

# HNH200W Series

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## ISOLATED 200W REGULATED SINGLE OUTPUT DC/DC CONVERTERS

### FEATURES

- High power density
- High efficiency up to 89%
- Industry-Standard Half-brick pinout
- Cost efficient design
- Adjustable output voltage ( $\pm 5\%$ )
- Input undervoltage lockout
- Output over voltage and over current protection
- Over temperature protection
- Remote On/Off negative logic and positive logic
- Remote Sense
- Monotonic startup
- RoHS compliance
- Basic Insulation
- Meets the conducted emission limits of EN55022 Class B
- UL60950 recognized in US and Canada
- All materials meet UL94 V-0 flammability rating



Order Code	Input Voltage(Vdc)	Output Voltage(Vdc)	Input Current(A)		Output Current(A)		%Eff. (Typ)	Cap. Load max.(uF)
			NO Load	FULL Load	MIN.	MAX.		
HNH200W-24S33	9-36	3.3	0.13	6.26	0	40	87	10000
HNH200W-24S05	9-36	5	0.15	9.58	0	40	87	10000
HNH200W-24S12	9-36	12	0.05	9.71	0	16.7	86	4700
HNH200W-24S15	9-36	15	0.05	9.56	0	13.3	87	2200
HNH200W-24S24	9-36	24	0.05	9.54	0	8.3	87	2200
HNH200W-24S28	9-36	28	0.05	9.41	0	7.14	88	2200
HNH200W-24S48	9-36	48	0.06	9.77	0	4.2	86	2200
HNH200W-48S33	18-75	3.3	0.08	3.13	0	40	88	10000
HNH200W-48S05	18-75	5	0.08	4.68	0	40	89	10000
HNH200W-48S12	18-75	12	0.06	4.74	0	16.7	88	4700
HNH200W-48S15	18-75	15	0.06	4.72	0	13.3	88	2200
HNH200W-48S24	18-75	24	0.06	4.72	0	8.3	88	2200
HNH200W-48S28	18-75	28	0.06	4.68	0	7.14	89	2200
HNH200W-48S48	18-75	48	0.05	4.83	0	4.2	87	2200

**NOTE:1.Nominal Input Voltage 24 or 48 VDC**

**NOTE:2.No 'W' Mean as the 2:1 Input Voltage 9-18,18-36,36-75VDC.Nominal Input Voltage 12,24 or 48 VDC**

**NOTE:3.The Output Terminal of 48Vout Models Required a Minimum Capacitor 47uF to Maintain Specified Regulation.**

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#### INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage range	24V input types(4:1)	9	24	36	Vdc
	48V input types(4:1)	18	48	75	
Under voltage lock out	Turn on threshold 9V minimum input types		8.8		Vdc
	Turn off threshold 9V minimum input types		8		
	Turn on threshold 18V minimum input types		17		
	Turn off threshold 18V minimum input types		16		
Input Surge Voltage(100ms max)	36V maximum input types			50	Vdc
	75V maximum input types			100	
Input Filter					LC Type
Positive Logic Remote on/off					See Note

#### OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Rated Power	3.3V output types			132	W
	All other output types			200	
Voltage Accuracy				±1.5	%
Line Regulation	Low line to high line			±0.5	%
Load Regulation	10% total load to 100% total load			±1	%
Temperature				±0.03	%
Start-up Time			50		mS
Output Current Limit				110%~140% Nominal Output	
Short Circuit Protection				Continuous	
Over Voltage Protection				115%~140% Nominal Output	
External Trim Adj.Range	Single output models only			±10	%
Ripple and Noise	20MHz BW	3.3V&5V		75	mVp-p
		All other output types		1%	Vo,nom
Transient Response	25% Step Load Change	Error band		±5%	Vo,nom
		Recovery Time		500	uS

#### GENERAL CHARACTERISTICS

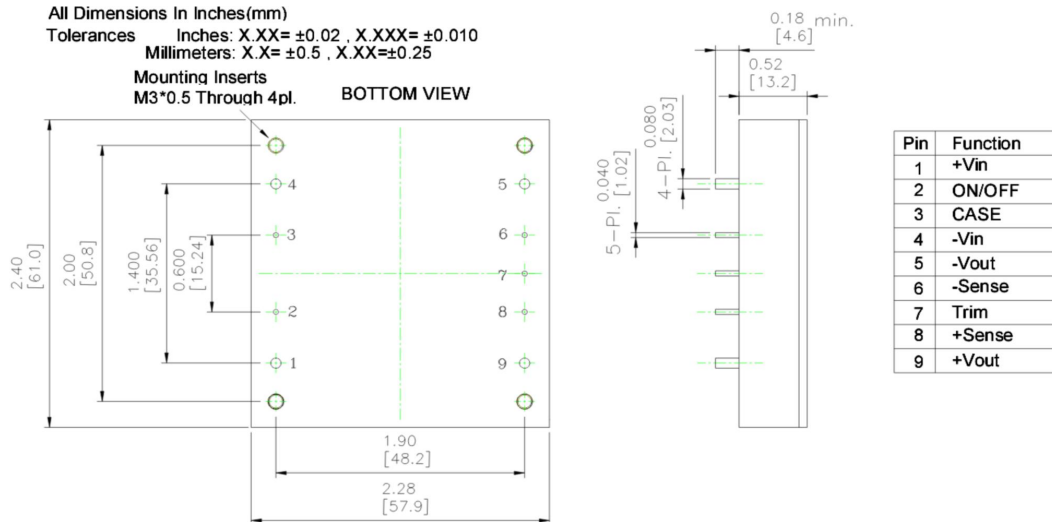
Isolation Voltage	1500VDC min.
Isolation Resistance (500VDC)	10 <sup>8</sup> Ohms min.
Isolation Capacitance	1000pF typ.
Switching frequency	300KHz
Operation Ambient Temperature Range	-40°C ~100°C
Derating	See Derating Curve
Case Temperature	105°C max
Storage Temperature Range	-55°C to +125°C
Humidity	95%RH max. Non condensing
MTBF	MIL-STD-217F,GB,25°C,Full Load 600Khrs typ.

