

F_S-2WR3 Power Module Model Table

SELECTION OF POWER SUPPLY MODULE

2W rated voltage input, isolated unstabilized single output

- SIP international standard pins
- Isolation voltage 3000VDC
- Low ripple coefficient and low noise
- Continuous short-circuit protection
- Working temperature -40°C-- +85°C
- Low static current and high conversion efficiency



Model	Nominal Value(±10%)	Output Voltage/Current
F0303S-2WR3	3.3V(2.97V-3.63V)	±3.3V/±606mA
F0305S-2WR3		±5V/±400mA
F0309S-2WR3		±9V/±222mA
F0312S-2WR3		±12V/±166mA
F0315S-2WR3		±15V/±133mA
F0324S-2WR3		±24V/±83mA
F0503S-2WR3	5V(4.5V-5.5V)	±3.3V/±606mA
F0505S-2WR3		±5V/±400mA
F0509S-2WR3		±9V/±222mA
F0512S-2WR3		±12V/±166mA
F0515S-2WR3		±15V/±133mA
F0524S-2WR3		±24V/±83mA
F1203S-2WR3	12V(10.8V-13.2V)	±3.3V/±606mA
F1205S-2WR3		±5V/±400mA
F1209S-2WR3		±9V/±222mA
F1212S-2WR3		±12V/±166mA
F1215S-2WR3		±15V/±133mA
F1224S-2WR3		±24V/±83mA
F1503S-2WR3	15V(13.5V-16.5V)	±3.3V/±606mA
F1505S-2WR3		±5V/±400mA
F1509S-2WR3		±9V/±222mA
F1512S-2WR3		±12V/±166mA
F1515S-2WR3		±15V/±133mA
F1524S-2WR3		±24V/±83mA
F2403S-2WR3	24V(21.6V-26.4V)	±3.3V/±606mA
F2405S-2WR3		±5V/±400mA
F2409S-2WR3		±9V/±222mA
F2412S-2WR3		±12V/±166mA
F2415S-2WR3		±15V/±133mA
F2424S-2WR3		±24V/±83mA

Product Feature

1. characteristic:Constant voltage input, isolated non stabilized voltage single output,2W
2. Isolation voltage 3000VDC
3. Low no-load power consumption 0.025W(Typ.)
4. Transfer efficiency up to 90%
5. Output short-circuit protection: continuous short circuit protection, automatic recovery
6. The voltage of the input power supply is relatively stable. (Voltage variation range $\pm 10\%V_{in}$)
7. Operating temperature range : -40°C~+85°C
8. Small SIP package
9. International standard pin, direct installation of PCB board.
10. High reliability and long life design,continuous working time MTBF ≥ 3.5 million hours (3500000Hrs)

Environment Condition

Project name	Qualification	Unit	Notes
Working environment temperature	-40—+85	°C	
Storage temperature	-40—+125 °C	°C	
Relative humidity	5—95	%	
Heat dissipation mode	natural cooling		
Atmospheric pressure	80—106 Kpa	Kpa	
Ripple & Noise	30/80(max)	Mvp-p	

Input Characteristics

Item	Working conditions	Min.	Typ.	Max.	Unit
Input current (full load/no load)	5VDC Input Series	--	454/5	--/10	m'A
	9VDC Input Series	--	249/3	--/5	
	12VDC Input Series	--	186/2	--/5	
	15VDC Input Series	--	148/2	--/4	
	24VDC Input Series	--	92/1	--/2	
Reflection ripple current		--	15	--	m'A
Impulse voltage	3.3VDC Input Series	-0.7	--	5	VDC
	5VDC Input Series	-0.7	--	9	
	9VDC Input Series	-0.7	--	15	
	12VDC Input Series	-0.7	--	18	
	15VDC Input Series	-0.7	--	21	
	24VDC Input Series	-0.7	--	30	
Input filter type		Capacitance filter type			
Hot plugged		Non-support			

Output Characteristics

Project name	Working and testing condition	Min.	Typ.	Max.	Unit
Output load	load percentage	10	--	100	%
Output Voltage AccuSee Error Envelope Curve racy		--	--	± 15.0	%
Linear adjustment rate	Input voltage	3.3V Input	--	± 1.5	%
	variation $\pm 1\%$	others	--	± 1.2	%
Load adjustment rate	10%~100% load	3.3VDC Output	--	18	%
		5VDC Output	--	12	%
		9VDC Output	--	8	%
		12VDC Output	--	7	%

		15VDC Output	--	6	--	%
		24VDC Output	--	5	--	%
Ripple & Noise	Pure resistive load, 20MHz bandwidth, peak-to-peak		--	30	80	mVp-p
Temperature Drift	Full load		--	--	±0.03	%/°C
Efficient						
Output short circuit protection	Continuous short circuit protection, automatic recovery		--			

Notes: Ripple and Noise Test Methods Twisted Pair Test Method

Note:

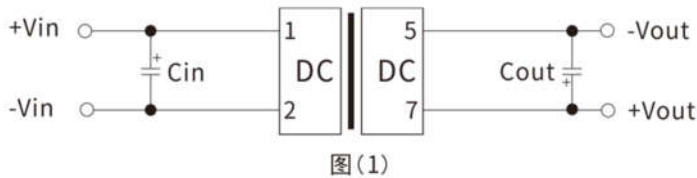
1、 The above is only a list of typical products. If you need products beyond the list, please contact our sales. 2、 The maximum capacitive load indicates the maximum capacitive load that + VO or - vo can be connected to,if the value is exceeded, the product will not start normally..

