## FEATURES：

- Fixed voltage input,single/dual unregulated,0.25W
- Continuous short-circuit protection,self recover
- I/O isolation voltage 3KV
- 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 V-0 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) | | |
| E0303S-W2R3 | 3.3 | 2.97-3.63 | ±3.3 | 4 | 38 | | |
| E0305S-W2R3 | | | ±5 | 2 | 25 | | |
| E0309S-W2R3 | | | ±9 | 1 | 14 | | |
| E0312S-W2R3 | | | ±12 | 1 | 10 | | |
| E0315S-W2R3 | | | ±15 | 1 | 8 | | |
| E0324S-W2R3 | | | ±24 | 1 | 6 | | |
| F0303S-W2R3 | | | 3.3 | 7 | 76 | | |
| F0305S-W2R3 | | | 5 | 5 | 50 | | |
| F0309S-W2R3 | | | 9 | 2 | 28 | | |
| F0312S-W2R3 | | | 12 | 2 | 21 | | |
| F0315S-W2R3 | | | 15 | 1 | 17 | | |
| F0324S-W2R3 | | | 24 | 1 | 10 | | |
| E0503S-W2R3 | 5 | 4.5-5.5 | ±3.3 | 4 | 38 | | |
| E0505S-W2R3 | | | ±5 | 2 | 25 | | |
| E0509S-W2R3 | | | ±9 | 1 | 14 | | |
| E0512S-W2R3 | | | ±12 | 1 | 10 | | |
| E0515S-W2R3 | | | ±15 | 1 | 8 | | |
| E0524S-W2R3 | | | ±24 | 1 | 6 | | |
| F0503S-W2R3 | | | 3.3 | 7 | 76 | | |
| F0505S-W2R3 | | | 5 | 5 | 50 | | |
| F0509S-W2R3 | | | 9 | 2 | 28 | | |
| F0512S-W2R3 | | | 12 | 2 | 21 | | |
| F0515S-W2R3 | | | 15 | 1 | 17 | | |
| F0524S-W2R3 | | | 24 | 1 | 10 | | |
| E1203S-W2R3 | 12 | 10.8-13.2 | ±3.3 | 4 | 38 | | |
| E1205S-W2R3 | | | ±5 | 2 | 25 | | |
| E1209S-W2R3 | | | ±9 | 1 | 14 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| E1212S-W2R3 | | | ±12 | 1 | 10 | | |
| E1215S-W2R3 | | | ±15 | 1 | 8 | | |
| E1224S-W2R3 | | | ±24 | 1 | 6 | | |
| F1203S-W2R3 | | | 3.3 | 7 | 76 | | |
| F1205S-W2R3 | | | 5 | 5 | 50 | | |
| F1209S-W2R3 | | | 9 | 2 | 28 | | |
| F1212S-W2R3 | | | 12 | 2 | 21 | | |
| F1215S-W2R3 | | | 15 | 1 | 17 | | |
| F1224S-W2R3 | | | 24 | 1 | 10 | | |
| E1505S-W2R3 | 15 | 13.5-16.5 | ±5 | 2 | 25 | | |
| E1509S-W2R3 | | | ±9 | 1 | 14 | | |
| E1512S-W2R3 | | | ±12 | 1 | 10 | | |
| E1515S-W2R3 | | | ±15 | 1 | 8 | | |
| E1524S-W2R3 | | | ±24 | 1 | 6 | | |
| F1505S-W2R3 | | | 5 | 5 | 50 | | |
| F1509S-W2R3 | | | 9 | 2 | 28 | | |
| F1512S-W2R3 | | | 12 | 2 | 21 | | |
| F1515S-W2R3 | | | 15 | 1 | 17 | | |
| F1524S-W2R3 | | | 24 | 1 | 10 | | |
| E2405S-W2R3 | 24 | 21.6-26.4 | ±5 | 2 | 25 | | |
| E2409S-W2R3 | | | ±9 | 1 | 14 | | |
| E2412S-W2R3 | | | ±12 | 1 | 10 | | |
| E2415S-W2R3 | | | ±15 | 1 | 8 | 70 | 100 |
| E2424S-W2R3 | | | ±24 | 1 | 6 | | |
| F2403S-W2R3 | | | 3.3 | 7 | 76 | | |
| F2405S-W2R3 | | | 5 | 5 | 50 | | |
| F2407S-W2R3 | | | 7.2 | 3 | 35 | | |
| F2409S-W2R3 | | | 9 | 2 | 28 | | |
| F2412S-W2R3 | | | 12 | 2 | 21 | | |
| F2415S-W2R3 | | | 15 | 1 | 17 | | |
| F2424S-W2R3 | | | 24 | 1 | 10 | | |

**customized accepted ,pls contact sales for details**

## Input Specifications

| | | |
|---|---|---|
| Input Filter | Capacitive Filter | |
| Ctrl | NONE | |
| | NONE | |
| Hot Plug | Unavailable | |

## Output Specifications

| Item | | Min | Typ | Max | Test Conditions |
|---|---|---|---|---|---|
| Voltage Accuracy | | -5% | 2.5% | 10% | Input voltage range and load |
| Line Regulation | | - | - | ±1.2% | Input voltage from low to high voltage, full load |
| Load Regulation | 3.3V,±3.3Vout | - | - | 15% | 10% to 100% full load |

