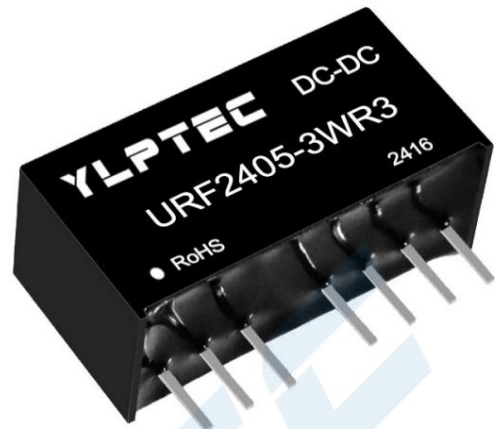


### Features

- Package type: SIP8
- Input voltage: 8:1
- Working temperature: -40° - +85°
- Isolation voltage: 3000VDC
- Full load efficiency: 79% (typical)
- With input undervoltage protection, output short circuit protection, and overcurrent protection mechanisms
- Application areas: power, industrial control, etc.



Product Selection Table

model	Input voltage (VDC)		Output		Full load efficiency% (Type)	Maximum capacitive load Load(μF)
	Nominal value (Range value)	Maximum	voltage (VDC)	Maximum current (mA)		
UWF1205S-3WR3	12 (4.5-36)	40	5	600	77	1000
UWF1212S-3WR3	12 (4.5-36)	40	12	250	79	330
UWF1215S-3WR3	12 (4.5-36)	40	15	200	79	220
UWE1205S-3WR3	12 (4.5-36)	40	±5	±300	77	#470
UWE1212S-3WR3	12 (4.5-36)	40	±12	±125	79	#220
UWE1215S-3WR3	12 (4.5-36)	40	±15	±100	79	#100

#Each output

Input characteristics

project	Working conditions	Min.	Type.	Max.	Unit
Input current (full load/no load)	12VDC Input	-	306/60	-	m.a.
Reflected ripple current	12VDC Input	-	50	-	
Surge voltage	12VDC Input	-0.7	-	50	VDC
Starting voltage	12VDC Input	-	-	4.5	
Input undervoltage protection	12VDC Input	2.5	3.5	-	
Input filter type		Capacitor filtering			
Hot Swap		Not supported			

Output Characteristics

project	Working conditions	Min.	Type.	Max.	Unit
Output voltage accuracy	0%-100% load	-	±1.0	±3.0	%
Linear Regulation	Full load, input voltage from low limit to high limit	-	-	±1.0	
Load Regulation	5% to 100% load	-	-	±1.0	
Ripple & Noise	20MHz bandwidth	-	60	100	mV
Transient recovery time	25% load step change	-	300	500	ms
Transient response deviation	25% load step change	-	±5	±8	%
Temperature drift coefficient	Fully loaded	-	-	±0.03	%/°C
Overload protection		110	-	300	%
Short circuit protection			Sustainable, self-healing		

General characteristics

project	Working conditions	Min.	Type.	Max.	Unit
Insulation voltage	Input-output, test time 1 minute, leakage current less than 1mA	3000	-	-	VDC
Insulation resistance	Input-output, insulation voltage 500VDC	1000	-	-	MΩ
Isolation capacitor	Input-output, 100KHz/0.1V	-	40	-	pF
Operating temperature	Derating for temperatures > 85°C (see Figure 1)	-40	-	85	°C
Storage temperature		-55	-	105	°C
Storage humidity	No condensation	5	-	95	%RH
Pin resistance soldering temperature	The soldering point is 1.5mm away from the shell, 10 seconds	-	-	300	°C
Switching frequency	Full load, nominal input voltage	-	300	-	KHz
Mean Time Between Failures (MTBF)	MIL-HDBK-217F@25°C		>1000Kh		

Physical properties

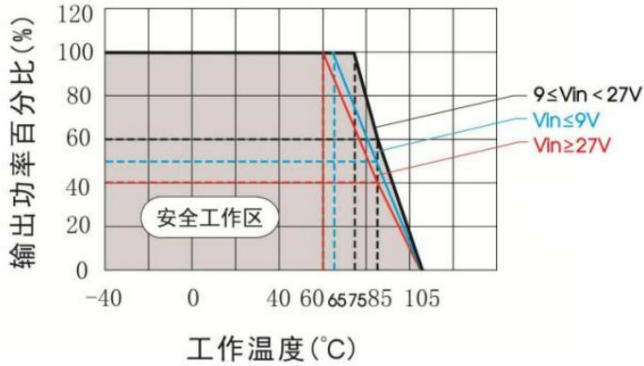
Shell material	Black flame retardant and heat resistant plastic (UL 94V-0 rated)
Package size	22.00 x 9.50 x 12.00mm
weight	3.8g (Typ.)
Cooling method	Natural cooling

EMC characteristics

I	Conducted disturbance	CISPR32/EN55032 CLASS B (see Figure 3 for recommended circuit)
	Radiated disturbance	CISPR32/EN55032 CLASS B (see Figure 3 for recommended circuit)
EMS Electrostatic Discharge	IEC/EN61000-4-2 Contact±8KV	perf. Criteria B

