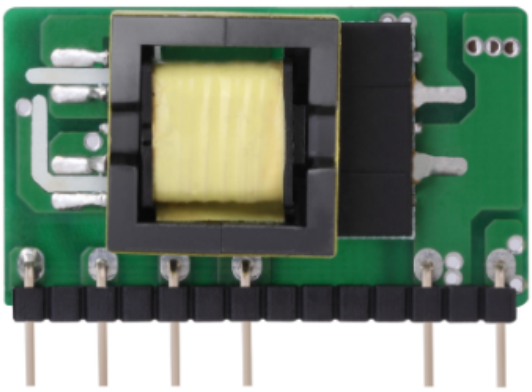
# AC-DC Switching Power Supply

## 3W SFA03 Series



RoHS

## Key features

- Universal input:85-264 Vac, 50/60 Hz
- Low ripple and noise
- Low power on standby≤30mW
- Over-temperature and Over-voltage protection
- High efficiency, high density, ultra small
- Industrial product design
- 100% test and work
- 3 years product warranty
- Support AC and DC input

SFA03 series --- a super small size switching power supply offered by Zhongyiguang. The output power of this series module power supply is 3W, with extremely low no-load loss ( < 0.6W), low leakage current,which is only 0.1mA, small size (35*21*13mm) and isolated pressure up to 3kv,etc. The product is safe and reliable, which has a good EMC. EMC and safety specifications meet the IEC/EN61000-4、CISPR22/EN55022、UL60950/EN60950/EN60601 and other related standards. This series of products are widely used in smart home, high-end decorative lighting, medical, industrial, office and civil industries, such as applied to a relatively harsh environment electromagnetic compatibility must refer to the application circuit.

## Electrical specifications

| Model | Input voltage | Output Power(W) | Output voltage(V) | Output current(A) | Ripple(mv) | Efficiency (%) |
|---|---|---|---|---|---|---|
| SFA03-S03 | 85-264Vac | 1.98 | 3.3 | 0.6 | 50 | 63 |
| SFA03-S05 | 85-264Vac | 3 | 5.0 | 0.6 | 50 | 68 |
| SFA03-S09 | 85-264Vac | 3 | 9.0 | 0.333 | 50 | 72 |
| SFA03-S12 | 85-264Vac | 3 | 12 | 0.25 | 50 | 74 |
| SFA03-S15 | 85-264Vac | 3 | 15 | 0.2 | 50 | 76 |
| SFA03-S24 | 85-264Vac | 3 | 24 | 0.125 | 50 | 80 |

## General features

| | | |
|---|---|---|
| Output | Output voltage accuracy | ±5.0% |
| | Source effect | ±1.5% |
| | Load effect | ±2.5% |
| | Starting time (TYP) | 100ms/230VAC 200ms/115VAC at full load |
| | Output hold time (TYP) | 40ms/230VAC 15ms/115VAC at full load |
| Input | Input voltage range | 85-264Vac (70-400Vdc) |
| | Input frequency range | 47 ~ 440Hz |
| | Input current (TYP) | 120mA / 115VAC 60m A / 230VAC |
| | Inrush current(TYP) | Inrush current 13A / 115 VAC 23A / 230 VAC |
| | Recommended values for External Fuses | 10Ω/2W |
| | Leakage current (TYP) | < 0.1mA at 265VAC/50Hz |
| Protection | Overload and short circuit protection, automatic recovery after troubleshooting | |
| Work | Operating Temperature | —40 ~ +70 ℃ According to the output load derating) |

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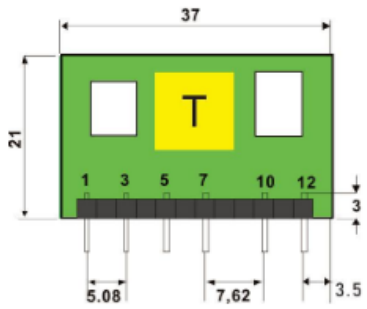
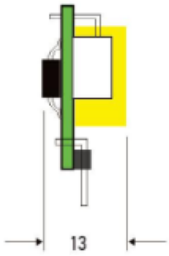
| | | |
|---|---|---|
| environment | Humidity | 85% .RH max |
| | Storage Temperature | –40 ~ +85℃ |
| | Temperature coefficient | ±0.15%/ ℃ |
| | Vibration coefficient | 10~500Hz,2G10min./1cycle, 60min.each along X,Y,Z axes |
| Safety and EMC (Note:3) | Safety Standard | EN60950,EN60601,UL60950 |
| | I/O-Isolation voltage | 3000Vac (PRIMRAY-SECOND), 60S |
| | Isolation resistance | I/P-O/P>100M Ohms/500VDC 25℃ 70% RH |
| | EMI / RFI conducted | CISPR22 /EN55022,CLASSA (The typical application circuit is shown in figure 1) |
| | ESD | IEC/EN61000-4-2 ±4KV |
| | RF | IEC/EN61000-4-3 10V/m |
| | EFT | IEC/EN61000-4-4 ±2KV (The typical application circuit is shown in figure 1) |
| | SURGE | IEC/EN61000-4-5 ±1KV/±2KV |
| Others | MTBF | >3000,000hours @ 25℃ |
| | Dimension | 35*21*13mm (L*W*H) |
| Notes | 1. The model is Open Type, so in order to meet the requirement of safety regulations, the distance between PRIMARY and SCECOND ≥6.4mm. | |
| | 2. Unless otherwise indicated of the above data,Our products are tested in the condition of TA=25℃,humidity<75%,nominal voltage input and rated load output. | |
| | 3. In order to improve the conversion efficiency of light load, when the load < 30% of rated load, the model may induce faint audio noises and the model can work well. | |
| | 4. After mounted the model need to be glued. | |

## Dimension

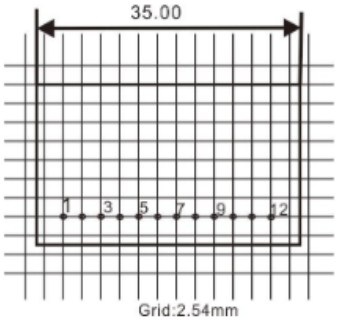
Front view




Side view




| Pin definition | |
|---|---|
| 1 | AC |
| 3 | AC |
| 5 | +V(cap) |
| 7 | -V(cap) |
| 10 | -Vo |
| 12 | +Vo |




## Block diagram