

**DC-DC CONVERTER (NHS series)**



**Ordering Information**

**NHS150 - 48 - 5**




<b>INPUT</b>	DC 18 - 36V / DC 36 - 75V
<b>OUTPUT</b>	3.3V, 5V, 12V

**Features**

- RoHS directive compliance
- Industry standard Half-Brick pin map
- Fixed frequency operation
- Wide 2:1 input range
- 92.6% efficiency
- Precision thermal protection (Accuracy  $\pm 3^{\circ}\text{C}$ )
- Short circuit and over current protection (Hiccup, Auto-restart)
- Under voltage protection(UVLO)(Auto-restart)
- Output over voltage protection(Latch up, Shut down)
- Remote on/off control
- Remote sense compensations to 10% Vout
- Output voltage variation(TRM)
- Fully isolated 1500Vdc
- 2 years warranty

## DC-DC CONVERTER

## NHS SERIES

Series Name	Input Voltage	Output	Model	Page
<b>NHS150</b> 	24V (18-36)	3.3V / 30A 5V / 30A 12V / 12.5A	<b>NHS150-24</b>	<b>65</b>
	48V (36-75)	3.3V / 30A 5V / 30A 12V / 12.5A	<b>NHS150-48</b>	

# NHS150

## NHS150 Watts Series DC-DC Converters

**Total power** 150 Watts  
**Input voltages** 24V, 48V Input  
**#of outputs** Single



### SPECIAL FEATURES

- Industry standard Half-Brick pin map
- Fixed frequency operation
- Wide 2:1 input range
- 92.6% efficiency
- Precision thermal protection (Accuracy  $\pm 3^{\circ}\text{C}$ )
- Short circuit and over current protection (Hiccup, Auto-restart)
- Under voltage protection(UVLO)(Auto-restart)
- Output over voltage protection(Latch up, Shut down)
- Remote on/off control
- Remote sense compensations to 10% Vout
- Output voltage variation(TRM)
- Fully isolated 1500Vdc
- 2 years warranty

### ENVIRONMENTAL

- Operating temperature range .....  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- Storage temperature range .....  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- MTBF .....  $2.24 \times 10^4$  hrs

### ELECTRICAL SPECIFICATIONS

<b>INPUT</b>	<ul style="list-style-type: none"><li>• Input range ..... DC 18 - 36V, DC 36 - 75V (Model dependent)</li><li>• Efficiency ..... 90 ~ 92.6% typ.</li><li>• Remote on/off ..... TTL compatible - On : 2.5 to 7VDC or open Off : 0 to 0.8VDC</li></ul>
<b>OUTPUT</b>	<ul style="list-style-type: none"><li>• Voltage tolerance ..... <math>\pm 2\%</math></li><li>• Line regulation ..... <math>\pm 0.5\%</math></li><li>• Load regulation ..... <math>\pm 0.5\%</math></li><li>• Ripple and Noise, pk-pk ..... Bandwidth : 20MHz Magnitude : 1.5% Vout nom.</li></ul>
<b>PROTECTION CIRCUIT</b>	<ul style="list-style-type: none"><li>• Short circuit over current protection ..... Hiccup, Auto-restart at 115~140% of rating.</li><li>• Under voltage protection ..... Auto-restart</li><li>• Output over voltage protection ..... Latch up(Shut down) About 120% Vout nom.</li><li>• Thermal shut down ..... <math>100^{\circ}\text{C}</math>, Auto-restart about <math>90^{\circ}\text{C}</math></li></ul>
<b>ELECTRICALLY ISOLATED</b>	<ul style="list-style-type: none"><li>• Isolation ..... Input - output DC1500V Input - case DC1000V Output - case DC1000V</li><li>• Isolation resistance ..... 100Mohms</li></ul>

## Ordering Information

Input	Output1	Maximum Power	Ripple&Noise max	Efficiency Typ.	Model Number
18 - 36V	3.3V@30A	99W	75mVp-p	90%	<b>NHS150-24-3R3</b>
18 - 36V	5V@30A	150W	75mVp-p	90%	<b>NHS150-24-5</b>
18 - 36V	12V@12.5A	150W	120mVp-p	91%	<b>NHS150-24-12</b>
36 - 75V	3.3V@30A	99W	75mVp-p	90%	<b>NHS150-48-3R3</b>
36 - 75V	5V@30A	150W	75mVp-p	91%	<b>NHS150-48-5</b>
36 - 75V	12V@12.5A	150W	120mVp-p	92.6%	<b>NHS150-48-12</b>

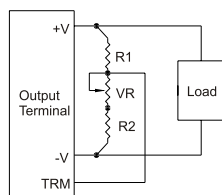
## Pin assignments

1. + Vin
2. On / off control
3. Case
4. - Vin
5. - Vout
6. - Sense
7. Trim
8. + Sense
9. + Vout

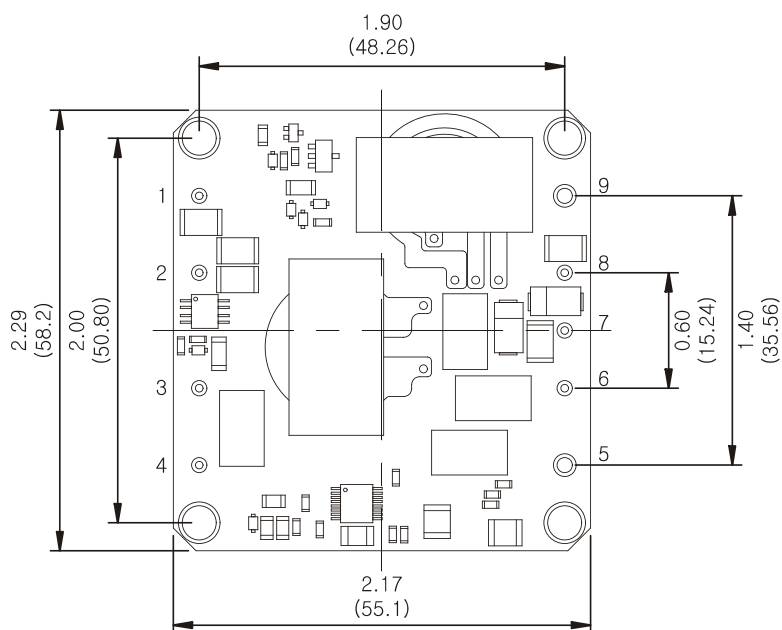
## External Parts

Model	Output Voltage	VR	R1	R2
NHS150	3.3V	500Ω	1k	560Ω
	5V	1k	1k	680Ω
	12V	39k	1k	680Ω

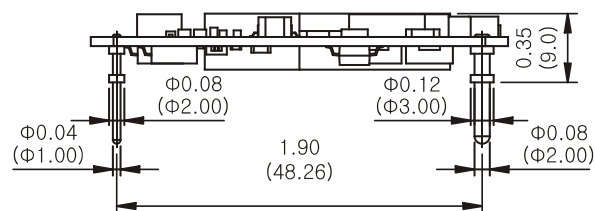
## Trim method



## Dimensions



※ Top View



※ Side View

## NOTES

1. All dimensions are in inches (mm)
2. Weight : 48g or less