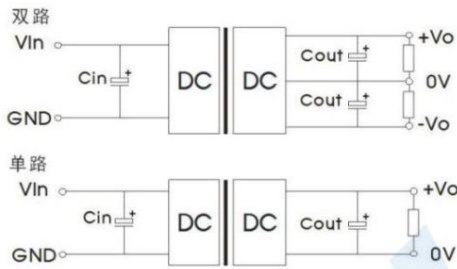
Product characteristic curve

Temperature derating curve (Figure 1)



Typical circuit design and application

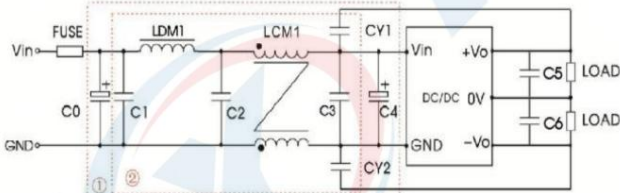
Application circuit (Figure 2)



Recommended capacitive load value table

Come	12V
Eating	100uF
Cout	22uF

Application circuit (Figure 3)



Recommended capacitive load value table

model	Vin $\bar{y}$ 12V
FUSE	Select according to the customer's actual input current
C0	1000uF/50V
C4	330uF/50V
C1/C2/C3	10uF/50V
LCM1	3.3mH
LDM1	4.7uH
CY1/CY2	1nF/3KV
C5/C6	Refer to the Cout parameter in Figure 2

1. Typical applications

If the input and output ripples need to be further reduced, a capacitor filtering network can be connected to the input and output ends. The application circuit is shown in Figure 2.

However, you should pay attention to selecting the appropriate filter capacitor. If the capacitor is too large, it is likely to cause startup problems. For each output, refer to the above under the condition of ensuring safe and reliable operation.

Refer to the "Recommended capacitive load values table" on the right.

2. EMC typical recommended circuit: see Figure 3.

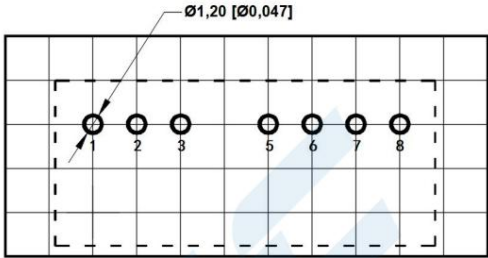
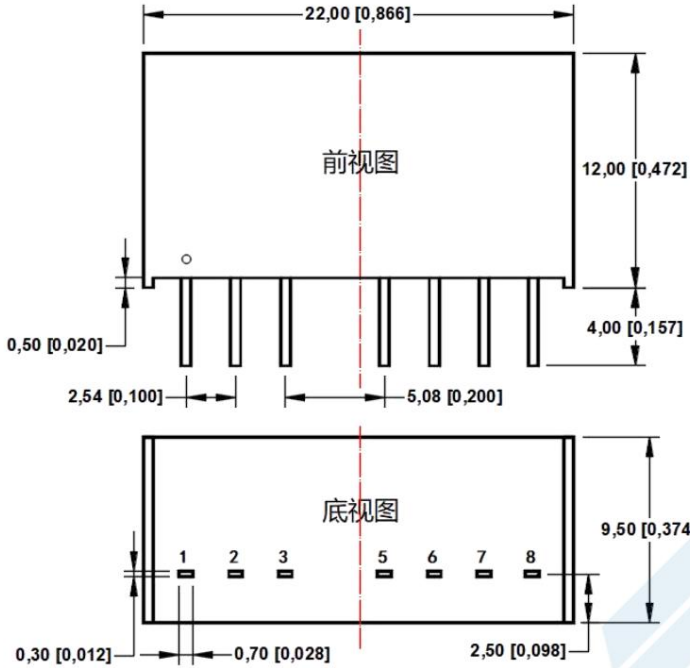
3. Output load requirements

In order to ensure that the module can work efficiently and reliably, its minimum output load should not be less than 10% of the rated load when in use. If the power you need is indeed small, please

Connect a resistor in parallel (the sum of the power consumed by the resistor and the actual power used is greater than or equal to 10% of the rated power).

Dimensions, recommended PCB Printing layout

Dimensions PCB Printing Layout



Pin Definition Table		
Pinout	Function (single channel)	Function (dual channel)
1	GND	GND
2	Come	Come
3	NC	NC
5	NC	NC
6	+In	+In
7	-In	WITH
8	NC	-In

NC: Cannot be connected to any external circuit

Note:  
 Dimensions in mm [inch]  
 Terminal diameter tolerance:  $\pm 0.10$  [ $\pm 0.004$ ]  
 Unmarked tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]

Remark:

- If the product operates below the minimum required load, it cannot be guaranteed that the product performance meets all performance indicators in this manual;
- The maximum capacitive load is tested within the input voltage range and full load conditions;
- Unless otherwise specified, all indicators in this manual are measured at  $T_a=25^\circ\text{C}$ , temperature < 75%RH, nominal input voltage and rated output load;
- All index test methods in this manual are based on our company's corporate standards;
- Our company can provide product customization. For specific needs, please contact our technical staff directly.