# ECCO Electronics Technology Co.,ltd

F_S-2WR2 series

## Typical Performance

## FEATURES

- Fixed Input, isolation, unregulated Output,single output,2W
- Isolation voltage: 3000VDC
- SIP package,with short circuit protect
- Efficiency :up to 80%
- Working temperature -40℃~+85℃
- MTBF≥35x10$^5$Hrs
- Industry standard pinout
- No heat sink required
- No external component required
- In line with RoHS codes
- Line regulation (for Vin change of ±1%): ±1.2%(max)
- Load regulation (10%-100% load) :15%
- Ripple and noise (20MHz Band width) <75mVp-p
- Temperature drift(100% full load):±0.03%/℃(max)
- Switching Frequency(Full load,nominal input):70Khz(typ)
- Storage Temperature:-55℃~+125℃
- Isolation Resistance:1000MΩ/1min
- Cooling:Free aire converction


3-Years Product Warranty

## Product Program

| Part # | Input voltage range | Nominal output voltage / output current | | | | | | Efficiency (%, typ) |
|---|---|---|---|---|---|---|---|---|
| | | VO1 | | | VO2 | | | |
| | | Voltage (VDC) | Min (mA) | Max (mA) | Voltage (VDC) | Min (mA) | Max (mA) | |
| F0503S-2WR2 | 5V（4.5~5.5VDC） | 3.3 | | 400 | | | | 74 |
| F0505S-2WR2 | | 5 | | 400 | | | | 81 |
| F0509S-2WR2 | | 9 | | 222 | | | | 83 |
| F0512S-2WR2 | | 12 | | 167 | | | | 83 |
| F0515S-2WR2 | | 15 | | 133 | | | | 83 |
| F0524S-2WR2 | | 24 | | 83 | | | | 84 |
| F1205S-2WR2 | 12 V（10.8~13.2VDC） | 5 | | 400 | | | | 80 |
| F1209S-2WR2 | | 9 | | 222 | | | | 82 |
| F1212S-2WR2 | | 12 | | 167 | | | | 83 |
| F1215S-2WR2 | | 15 | | 133 | | | | 83 |
| F1224S-2WR2 | | 24 | | 83 | | | | 82 |
| F1505S-2WR2 | 15V(13.5~16.5VDC) | 5 | | 400 | | | | 78 |

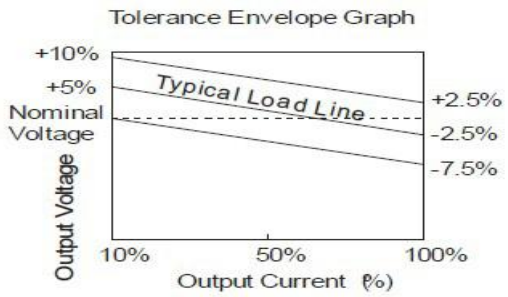
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| F1515S-2WR2 | | 15 | | 133 | | | | 80 |
| F2405S-2WR2 | 24V（21.6~26.4VDC） | 5 | | 400 | | | | 80 |
| F2409S-2WR2 | | 9 | | 222 | | | | 82 |
| F2412S-2WR2 | | 12 | | 167 | | | | 83 |
| F2415S-2WR2 | | 15 | | 133 | | | | 85 |
| F2424S-2WR2 | | 24 | | 83 | | | | 85 |

□ Shows the nominal value of input voltage,due to space limitations ,the above list is only for some products,If other than a list of products, please contact the Company's sales department.

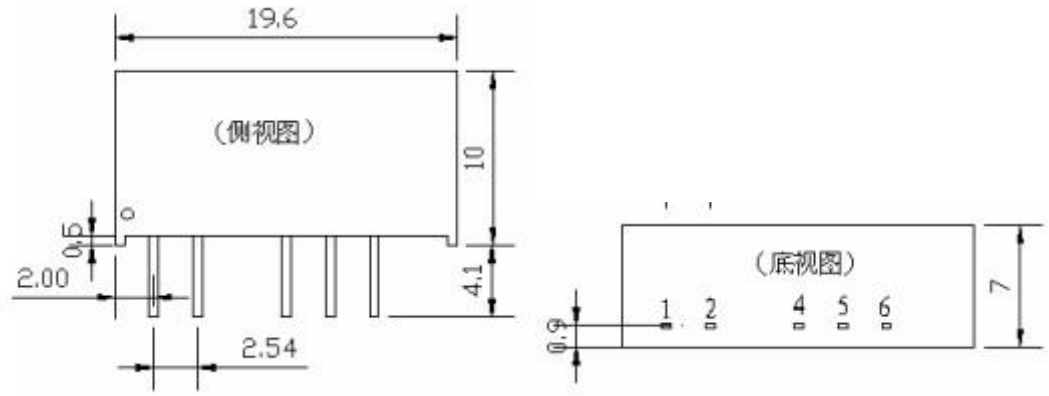
## Mechanical Data

| Packing Code | L x W x H ： mm | Packing No. |
|---|---|---|
| F_S-2WR2 | 19.5*7*10.0 | |