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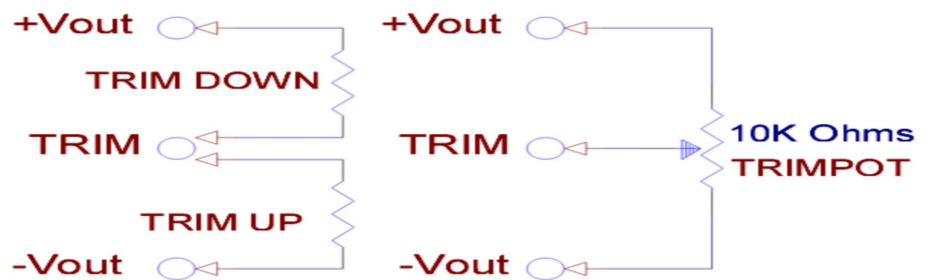
## ISOLATED 200W REGULATED SINGLE OUTPUT DC/DC CONVERTERS

Dimensions	2.28x2.40x0.52inches (57.9x61.0x13.2mm)
Case Material	Aluminum Baseplate with Plastic Case
Weight	115g

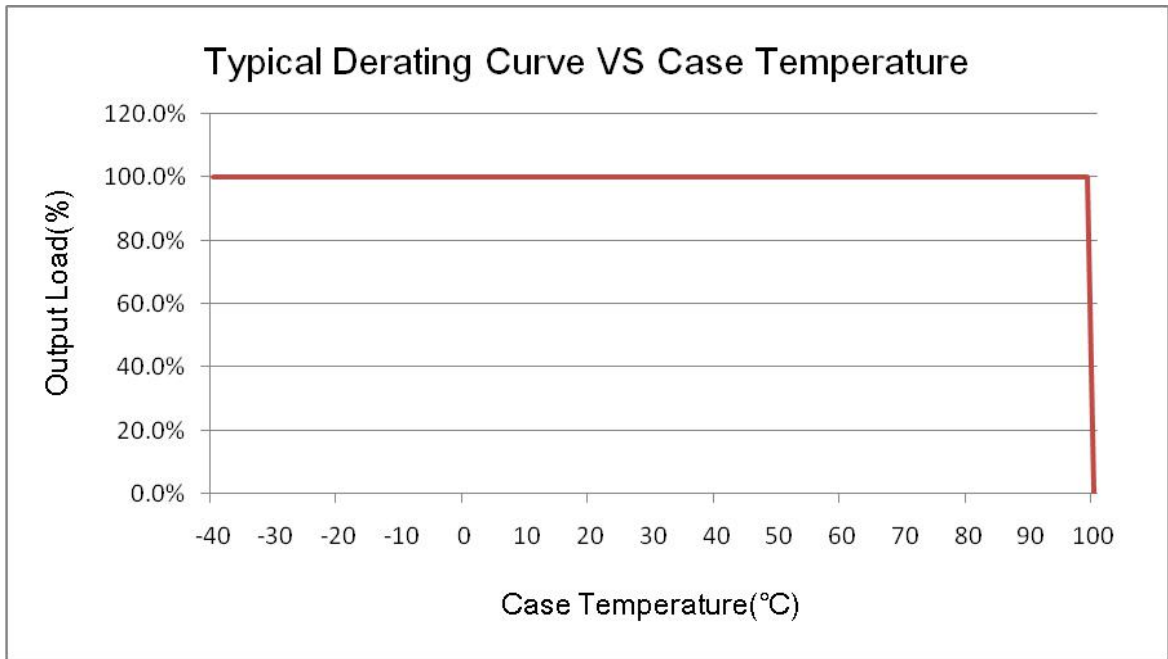
### MECHANICAL DIMENSIONS & PIN CONNECTION



### EXTERNAL OUTPUT TRIM



**Derating Curve**



**NOTE**

1. Measured From High Line to Low Line.
2. Measured From Full Load to min. Load.
3. Maximum case temperature under any operating condition should Not be exceeded 105°C.
4. The output ripple and noise is measured with 10uF tantalum and 1uF Ceramic capacitor across output.
5. All Specifications Typical at Nominal Line, Full Load, and 25°C Unless Otherwise Noted.
6. Positive Logic Remote on/off Control :  
  
    Logic Compatibility ..... CMOS or Open Collector TTL  
  
        Module ON .....>+3.5V to  $V_{i,max}$  VDC or Open Circuit  
  
        Module OFF .....<1.2VDC
- 7.External Output Trim