

NDDY	H_S-1W & G_S-1W	1W, FIXED INPUT, ISOLATED & UNREGULATED SINGLE/DUAL OUTPUT DC/DC CONVERTER
	PRODUCT SPECIFICATION	

● FEATURES

■ Size: 19.50mm*9.80mm*12.50mm

■ Compact SIP package

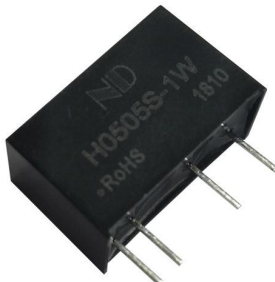
■ International standard pin-out

■ ROHS compliant

■ Isolation voltage: 6000VDC

■ Operating temperature range: -40℃~+85℃

■ 3 years warranty



● DESCRIPTION

This is a 1W DC/DC converter designed for applications where an isolated voltage is required in a distributed power supply system, suitable for: pure digital circuits, low frequency analog circuits, relay driven circuits and data switching circuits, and etc.

● PRODUCT LIST

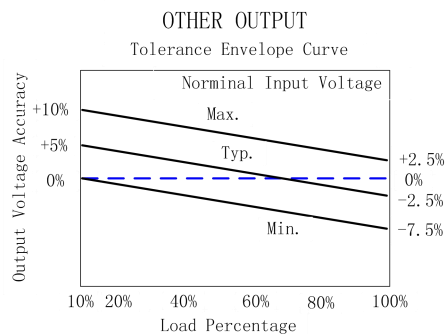
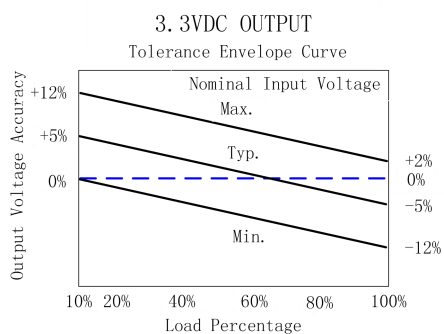
Product Name	Input/VDC	Output		EFF/% (TYP.)
	Nominal (Range)	Voltage/VDC	Current/mA Max. /Min.	
H0503S-1W	5 (4.5~5.5)	3.3	303/30	73
H0505S-1W		5	200/20	78
H0512S-1W		12	83/9	76
H0515S-1W		15	67/7	76
H1205S-1W	12 (10.8~13.2)	5	200/20	76
H1212S-1W		12	83/9	80
H1215S-1W		15	67/7	80
H2405S-1W	24 (21.6~26.4)	5	200/20	75
H2412S-1W		12	83/9	77
H2415S-1W		15	67/7	77
G0505S-1W	5 (4.5~5.5)	±5	±100/±10	76
G0509S-1W		±9	±56/±6	78
G0512S-1W		±12	±42/±5	78
G0515S-1W		±15	±34/±4	79
G1205S-1W	12 (10.8~13.2)	±5	±100/±10	77
G1212S-1W		±12	±42/±5	80
G1215S-1W		±15	±34/±4	81
G2405S-1W	24 (21.6~26.4)	±5	±100/±10	78
G2412S-1W		±12	±42/±5	81
G2415S-1W		±15	±34/±4	81

Note: with ‘T’ suffix, the converter has output short circuit protection function, for example, H0505S-1WT.

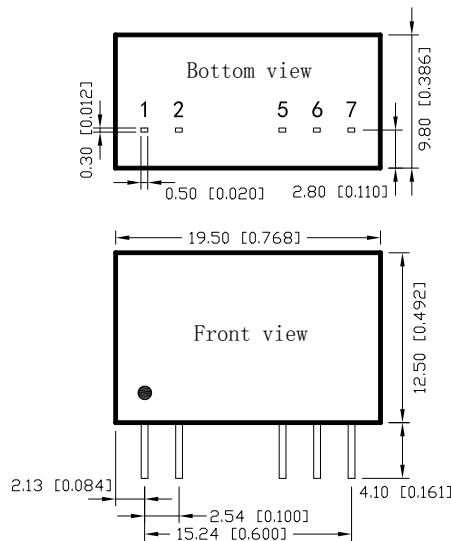
● PRODUCT PARAMETERS

Parameter	Conditions / Description		Min	Nom	Max	Unit
Voltage accuracy	10%~100%Io		SEE CHARACTERISTIC CURVE			
Load regulation	10%~100%Io (3.3Vo)		—	15	20	%
	10%~100%Io (Other output)		—	10	15	%
Line regulation	100%Io		—	±1	±1.5	%
Ripple & Noise	20MHz BW	3.3~12Vo	—	60	100	mVp-p
		15~24Vo	—	100	—	
Switching frequency	Nominal input voltage, 100%Io		—	100	—	kHz
Temperature coefficient	Nominal input voltage, 100%Io		—	0.02	—	%/°C
Operating temperature			−40	—	+85	°C
Storage temperature			−40	—	+105	°C
Storage humidity	No condensing		—	—	95	%RH
Cooling method			Natural air cooling			
Insulation voltage			6000	—	—	VDC
Insulation resistance	Input-output, 500VDC, 25°C, 70%RH		1000	—	—	MΩ
MTBF	MIL-HDBK-217F@25°C		3,500	—	—	khrs
Case material			Black flame retardant plastic			
Weight			—	4.2	—	g

● PRODUCT CHARACTERISTIC CURVE



● DIMENSIONS AND PIN ASSIGNMENT



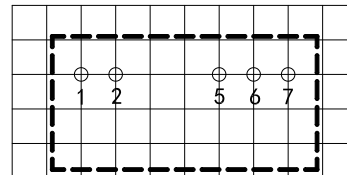
Unit: mm[inch]

Pin section tolerance: $\pm 0.10 [\pm 0.004]$

General tolerance: $\pm 0.25 [\pm 0.010]$

PIN	1	2	5	6	7
H_S	Vin	GND	0V	No/Pin	+Vo
G_S	Vin	GND	-Vo	0V	+Vo

Recommended PCB LAYOUT



Notes:

1. Grid is 2.54mm*2.54mm
2. Hole size is advised 1.00mm

● DESIGN CONSIDERATIONS

1. Minimum load requirement

The minimum load of this series DC/DC converter is 10% of rated load. It is not advised to be used at no load condition. A resistor (dummy load) should be paralleled at the output if necessary.

2. External capacitor limitation

If extreme low ripple voltage is needed, external LC filter should be added at the output. Please note that the maximum capacitor should not be very large. The capacitance is advised to be 1uF/20mA, while the maximum value is 2uF/20mA.

For example, H0505S-1W, whose output rated current is 200mA, a 10uF capacitor (less than 20uF) is advised to be paralleled at the output to reduce ripple voltage if necessary.

● NOTES

1. Unless otherwise specified, data in this specification is tested with nominal input voltage, rated output load, and $T_a = 25^\circ\text{C}$, humidity < 75%RH.
2. All data testing methods are based on Guangzhou NengDa company standards.
3. Specification of the product may be subject to change without prior notice.
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