Typical Application Circuits

1. Routine application:

If it is required to further reduce the input and output ripple, a capacitive filter network can be connected at the input and output terminals, and the application circuit is shown in Figure 1.

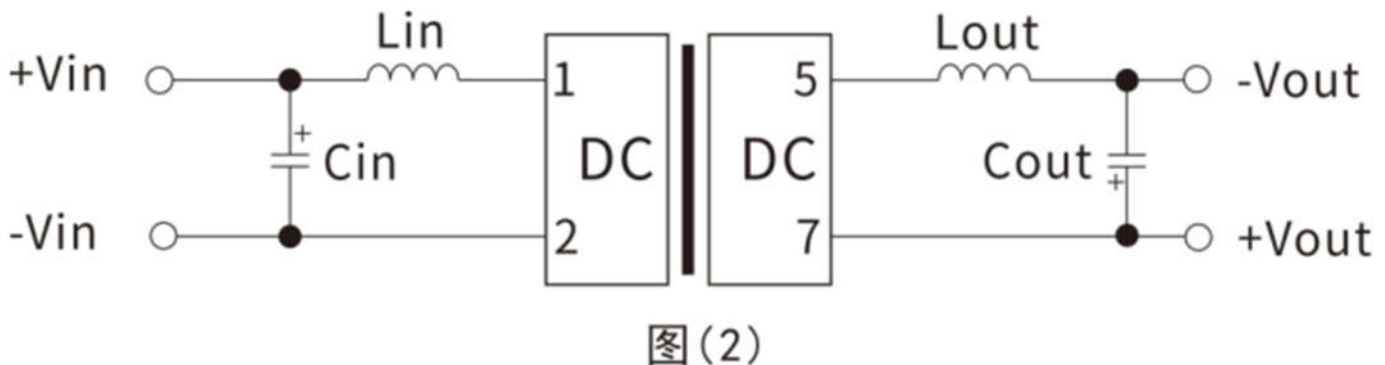
However, attention should be paid to the selection of appropriate filtering capacitors. If the capacitor is too large, it is likely to cause startup problems. For each output, the recommended capacitive load value is shown in Table 1 under the condition of safe and reliable operation.



Recommended capacitive load values (Table 1)

Vin (Vdc)	Cin (u F)	Vo (Vdc)	Cout (u F)
3.3/5	4.7	3.3/5	10
12	2.2	9	4.7
15	2.2	12	2.2
24	1	15	1
-	-	24	0.47

2.EMI typical application circuit



Component No.	Function	Recommended value
Cin Capacitance	Filter capacitor	4.7μA/50V

Cout Capacitance
 Lin inductance
 Lout inductance

Filter capacitor
 Filter inductance
 Cin Capacitance

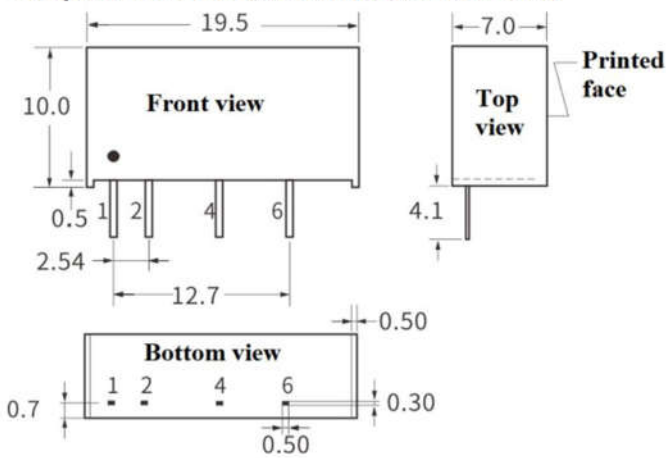
Refer to usual application
 Inductance: 4.7uH
 Inductance: 4.7uH

3. Output Load Requirements

In order to ensure that the module can work efficiently and reliably, the minimum output load should not be less than 10% of the rated load. If the power you need is really small, please connect a resistor in parallel between the positive and negative poles of the output terminal (the sum of the actual power used by the resistor is greater than or equal to 10% of the rated power and the rated power of the selected resistor must be greater than 5 times of the actual power used, otherwise the temperature of the resistor will be higher)

Product appearance size and pin definition, suggested printing layout

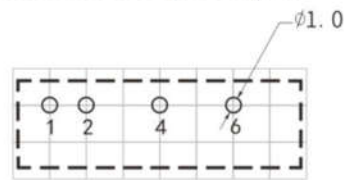
1. Physical dimension (unit:mm,tolerance:xx±0.25)



2. Pin definition

1	2	3	4	5	6
+Vin	-Vin	No Pin	-Vout	No Pin	+Vout

3. Recommended print layout



Note: the grid distance is 2.54*2.54mm

*Note: If the definition of each pin of the power module is inconsistent with the selection manual, the label on the physical label shall prevail.