

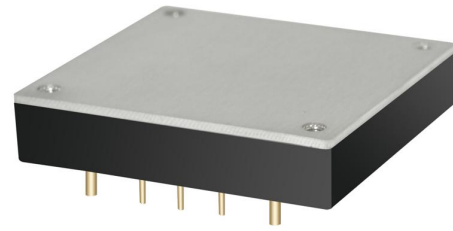


# AHB150W~400W Series

## ISOLATED 150W~400W REGULATED SINGLE & DUAL OUTPUT DC/DC CONVERTERS

### Features

- 1/2 Brick
- Efficiency to 90%
- 4:1 Input Range
- Regulated Outputs
- Input Under Voltage Protection
- Remote On/Off
- Continuous Over Load \ Short Circuit Protection
- Meets EN60950-1.CE Mark



<b>1500VDC ISOLATION</b>	<b>REMOTE CONTROL</b>	<b>UVP</b>	<b>OCP</b>	<b>SCP</b>	<b>SYNC</b>
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All Specifications Typical at Nominal Line, Full Load, and 25°C Unless Otherwise Noted.

### Selection Guide

Order Code	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (A)	Eff. (%)	Order Code	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (A)	Eff. (%)
AHB150W-24S33	9~36	3.3	30	86	AHB300W-48S24	18~75	24	12.5	90
AHB150W-24S05	9~36	5	30	88	AHB300W-48S48	18~75	48	6.25	87
AHB150W-24S12	9~36	12	12.5	89	AHB300W-110S33	66~160	3.3	60	86
AHB150W-24S15	9~36	15	10	88	AHB300W-110S05	66~160	5	60	88
AHB150W-24S24	9~36	24	6.25	88	AHB300W-110S12	66~160	12	25	89
AHB150W-24S48	9~36	48	3.13	87	AHB300W-110S15	66~160	15	20	88
AHB150W-48S33	18~75	3.3	30	86	AHB300W-110S24	66~160	24	12.5	88
AHB150W-48S05	18~75	5	30	88	AHB300W-110S48	66~160	48	6.25	87
AHB150W-48S12	18~75	12	12.5	89	AHB300-300S33	200~400	3.3	60	86
AHB150W-48S15	18~75	15	10	88	AHB300-300S05	200~400	5	60	88
AHB150W-48S24	18~75	24	6.25	90	AHB300-300S12	200~400	12	25	89
AHB150W-48S48	18~75	48	3.13	87	AHB300-300S15	200~400	15	20	88
AHB200W-24S33	9~36	3.3	40	86	AHB300-300S24	200~400	24	12.5	88
AHB200W-24S05	9~36	5	40	88	AHB300-300S48	200~400	48	6.25	87
AHB200W-24S12	9~36	12	16.67	89	AHB400W-24S33	18~36	3.3	80	86
AHB200W-24S15	9~36	15	13.34	88	AHB400W-24S05	18~36	5	80	88
AHB200W-24S24	9~36	24	8.34	88	AHB400W-24S12	18~36	12	33.3	89
AHB200W-24S48	9~36	48	4.17	87	AHB400W-24S15	18~36	15	26.6	88
AHB200W-48S33	18~75	3.3	40	86	AHB400W-24S24	18~36	24	16.6	88
AHB200W-48S05	18~75	5	40	88	AHB400W-24S48	18~36	48	8.3	87
AHB200W-48S12	18~75	12	16.67	89					
AHB200W-48S15	18~75	15	13.34	88					
AHB200W-48S24	18~75	24	8.34	88					
AHB200W-48S48	18~75	48	4.17	87					
AHB300W-24S33	9~36	3.3	60	86					
AHB300W-24S05	9~36	5	60	88					
AHB300W-24S12	9~36	12	25	89					
AHB300W-24S15	9~36	15	20	88					
AHB300W-24S24	9~36	24	12.5	88					
AHB300W-24S48	9~36	48	6.25	87					
AHB300W-48S33	18~75	3.3	60	86					
AHB300W-48S05	18~75	5	60	88					
AHB300W-48S12	18~75	12	25	89					
AHB300W-48S15	18~75	15	20	88					