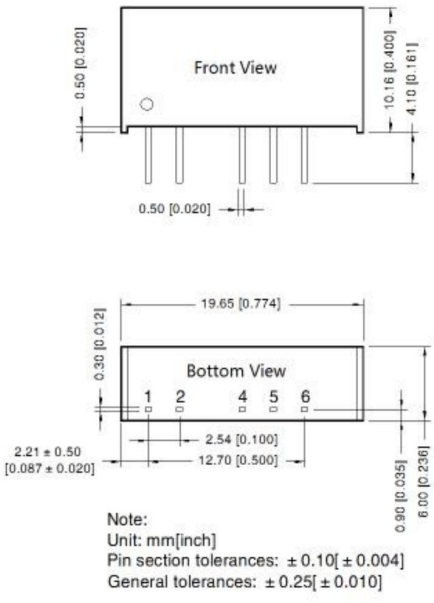
| | | | | | |
|---|---|---|---|---|---|
| | 5V,±5Vout | - | - | 10% | |
| | 9V,±9Vout | - | - | 8% | |
| | 12V,±12Vout | - | - | 6% | |
| | 15V,±15Vout | - | - | 6% | |
| | 24V,±24Vout | - | - | 5% | |
| Ripple&Noise | | - | 50mVp-p | 75mVp-p | 20MHz Bandwidth, full load |

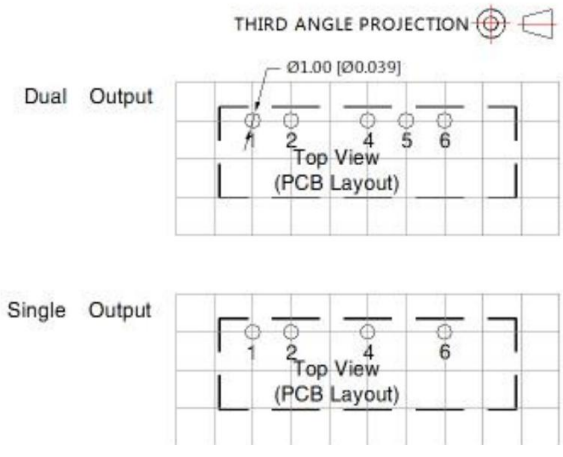
## Gerneral Specifications

| | | |
|---|---|---|
| Switching Frequency | 250KHz(Typ) | 100% full load, nominal input voltage |
| Short-Circuit Protection | Continuous, self-recovery | |
| Case Temperature Rise | 25℃（Typ） | |
| Temperature Coefficient | 0.02%/℃ | 100% full load |
| Pin Soldering Resistance Temperature | 300℃ | Soldering spot is 1.5mm away from case for 10 seconds |
| Isolation（Input-Output） | 3KVDC | Input-output electric strength test for 1 minute with a leakage current |
| Insulation Resistance（Input-Output） | 1000MΩ | Input-output resistance 500Vdc |
| Operating Temperature | -40～+105℃ | |
| Storage Temperature | -55～+125℃ | |
| Storage Humidity | 95%RH | Non-condensing |
| Cooling Method | Free air convection | |
| Case Material | Black plastic; flame-retardant and heat-resistant (UL94 V-0) | |
| Weight | 1.9g（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

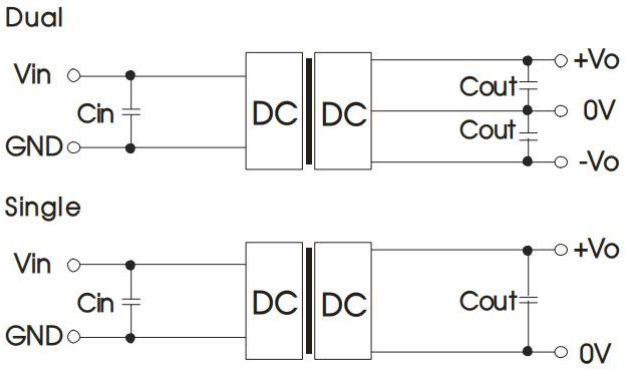


## Pin-out

| Pin | Singe | Dual | |
|---|---|---|---|
| 1 | Vin | Vin | |
| 2 | GND | GND | |
| 4 | 0V | -Vo | |
| 5 | No Pin | 0V | |
| 6 | +Vo | +Vo | |

## Recommended Circuit




| Vin | Cin | Single Vout | Cout | Dual Vout | Cout |
|---|---|---|---|---|---|
| 3.3VDC | 10uF/16VDC | 3.3/5VDC | 10uF/16V | ±3.3/±5VDC | 10uF/16V |
| | | 9/12VDC | 2.2uF/25V | ±9/±12VDC | 2.2uF/25V |
| | | 15/24VDC | 1uF/50V | ±15/±24VDC | 1uF/50V |
| 5VDC | 4.7uF/16VDC | 3.3/5VDC | 10uF/16V | ±3.3/±5VDC | 4.7uF/16V |
| 12VDC | 2.2uF/25VDC | 7.2/9VDC | 2.2uF/16V | ±9VDC | 1uF/16V |
| 15VDC | 2.2uF/25VDC | 12VDC | 2.2uF/25VDC | ±12VDC | 1uF/25V |
| 24VDC | 1uF/50V | 15VDC | 1uF/25VDC | ±15VDC | 0.47uF/25V |
| - | - | 24VDC | 1uF/50V | ±24VDC | 0.47uF/50V |

## 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.