



VHA50(W) Series

50 Watts

50 W SINGLE OUTPUT
2:1 & 4:1 INPUT VOLTAGE
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			
VHA50-24S33(W)	24	18~36(9~36)	3.3	10	83
VHA50-24S05(W)	24	18~36(9~36)	5	10	84
VHA50-24S12(W)	24	18~36(9~36)	12	4.17	86
VHA50-24S15(W)	24	18~36(9~36)	15	3.33	86
VHA50-24S24(W)	24	18~36(9~36)	24	2.08	87
VHA50-24S28(W)	24	18~36(9~36)	28	1.78	87
VHA50-24S48(W)	24	18~36(9~36)	48	1.04	86
VHA50-48S33(W)	48	36~72(18~72)	3.3	10	83
VHA50-48S05(W)	48	36~72(18~72)	5	10	84
VHA50-48S12(W)	48	36~72(18~72)	12	4.17	86
VHA50-48S15(W)	48	36~72(18~72)	15	3.33	86
VHA50-48S24(W)	48	36~72(18~72)	24	2.08	87
VHA50-48S28(W)	48	36~72(18~72)	28	1.78	87
VHA50-48S48(W)	48	36~72(18~72)	48	1.04	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		50 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

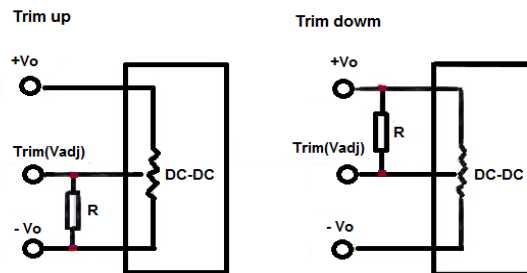
INPUT SPECIFICATION

Input voltage range	2:1	24V	18~36 VDC
		48V	36~72 VDC
	4:1	24V	9~36 VDC
		48V	18~72 VDC
Startup time			20mS typ
Remote control	On		Open
	Off		Connect -Vin

ENVIRONMENTAL SPECIFICATIONS

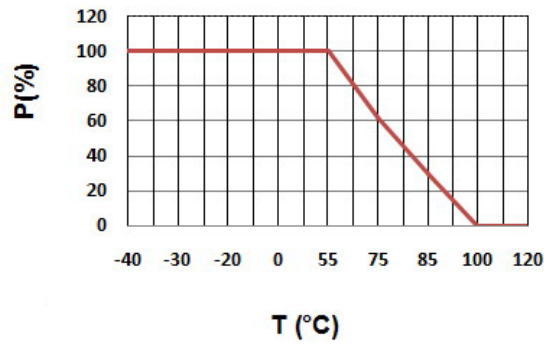
Operating temperature range	-40°C ~ +85°C (With derating)
Maximum case temperature	+105°C
Storage temperature range	-40°C ~ +105°C
Vibration	10~55Hz, 5G,
Relative humidity	5% ~ 90% RH

RECOMMENDED CIRCUIT



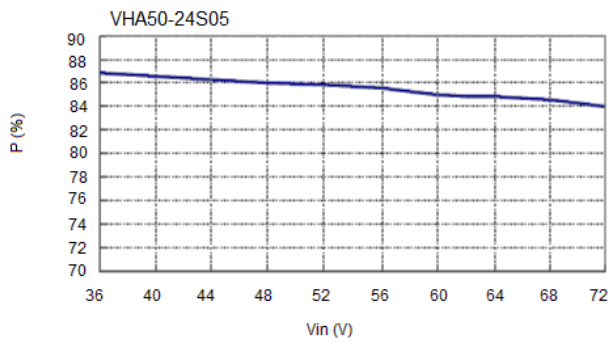
TYPICAL CHARACTERISTICS

Derating Curve

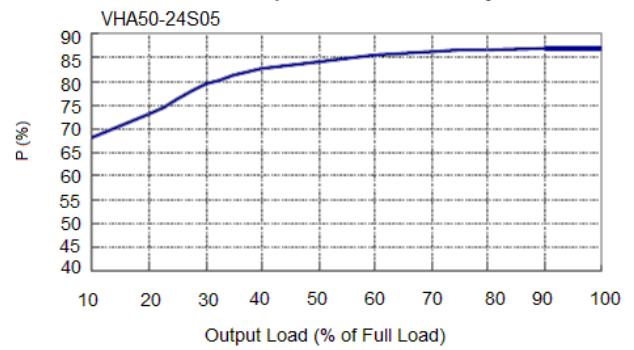


EFFICIENCY CURVE

Input Voltage Efficiency



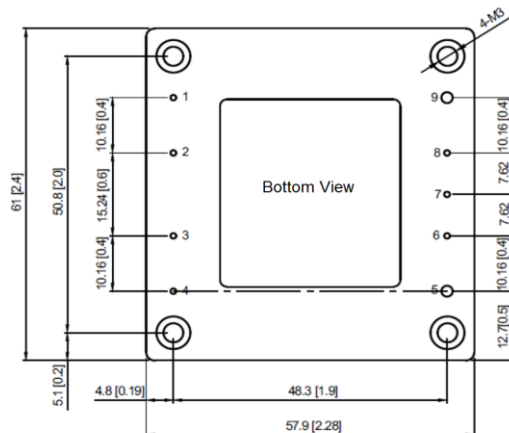
Output Load Efficiency



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]