NO 'W' is 2:1 Input Voltage range



### Specifications

#### INPUT CHARACTERISTICS

Input Voltage range	24Vin	W:9-36V
	48Vin	W:18-75V
	110Vin	W:66-160V
Under voltage lock out	Turn on @9Vinmin	8.8V
	Turn off @9Vinmin	8.0V
	Turn on @18Vinmin	17V
	Turn off @18Vinmin	16V
	Turn on @66Vinmin	62V
	Turn off @66Vinmin	60V
	Turn on @200Vinmin	180V
	Turn off @200Vinmin	175V
Input Filter		LC Type
Positive Logic Remote on/off		See Note

#### OUTPUT CHARACTERISTICS

Voltage Accuracy	±1.5% max
Transient Response	25% Step Load Change
	Error band
Recovery Time	<500us
External Trim Adj.Range	90-110%Vout
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation	±0.5%max
Load Regulation	±1.0%max
Ripple and Noise	100 mVp-p typ.
Output Current Limit	110%-160%
Start-up Time	50ms max.

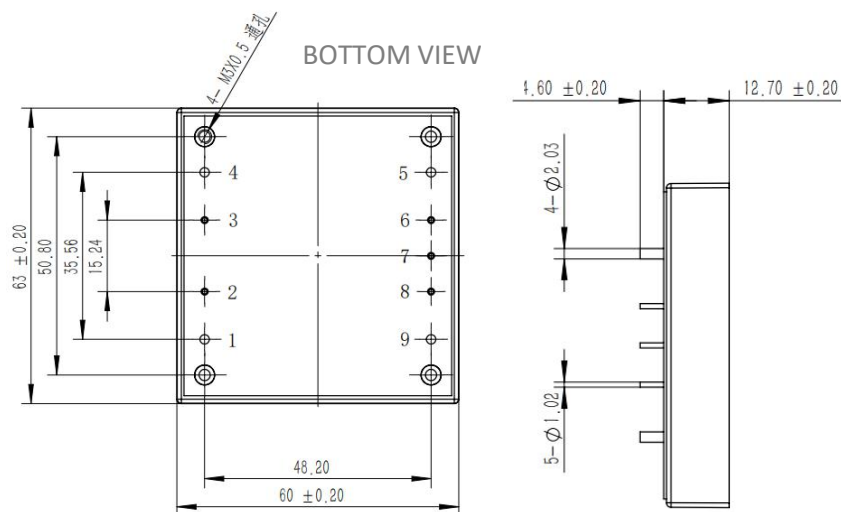
#### GENERAL CHARACTERISTICS

Eff.		See Note
Isolation Voltage	I/O	1500 VDC
	I/CASE	1500 VDC
	O/CASE	500 VDC
Isolation Resistance	(500VDC)	10 <sup>7</sup> Ohms min
Isolation Capacitance		1000pF typ.
Switching frequency		350kHz typ.
Case Temperature		105°C max.
Cooling		Natural Convection
Storage Temperature		-55°C to +105°C
Humidity		95%RH max
MTBF	MIL-HDBK-217F	1000K.Hrs
Dimensions		2.4 x 2.28 x 0.50 inch 63.0x 60.0 x12.7 mm
Case Material		Six-Sided shield metal case
Weight		90g

#### EMC CHARACTERISTICS

EMI	Conduction	EN 55032, FCC part 15	B
	Radiation	EN 55032, FCC part 15	B
EMS		EN55024	
	ESD	EN 61000-4-2 Air ± 6kV, Contact±4kV	B
	Radiated immunity	EN 61000-4-3 10V/m	A
	Fast transient	EN 61000-4-4 ±2kV	B
	Surge	EN 61000-4-5 ±2kV	B
Conducted immunity	EN 61000-4-6 10Vrms	A	

