voltage (VDC)	Output Current (A)	Efficiency (% Typ)
	Nominal	Range			
VHA150-24S33	24	18~36	3.3	30	83
VHA150-24S05	24	18~36	5	30	84
VHA150-24S12	24	18~36	12	12.5	86
VHA150-24S15	24	18~36	15	10	86
VHA150-24S24	24	18~36	24	6.25	86
VHA150-24S28	24	18~36	28	5.36	87
VHA150-24S48	24	18~36	48	3.12	86
VHA150-48S33	48	36~72	3.3	30	83
VHA150-48S05	48	36~72	5	30	84
VHA150-48S12	48	36~72	12	12.5	86
VHA150-48S15	48	36~72	15	10	86
VHA150-48S24	48	36~72	24	6.25	86
VHA150-48S28	48	36~72	28	5.36	87
VHA150-48S48	48	36~72	48	3.12	86

ISOLATION SPECIFICATIONS

Item	Min	Units
Isolation voltage	1000	VDC
	1500	VAC
Isolation resistance	10 ⁹	Ω
Isolation capacitance	300	pF

COMMON SPECIFICATION

Efficiency	See product program table
Switching frequency	300KHz
Meet standard	IEC60950-1, UL60950-1, EN60950-1
Case material	Non-conductive plastic
Base material	Aluminum base plate
Potting material	Epoxy (UL94-V0)
Dimensions	57.9 X 61 X 13.5 mm (2.28 X 2.4 X 0.53 Inch)
Weight	72g (2.54oz)
MTBF	MIL – HDBK-217F2 5 x 10 ⁵ hrs

OUTPUT SPECIFICATION

Output power		150 Watts
Voltage accuracy	Full load and nominal Vin	± 1%
Voltage adjustability		10%
Line regulation	LL to HL at Full Load	± 0.2%
Load regulation	10% to 100% FL	± 0.5%
Cross regulation	Asymmetrical load 25% / 100% FL	± 5%
Ripple and noise	20MHz bandwidth	1%
Temperature coefficient		±0.02% / °C, max
Transient response recovery time	25% load step change	400uS
Over current protection		120%
Output Voltage Adjustment		10%
Over load protection	% of FL at nominal input	120%,max
Short circuit protection		Hiccup, automatics recovery

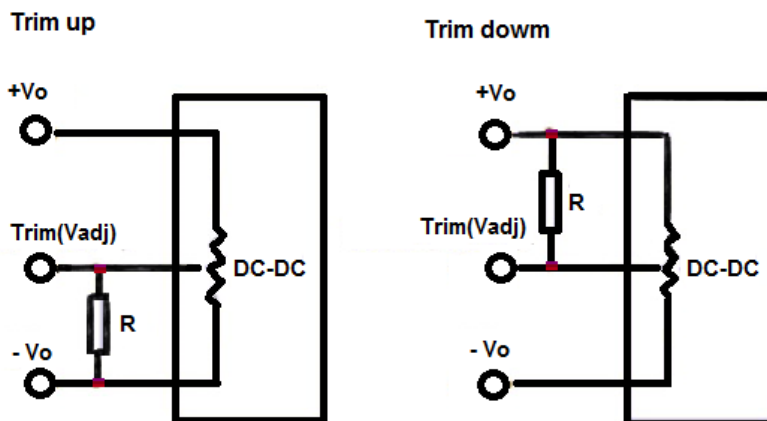
INPUT SPECIFICATION

Input voltage range	2:1	24V 48V	18~36 VDC 36~72 VDC
Startup time			20mS typ
Remote control	On Off		Open Connect -Vin

ENVIRONMENTAL SPECIFICATIONS

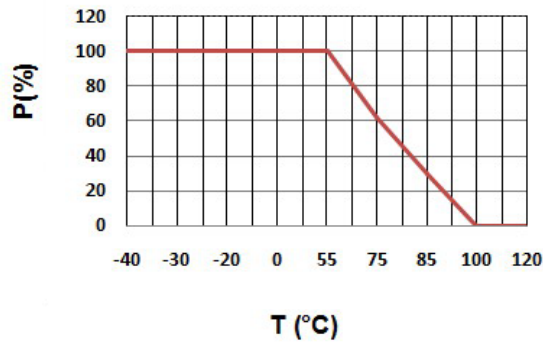
Operating temperature range		-40°C ~ +85°C (With derating)
Maximum case temperature		+105°C
Storage temperature range		-40°C ~ +105°C
Vibration		10~55Hz, 5G,
Relative humidity		5% ~ 90% RH

RECOMMENDED CIRCUIT



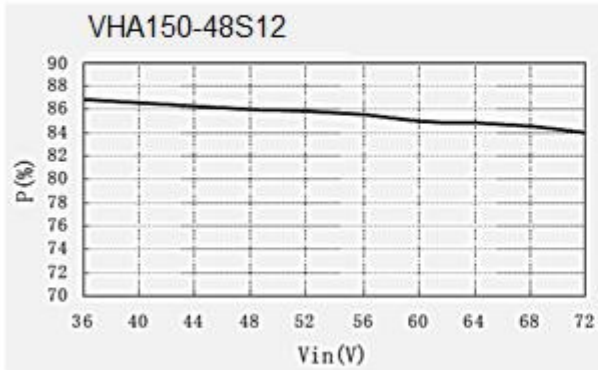
TYPICAL CHARECTERISTICS

Derating Curve

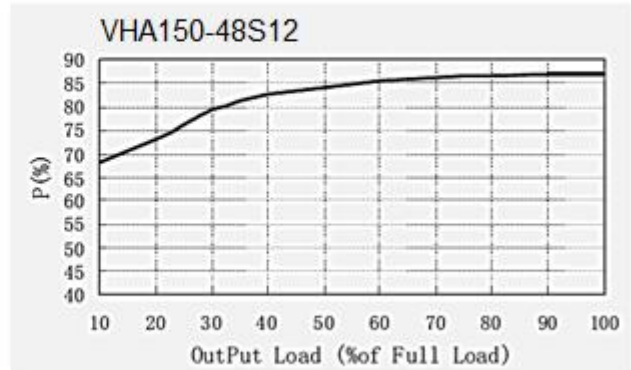


EFFICIENCY CURVE

Input Voltage Efficiency



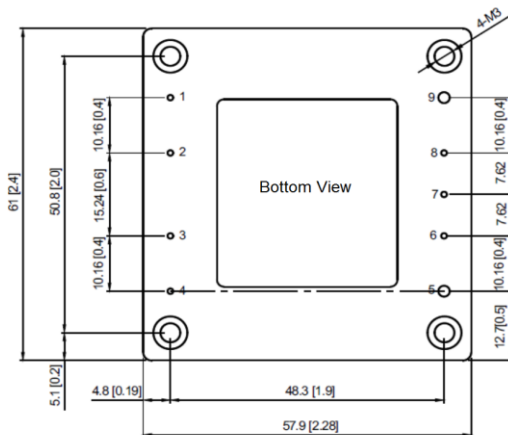
Output Load Efficiency



FOOTPRINT DETAILS

PIN	1	2	3	4	5	6	7	8	9
SINGLE	-Vin	CASE	CTL	+Vin	+Vout	+S	TRIM	-S	-Vout

OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT



Dimensions: mm [inch]
Tolerance: ± 0.2 mm [± 0.008 inch]