GAPTEC®
GREEN TECHNOLOGY

150HB4_1.5 Series

150W Half-Brick - Single Output DC-DC Converter - Wide Input - Isolated & Regulated



DC-DC Converter 150 Watt

- Wide Input voltage range (2:1/4:1)
- Typical Efficiency: 85%
- Switching frequency 300KHz
- Output overcurrent protect
- Short circuit protection (SCP)
- Input under voltage protection
- Input-output isolated
- PCB Board in-line type installs
- High reliability
- Optional heat sink

The 150HB4_1.5 series offers 150W of output, wide input voltage of 2:1 or 4:1 (9-36VDC, 18-72VDC), and features 1500VDC isolation, input under voltage protection, over current and short circuit protection.

All models are particularly suited to tele-communications, industrial, test equipments power etc.

SHORT CIRCUIT PROTECTED

RoHS compliant

CE

Common specifications

Short circuit protection:	Continuous, automatic recovery
Efficiency:	85% TYP
Operation temperature range:	-25°C~+70°C
Storage temperature range:	-50°C ~+105°C
Storage humidity range:	< 90%
Temperature coefficient:	±0.02%/°C
Cooling:	Heatsink, nature cooling
Vibration resistance:	10~55Hz: 5G
Case material:	Epoxy, aluminium base plate
Over current mode:	Full input range. Protection type: Hiccup mode, automatic recovery
MTBF:	MIL-HDBK-217F2, 5x10^5 hours

Input specifications

Item	Test condition	Min	Typ	Max	Units
Start time	Not capacitive load		20		ms
Input under voltage protection	• 24V (18-36Vin) • 48V (36-72Vin) • 110V (72-144Vin) • 18V (9-36Vin)			17 35 71 8	V V V V
Remote On/Off Function CTL	• CNT Pin connect -Vin • CNT Pin left open	OFF ON			

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute and 1mA max	1500			VDC
Isolation resistance	Input-output		100		Mohm

Output specifications

Item	Test condition	Min	Typ	Max	Units
Output power				150	W
Line regulation	Vimin≤Vi≤Vimax		±0.2		%
Load regulation	Io=0.1...1.0xIonom, Vimin≤Vi≤Vimax, Vi=Vrated		±0.5		%
Output voltage accuracy	Io=0.1...1.0xIonom, Vi=Vrated		±1.0		%
Over current protection	Vimin≤Vi≤Vimax		120		%
Peak Deviation	25% Rated Load Vary		±5.0		%
Dynamic Response Setting Time	25% Rated Load Vary		400		µs
Output voltage trim	Vimin≤Vi≤Vimax		10		%
Ripple & Noise*	20MHz Bandwidth		1		%
Switching frequency	Vimin≤Vi≤Vimax		300		KHz

*Test ripple and noise by "parallel cable" method.

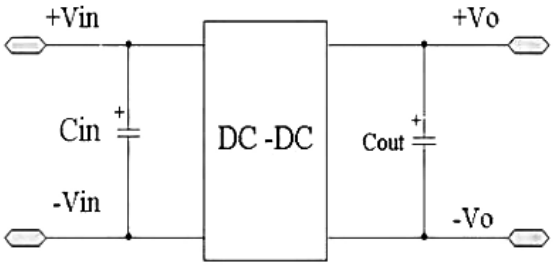
Example:
150HB4_4828S1.5
W= 150 Watt; HB= Half Brick; 4= Wide input (4:1); 48= 18-72 Vin; 28= 28Vout; S= Single Output; 1.5= 1.5kVDC Isolation

Note:
1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
2. All specifications measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
3. In this datasheet, all the test methods of indications are based on corporate standards.

GAPTEC-Electronic GmbH & Co. KG
sales@gaptec-electronic.com – www.gaptec-electronic.com
Specifications subject to change without notice.

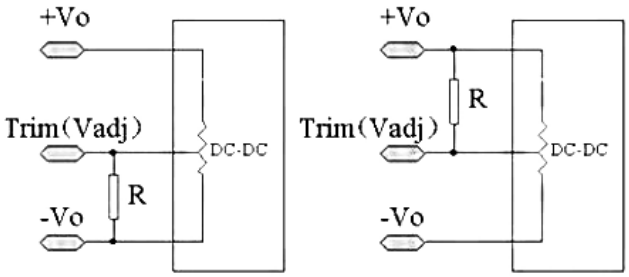
Part Number	Input Voltage [V]	Output Voltage [VDC]	Output Current [A, max]
150HB_1212S1.5	9-18	12	12.5
150HB_1215S1.5	9-18	15	10
150HB_1224S1.5	9-18	24	6.25
150HB_1228S1.5	9-18	28	5.4
150HB_1248S1.5	9-18	48	3.1
150HB4_1812S1.5	9-36	12	12.5
150HB4_1815S1.5	9-36	15	10
150HB4_1824S1.5	9-36	24	6.25
150HB4_1828S1.5	9-36	28	5.4
150HB4_1848S1.5	9-36	48	3.1
150HB_2403S1.5	18-36	3.3	30
150HB_2405S1.5	18-36	5	30
150HB_2412S1.5	18-36	12	12.5
150HB_2415S1.5	18-36	15	10
150HB_2418S1.5	18-36	18	8.33
150HB_2424S1.5	18-36	24	6.25
150HB_2428S1.5	18-36	28	5.4
150HB_2436S1.5	18-36	36	4.17
150HB_2448S1.5	18-36	48	3.1
150HB4_4812S1.5	18-72	12	12.5
150HB4_4815S1.5	18-72	15	10
150HB4_4824S1.5	18-72	24	6.25
150HB4_4828S1.5	18-72	28	5.4
150HB4_4848S1.5	18-72	48	3.1
150HB_4803S1.5	36-72	3.3	30
150HB_4805S1.5	36-72	5	30
150HB_4812S1.5	36-72	12	12.5
150HB_4815S1.5	36-72	15	10
150HB_4818S1.5	36-72	18	8.33
150HB_4824S1.5	36-72	24	6.25
150HB_4828S1.5	36-72	28	5.4
150HB_4836S1.5	36-72	36	4.17
150HB_4848S1.5	36-72	48	3.1
150HB4_11003S1.5	72-144	3.3	30
150HB4_11005S1.5	72-144	5	30
150HB4_11012S1.5	72-144	12	12.5
150HB4_11015S1.5	72-144	15	10
150HB4_11018S1.5	72-144	18	8.33
150HB4_11024S1.5	72-144	24	6.25
150HB4_11028S1.5	72-144	28	5.4
150HB4_11036S1.5	72-144	36	4.17
150HB4_11048S1.5	72-144	48	3.1