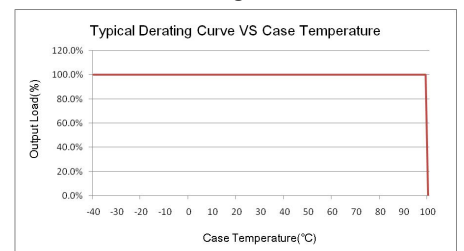
### MECHANICAL DIMENSIONS & PIN CONNECTION



#### PIN CONNECTION

1	+Input
2	ON/OFF
3	Case
4	-Input
5	-V Output
6	-Sense
7	Trim
8	+Sense
9	+V Output

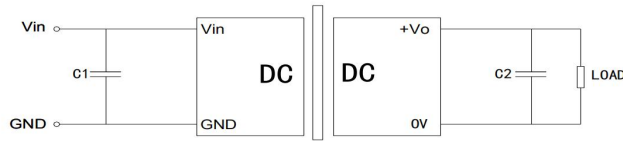
#### Derating Curve





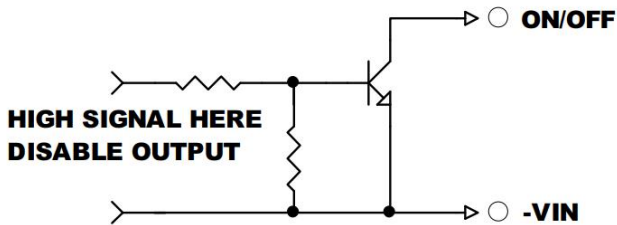
**Design reference**

**Application Circuit**

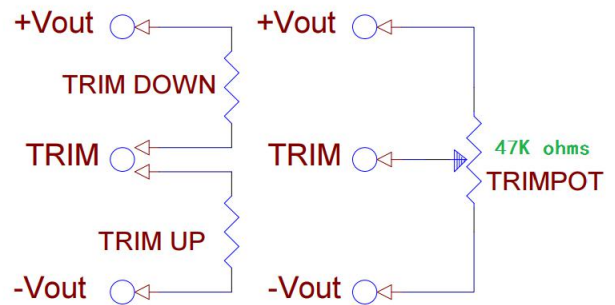


C1 Typical Value: recommend 2.2uF/1W output power  
 C2 Typical Value: recommend 100uF/1A output current

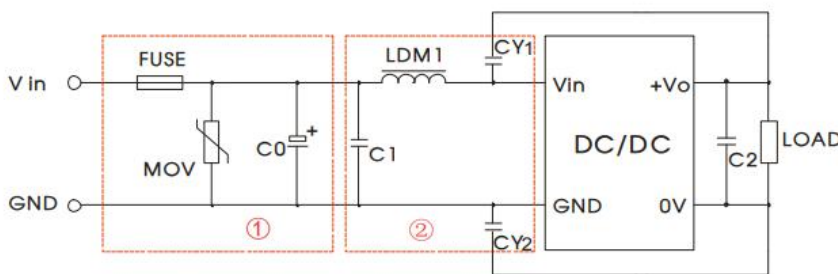
**Remote on/off control**



**External Output Trim**



**EMC Recommend Circuit**



Position	Parameter
FUSE	According to the actual choice
MOV	According to the actual choice
C0	220uF Electrolytic capacitor
C1	2.2uF/1W output power
C2	100uF/1A output current
LDM1	According to the actual choice
CY1	1nF/2KV
CY2	1nF/2KV

The first part is used for EMC testing, and the second part is used for EMI filtering, which can be selected according to requirements.

**Note**

1. Measured From High Line to Low Line.
2. Measured From Full Load to min. Load.
3. The output ripple and noise is measured with 10uF Aluminium electrolytic capacitor and 0.1uF Ceramic capacitor across output.
4. Positive Logic  
 Module ON >+3.5V or Open Circuit  
 Module OFF < 0.5Vdc or Short to -input
5. Operation Ambient Temperature Range  
 - 40°C ~100°C  
 Derating, Above100°C, Linearly to Zero Power at +105°C