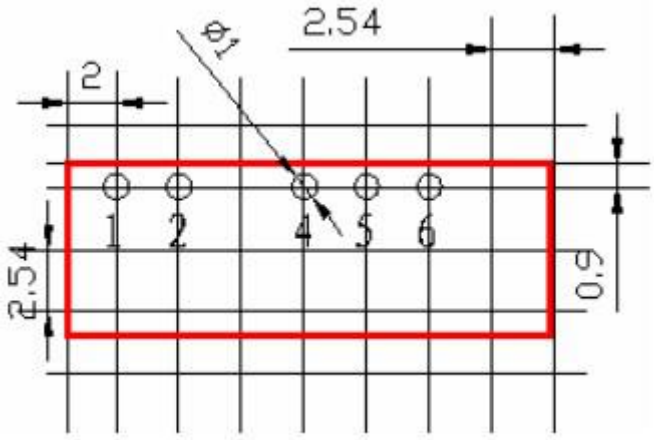
## Typical Temperature Curve




## Mechanical Dimension




LATERAL VIEW BOTTON VIEW



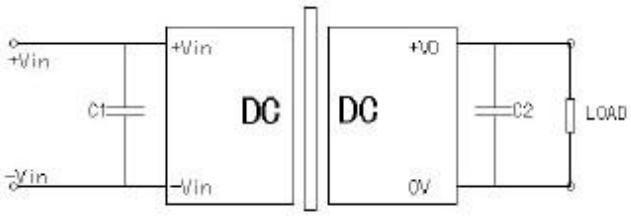

Recommended PCB Layout

UNIT:mm

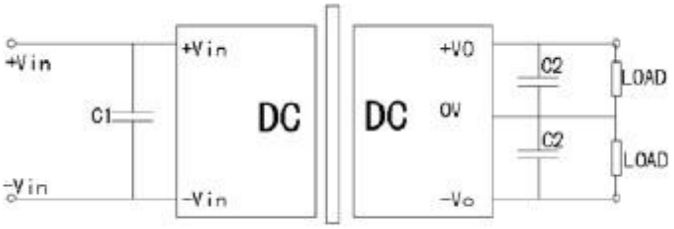
## Pin Assignment

| PIN | 1 | 2 | 4 | 5 | 6 | | | |
|---|---|---|---|---|---|---|---|---|
| Single output | Vin | GND | 0V | NO PIN | +Vo | | | |

## Recommend Circuit




Single O/P




Dual O/P

## C1、C2 select

| INPUT VOLTAGE | C1 | DUAL O/P VOLTAGE | C2 | SINGLE O/P VOLTAGE | C2 |
|---|---|---|---|---|---|
| 5VDC | 4.7uF | ±5VDC | 4.7uF | 3.3VDC | 10uF |
| 12VDC | 2.2uF | ±9VDC | 2.2uF | 5VDC | 10uF |
| 24VDC | 1uF | ±12VDC | 1uF | 9VDC | 4.7uF |
| --- | --- | ±15VDC | 1uF | 12VDC | 2.2uF |

| | | | | | |
|---|---|---|---|---|---|
| --- | --- | --- | --- | 15/24VDC | 1uF |

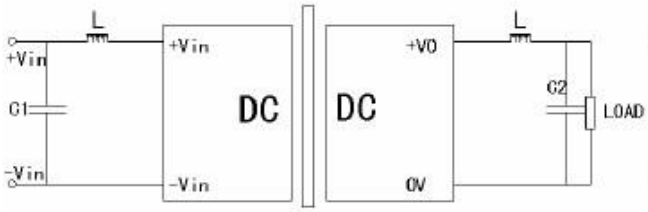
## *Application Note*

(1)Pls don't use under no load: when the load power is less than 10% of the rated power ,we advise to connect the resistance following the output or the selection the smaller rated power module,for the resistance,the value is 5~10% of the rated power,resistance=$U_2$/（10%×2W）

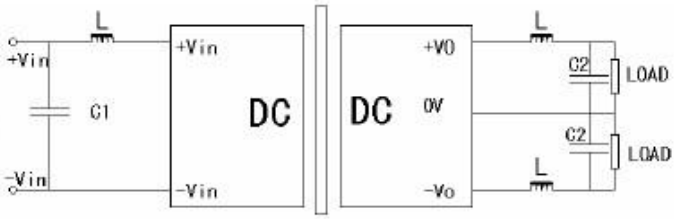
(2)Pls don't connect the excessive capacitor in external circut :output connects C2's value can't be too big,, otherwise easily lead to module startup flow or poor starting,

According to the external table to select the capacitance

(3)For the ripple&noise with higher requirements ,we advise to connect the LC filter, the frequency of LC filter is far smaller than the DC / DC module switching frequency, prevent mutual interference, resulting in increased the ripple damage the power module,pls see below




Single O/P




Dual O/P

*Note：The power modules such as the definition of the pin does not match with the hand book,please refer to the actual item.