FEATURES：

- Wide input range
- Continuous short-circuit protection,self recover
- I/O isolation voltage 1.6KV
- Working temperature：-40℃～+105℃
- No additional components required
- Stable performance and high reliability (MTBF≥3500K hours)
- Industry standard pin-out
- Flame-retardant case to meet UL94-V0 requirements
- SIP package

Selection Guide

Part No.	INPUT		OUTPUT			Full Load Efficiency （%/Typ）	CapacitiveLoad(μF)
	Norminal （Vdc）	Range （Vdc）	Voltage (Vdc)	Min current (mA)	Max current (mA)		
WRA0505S-3WR2	5	4.5-9	±5	±13	±250	74	1000
WRA0512S-3WR2			±12	±5	±104	77	470
WRA0515S-3WR2			±15	±42	±83	77	330
WRA0524S-3WR2			±24	±3	±52	76	220
WRB0503S-3WR2			3.3	38	758	68	1800
WRB0505S-3WR2			5	25	500	73	2200
WRB0509S-3WR2			9	14	278	74	1000
WRB0512S-3WR2			12	10	208	77	680
WRB0515S-3WR2			15	8	167	74	470
WRB0524S-3WR2			24	5	104	76	330
WRA1205S-3WR2	12	9-18	±5	±15	±300	78	1000
WRA1209S-3WR2			±9	±8	±167	78	680
WRA1212S-3WR2			±12	±6	±125	79	470
WRA1215S-3WR2			±15	±5	±100	80	330
WRB1203S-3WR2			3.3	38	758	75	2700
WRB1205S-3WR2			5	30	600	76	2200
WRB1206S-3WR2			6	25	500	79	1800
WRB1209S-3WR2			9	17	333	79	1000
WRB1212S-3WR2			12	13	250	82	680
WRB1215S-3WR2			15	10	200	83	470
WRB1224S-3WR2			24	6	125	81	330
WRA2405S-3WR2	24	18-36	±5	±15	±300	79	1000
WRA2409S-3WR2			±9	±8	±167	81	680
WRA2412S-3WR2			±12	±6	±125	83	470
WRA2415S-3WR2			±15	±5	±100	83	330
WRB2403S-3WR2			3.3	38	758	74	2700
WRB2405S-3WR2			5	30	600	81	2200

WRB2409S-3WR2			9	17	333	83	1000
WRB2412S-3WR2			12	13	250	83	680
WRB2415S-3WR2			15	10	200	83	470
WRB2424S-3WR2			24	6	125	83	330
WRA4805S-3WR2	48	36-72	±5	±15	±300	79	1000
WRA4812S-3WR2			±12	±6	±125	82	470
WRA4815S-3WR2			±15	±5	±100	82	330
WRB4803S-3WR2			3.3	38	758	75	2700
WRB4805S-3WR2			5	30	600	76	2200
WRB4812S-3WR2			12	13	250	80	680
WRB4815S-3WR2			15	10	200	84	470
WRB48S24-3WR2			24	6	125	82	330

customized accepted ,pls contact sales for details

Input Specifications

Item	Min	Typ	Max	Test Conditions	
Input Current (full load / no-load)	-	489/12mA	502/18mA	12VDC nominal input series, nominal input voltage	3.3V output
	-	625/12mA	641/18mA		Others
	-	238/5mA	245/12mA	24VDC nominal voltage input series, nominal input	3.3V output
	-	305/5mA	313/12mA		5V output
	-	298/10mA	305/16mA		Others
Reflected Ripple Current	-	50mA	-		
Surge Voltage (1sec. max.)	-0.7VDC	-	25VDC	12VDC nominal input voltage	
	-0.7VDC	-	50VDC	24VDC nominal input voltage	
Start-up Voltage	-	-	9VDC	12VDC nominal input voltage	
	-	-	18VDC	24VDC nominal input voltage	
Input Under-voltage Protection	5.5VDC	6.5VDC	-	12VDC nominal input voltage	
	12VDC	15.5VDC	-	24VDC nominal input voltage	
Ctrl	NONE-				
	NONE				
Hot Plug	Unavailable				

Output Specifications

Item	Typ	Max	Test Conditions
Voltage Accuracy	±1%	±2%	5%-100% load
Line Regulation	±0.1%	±1%	Input voltage variation from low to high at full load
Load Regulation	±0.5%	±1.5%	5%-100% load
Ripple&Noise	50mVp-p	100mVp-p	20MHz bandwidth, 5%-100% load

