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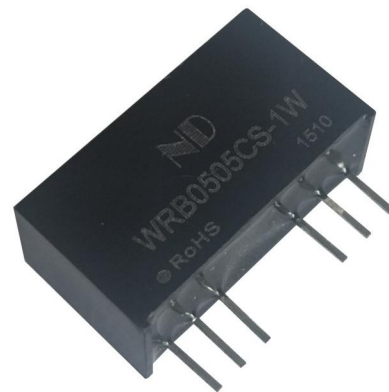
WRA (B)_CS-1W

PRODUCT SPECIFICATION

1W, WIDE INPUT,
ISOLATED & REGULATED
DUAL(SINGLE) OUTPUT
DC/DC CONVERTER

● FEATURES

- Size: 22.0mm*9.5mm*12.0mm
- International standard pin-out
- Wide input voltage range(2:1)
- Low ripple & noise
- Short circuit protection
- ROHS compliant
- Isolation voltage: 1500VDC
- Operating temperature range:-40℃~+85℃
- 3 years warranty



● DESCRIPTION

This is a 1W DC/DC converter specifically designed for applications where input voltage range is large and the space is limited. It is widely used in communications equipment, power system, instrumentation, industrial control, intelligent equipment, and etc.

● PRODUCT LIST

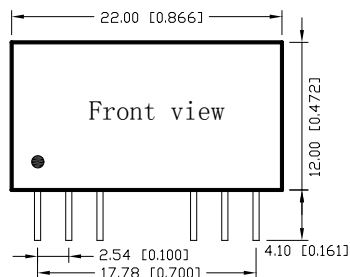
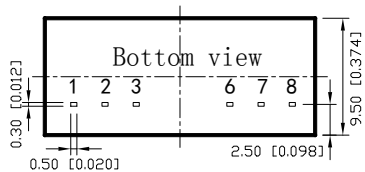
Product Name	Input Voltage / VDC		Output		EFF/% (TYP.)	Maximum CAP Load/uF
	Normal	Range	Voltage /VDC	Current/mA Max./Min.		
WRA0505CS-1W	5	4.5~9	±5	±100/10	72	470
WRA0512CS-1W			±12	±42/4	73	330
WRA0515CS-1W			±15	±33/3	74	330
WRB0505CS-1W			5	200/20	70	820
WRB0512CS-1W			12	83/8	72	680
WRB0515CS-1W			15	67/7	74	680
WRA1205CS-1W	12	9~18	±5	±100/10	74	470
WRA1212CS-1W			±12	±42/4	75	330
WRA1215CS-1W			±15	±33/3	78	330
WRB1205CS-1W			5	200/20	72	820
WRB1212CS-1W			12	83/8	73	680
WRB1215CS-1W			15	67/7	76	680
WRB1224CS-1W			24	42/4	76	680
WRA2405CS-1W	24	18~36	±5	±100/10	75	470
WRA2412CS-1W			±12	±42/4	77	330
WRA2415CS-1W			±15	±33/3	80	330
WRB2405CS-1W			5	200/20	73	820
WRB2412CS-1W			12	83/8	75	680
WRB2415CS-1W			15	67/7	77	680
WRB2424CS-1W			24	42/4	78	330
WRA4805CS-1W	48	36~72	±5	±100/10	78	470

WRA4812CS-1W			±12	±42/4	80	330
WRB4805CS-1W			5	200/20	75	820
WRB4812CS-1W			12	83/8	77	680
WRB4824CS-1W			24	42/4	80	330

● PRODUCT PARAMETERS

Parameter	Conditions / Description	Min	Nom	Max	Unit	
Voltage accuracy	3.3Vo 5Vo	-	±2	±5	%	
	Other output	-	±1	±3	%	
Load regulation	10%-100%Io	-	±0.5	±1	%	
Line regulation	100%Io, input votagel range	-	±0.2	±0.5	%	
Ripple & Noise	20MHz BW	5Vo	-	50	-	mVp-p
		Other output	-	100	-	
Switching frequency	Nominal input voltage, 100%Io	-	200	-	kHz	
SCP	Short circuit protection	Continuous, self-recovery				
Temperature coefficient	Nominal input voltage, 100%Io	-	0.02	-	%/°C	
Operating temperature		-40	-	+85	°C	
Storage temperature		-40	-	+125	°C	
Storage humidity	No condensing	-	-	95	%RH	
Cooling method	Natural air cooling					
Insulation voltage		1500	-	-	VDC	
Insulation resistance	Input-output, 500VDC, 25°C, 70%RH	1000	-	-	MOhms	
MTBF	MIL-HDBK-217F@25°C	100	-	-	KHours	
Case material	Black flame retardant plastic					
Weight		-	4.9	-	g	

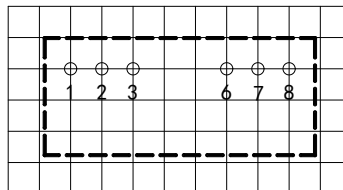
● DIMENSIONS AND PIN ASSIGNMENT



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

	1	2	3	6	7	8
WRB	GND	Vin	NC	+Vo	0V	NC
WRA	GND	Vin	NC	+Vo	0V	-Vo

Recommended PCB LAYOUT



Note1. Grid 2.54mm*2.54mm
Note2. Hole size is advised 1.00mm
Note3. NC pin should be floated

● 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, it should be less than the value in the product list.

● 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.
4. All right reserved by Guangzhou NengDa Power Supply Technology Co., Ltd.