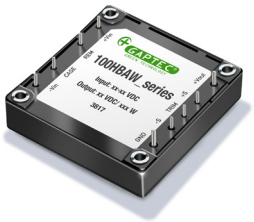
100HBAW_1.5 series

100W Half-Brick - Single/Dual Output DC-DC Converter - Wide Input - Isolated & Regulated



DC-DC Converter 100 Watt

- Wide Input voltage range (2:1)
- Typical efficiency: up to 85%
- Input under voltage, over voltage protection
- Short circuit protection (SCP)
- Input-output isolated
- PCB Board in-line type installs
- High power density
- Optional heat sink

The 100HBAW_1.5 series offers 100W of output, wide input voltage of 2:1 (9-18VDC; 18-36VDC; 36-72VDC) 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.

Common specifications	
Short circuit protection*:	Continuous, automatic recovery
Operation temperature range:	-25°C~+85°C
Storage temperature range:	-55°C ~+125°C
Storage humidity range:	< 90%
Case material:	Plastic [UL94-V0] / aluminium
MTBF:	2,000,000 hours

*Supply voltage must be discontinued at the end of short circuit duration.

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 minute and 1mA max	1500			VDC

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Output power				100	W
Line regulation			±0.2		%
Load regulation			±0.5		%
Output voltage accuracy			±1.0		%
Temperature coefficient				±0.02	%/°C
Ripple & Noise*	20MHz Bandwidth		150		mVp-p
Switching frequency			300		KHz

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

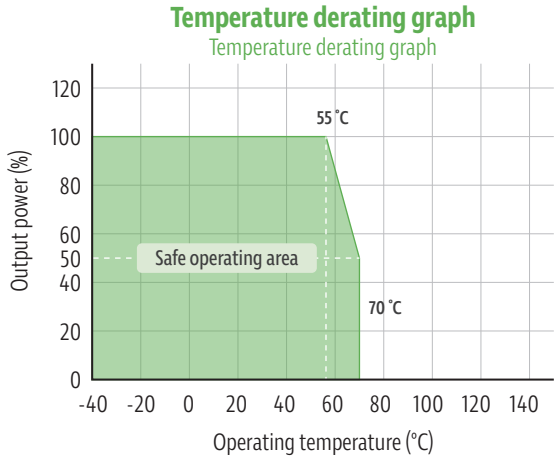
Note:
1. Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
2. All specifications measured at Ta = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
3. In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

Example:
100HBAW_2405S1.5
100 = 100 Watt; HB = Half-Brick; A = Pinning; W = Wide input (2:1); 24 = 18-36 Vin; 05 = 5Vout; S = Single Output; 1.5 = 1.5kVDC Isolation

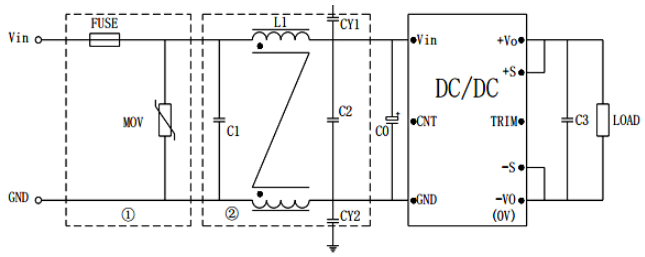
Product Selection Guide

Part Number	Input Voltage Range [V]	Output Voltage [VDC]	Output Current [A]
100HBAW_1203S1.5	9~18V	3.3	20
100HBAW_1205S1.5	9~18V	5	20
100HBAW_1212S1.5	9~18V	12	8.3
100HBAW_1215S1.5	9~18V	15	6.7
100HBAW_1224S1.5	9~18V	24	4.2
100HBAW_1248S1.5	9~18V	48	2.1
100HBAW_2403S1.5	18~36V	3.3	20
100HBAW_2405S1.5	18~36V	5	20
100HBAW_2412S1.5	18~36V	12	8.3
100HBAW_2415S1.5	18~36V	15	6.7
100HBAW_2424S1.5	18~36V	24	4.2
100HBAW_2448S1.5	18~36V	48	2.1
100HBAW_3603S1.5	36~72V	3.3	20
100HBAW_3605S1.5	36~72V	5	20
100HBAW_3612S1.5	36~72V	12	8.3
100HBAW_3615S1.5	36~72V	15	6.7
100HBAW_3624S1.5	36~72V	24	4.2
100HBAW_3648S1.5	36~72V	48	2.1

Temperature derating

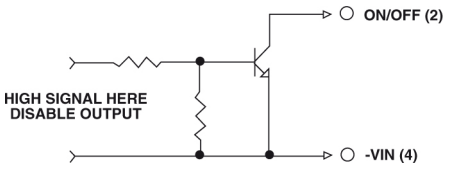


EMC solution recommended circuit



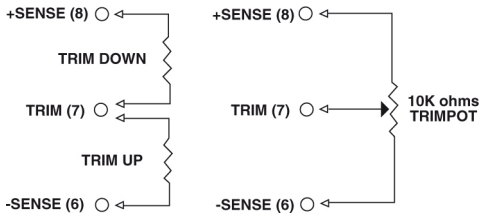
-	VIN:12V	Vin：24V	Vin：48V	VIN:110V
FUSE				
MOV	14D101K	14D101K	14D101K	14D201K
C0	470μF/25V	220μF/50V	100μF/100V	100μF/250V
C1、C2	10μF/25V	4.7μF/50V	2.2μF100V	1μF/250V
C3	100μF			
LCM	0.5 mH	1mH		2 mH
CY1、CY2	2.2nF Y2			

Remote on/off control

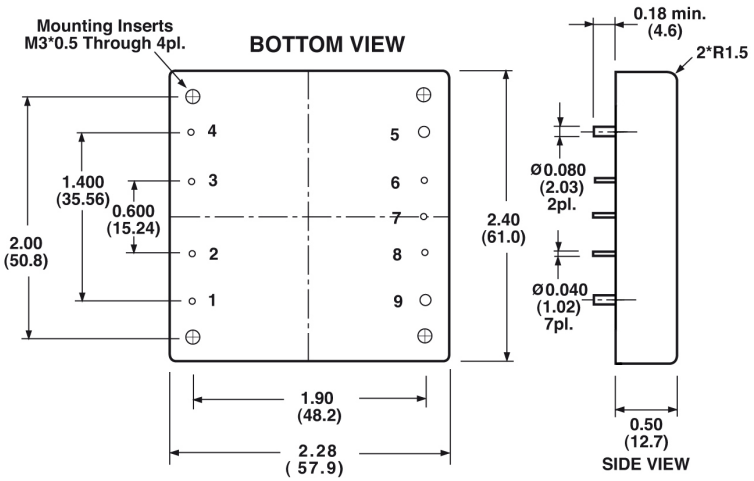


Control (Positive Logic)	• ON	• CNT Pin left open or connect to +Vin
Control (Positive Logic)	• OFF	• CNT Pin connect -Vin
Control (Negative Logic,Tip/P)	• ON	• CNT Pin connect -Vin
Control (Negative Logic,Tip/P)	• OFF	• CNT Pin left open or connect to +Vin

External output trim



Mechanical dimensions



Pin assignment

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

Note:
Unit: mm[inch]
Pin section tolerances: ± 0.10mm [± 0.004inch]
General tolerances: ± 0.25mm [±0.010inch]