Recommended circuit

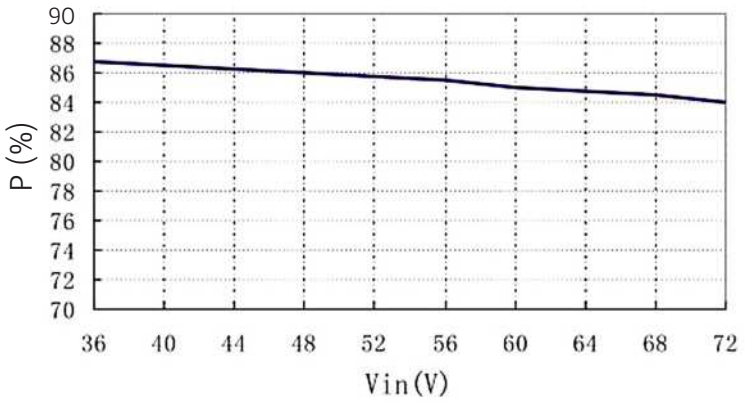


(1)Power module with Cin is helpful to improve the electromagnetic compatibility, it is recommended to use 47 μF~100μF electrolytic capacitor
(2)Power module with Cout is helpful to lower the output ripple
(3)Power module output connects the digital circuit needs to add Cout
(4)Cout is recommended to use 100μF/A, the current is refers to the output current

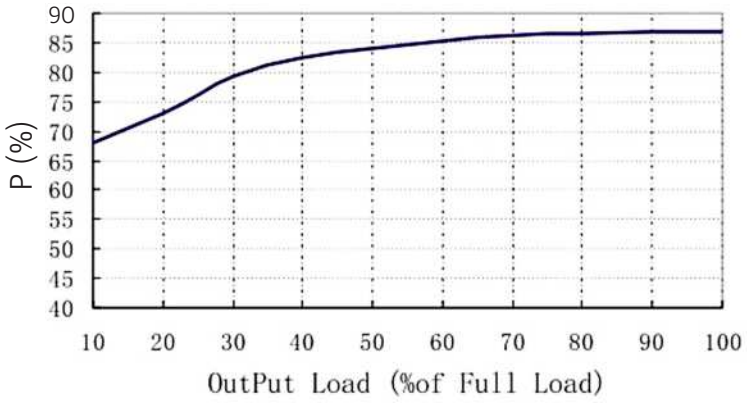
TRIM



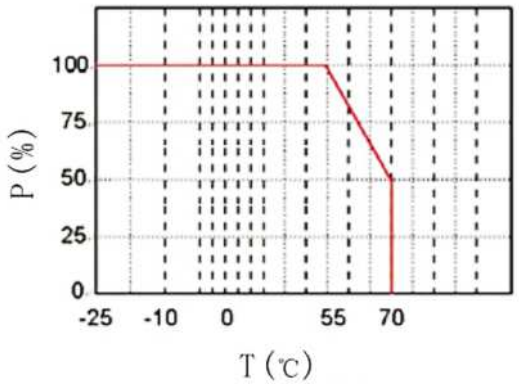
Input-voltage - Efficiency



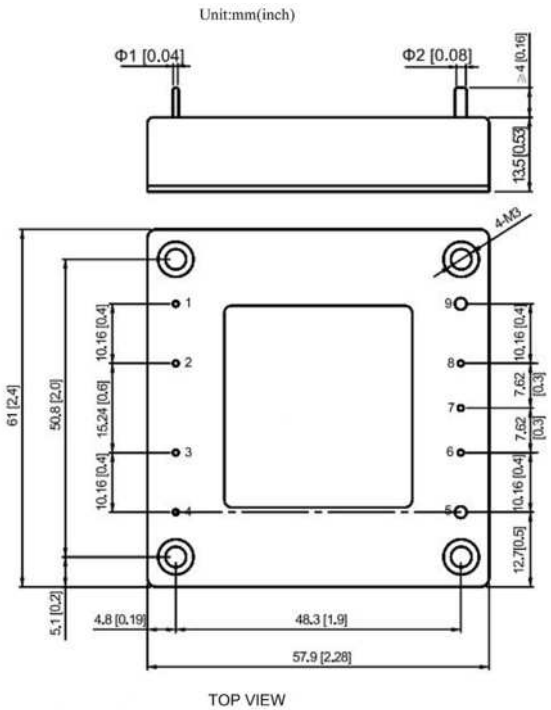
Recommended circuit



Temperature curve



Mechanical dimensions



Note:
Unit: mm[inch]
Tolerances: ± 0.20mm [± 0.008inch]

Pin assignment

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