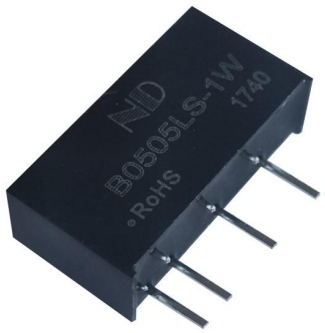
NDDY	B_LS-1W PRODUCT SPECIFICATION	1W, FIXED INPUT, ISOLATED & UNREGULATED SINGLE OUTPUT DC/DC CONVERTER

● FEATURES

- Size: 19.65mm*6.00mm*10.16mm
- Compact SIP package
- International standard pin-out
- ROHS compliant
- Isolation voltage: 1500VDC
- 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.	
B0303LS-1W	3.3 (2.97～3.63)	3.3	303/30	75
B0305LS-1W		5	200/20	79
B0503LS-1W	5 (4.5～5.5)	3.3	303/30	75
B0505LS-1W		5	200/20	79
B0509LS-1W		9	111/11	79
B0512LS-1W		12	83/9	81
B0515LS-1W		15	67/7	81
B0524LS-1W		24	42/4	82
B1203LS-1W	12 (10.8～13.2)	3.3	303/30	79
B1205LS-1W		5	200/20	80
B1209LS-1W		9	111/11	81
B1212LS-1W		12	83/9	82
B1215LS-1W		15	67/7	82
B1224LS-1W		24	42/4	80
B2403LS-1W	24 (21.6～26.4)	3.3	303/30	80
B2405LS-1W		5	200/20	80
B2409LS-1W		9	111/11	82
B2412LS-1W		12	83/9	82
B2415LS-1W		15	67/7	83
B2424LS-1W		24	42/4	82

Note: with 'T' suffix, the converter has output short circuit protection function, for example, B0505LS-1WT.

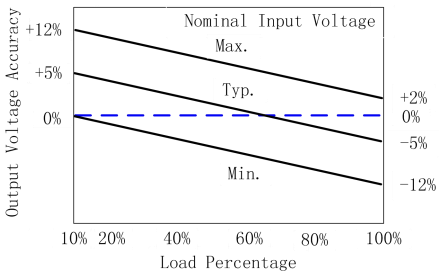
PRODUCT PARAMETERS

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	-	%/℃
Operating temperature			-40	-	+85	℃
Storage temperature			-40	-	+105	℃
Storage humidity	No condensing		-	-	95	%RH
Cooling method			Natural air cooling			
Insulation voltage			1500	-	-	VDC
Insulation resistance	Input-output,500VDC,25℃,70%RH		1000	-	-	MOhms
MTBF	MIL-HDBK-217F@25℃		3,500	-	-	khrs
Case material			Black flame retardant plastic			
Weight			-	2.2	-	g

PRODUCT CHARACTERISTIC CURVE

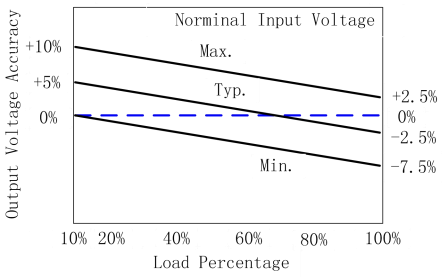
3.3VDC OUTPUT

Tolerance Envelope Curve

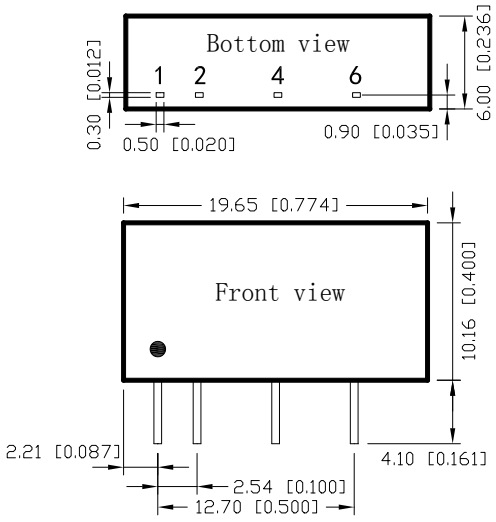


OTHER OUTPUT

Tolerance Envelope Curve



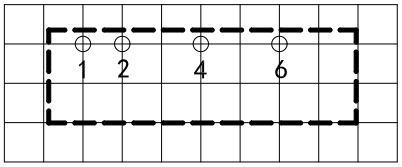
● DIMENSIONS AND PIN ASSIGNMENT



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

PIN	1	2	4	6
FUN	Vin	GND	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 maximun capacitor should not be very large. The capacitance is advised to be 1uF/20mA, while the maximun value is 2uF/20mA.

For example, B0505LS-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 Ta=25℃, 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.
4.