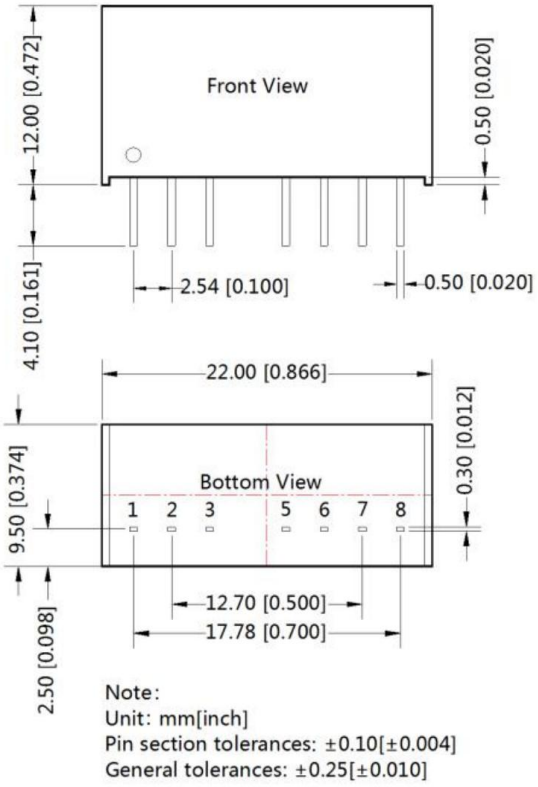
Gerneral Specifications

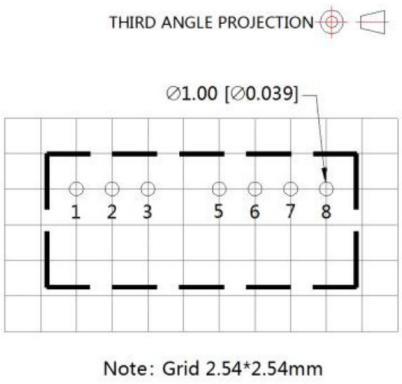
Switching Frequency	300KHz(Typ)	100% full load, nominal input voltage

Short-Circuit Protection	Continuous, self-recovery	
Case Temperature Rise	15℃（Typ）	
Temperature Coefficient	0.03%/℃	100% full load
Pin Soldering Resistance Temperature	300℃	Soldering spot is 1.5mm away from case for 10 seconds
Isolation（Input-Output）	1.6KVDC	Input-output Electric Strength test for 1 minute with a leakage current of 1mA max.
Insulation Resistance（Input-Output）	1000MΩ	Input-output resistance 500Vdc
Operating Temperature	-40～+105℃	
Storage Temperature	-55～+125℃	
Storage Humidity	<95%	Non-condensing
Cooling Method	Free air convection	
Case Material	Black plastic; flame-retardant and heat-resistant (UL94 V-0)	
Weight	4.6g（Typ）	

**Unless specified, otherwise all other parameters are tested under the following conditions: nominal input voltage, pure resistive load, 25℃ room temperature environment.

Dimensions and Recommended Layout



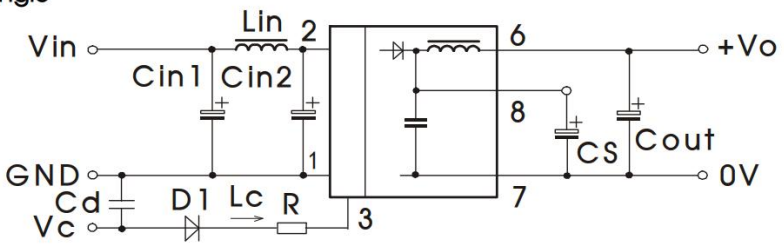


Pins

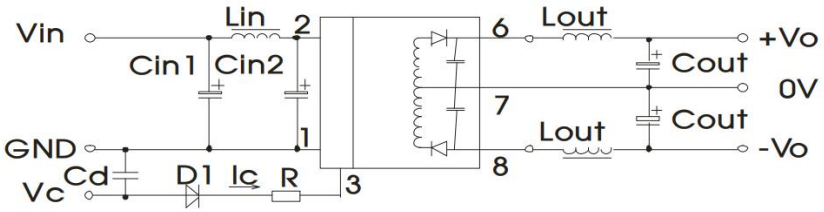
Pin	Single	Dual	
1	GND	GND	
2	Vin	Vin	
3	CTRL	CTRL	
5	NC	NC	
6	+Vo	+Vo	
7	0V	0V	
8	CS	-Vo	

Recommended Circuit

Single



Dual



Recommended input and output capacitor values				
Vin	5VDC&12VDC	24VDC&48VDC		
Cin1	100uF/25V	100uF/100V		
Cin2	47uF/25V	1uF/100V		
Lin	4.7uH-12uH			
Cs	10uF-22uF/50V			
Cout	Vo(3/±3/5/±5/9/±9):100uF/16V			
	Vo(12/±12/15/±15):100uF/25V			
	Vo(12/±12/15/±15):100uF/25V			
Lout	2.2uH-10uH			
Cd	4.7nF/100V			

Noted

1. Input current: Ensure that the output current of the power supply meets the instantaneous starting current of the power module (that is, twice the average input current of the power module).
2. Output load requirements: Avoid no-load use. When the actual power consumption of the load is less than 10% of the rated output power of the module or no load occurs, connect an external resistance to the output end (the sum of the external resistance and the load power is greater than or equal to 10% of the rated load) or select a module with a smaller rated power.
3. The external capacitance of the output end should not be too large; otherwise, the module may be overcurrent or poorly started. For details, see the external capacitance recommendation table.
4. External LC filter circuit can be connected for occasions with high ripple noise requirements.