

典型性能 Features

- ◆ 3 瓦功率输出 (3 Watts of Output Power)
- ◆ 单 双 叁路输出 (Singles Dual Triple Outputs)
- ◆ 宽电压输入 (Wide Range Input)
- ◆ 长期短路保护, 自恢复 (Short Circuit Protection ,Automatic Recovery)
- ◆ 小型化封装 (Small Package)
- ◆ 高隔离电压 (Small Package)



电气特性 Electrical Specifications

| 输入特性 Input | Min | Type | Max | Notes |
|----------------------------------|---|----------|------------------------|---|
| 输入电压范围 Input Voltage Range | 165Vac | 220Vac | 265Vac | |
| | 85Vac | 220Vac | 265Vac | |
| 输入频率 Hz Input Frequency | 45Hz | 50/60Hz | 65Hz | |
| 输出特性 Output | Min | Type | Max | Notes |
| 输出电压精度 Set point Accuracy | | | ±1% | Vo1 |
| | | | ±4% | Vo2 |
| | | | ±4% | Vo3 |
| 负载效应 Load Regulation | | | ±0.5% | Vo1 |
| | | | ±4% | Vo2 |
| | | | ±4% | Vo3 |
| 源效应 Line Regulation | | | ±0.2% | Vo1 |
| | | | ±1.5% | Vo2 |
| | | | ±1.5% | Vo3 |
| 纹波噪声(注 1) Ripple and Noise | | | 50mV 100mV 200mV | Vo≤5V Other Vo≥36V |
| 动态响应 Dynamic Response | 4%Vo Pk deviation 400μS settling time | | | 50~75% Load 50~25% Load |
| 温度系数 Temperature Regulation | | ±0.2%/°C | | |
| 短路保护 Short-Circuit Protection | 长期短路自恢复 Continuous, Automatic Recovery | | | |
| 综合特性 General | Min | Type | Max | Notes |
| 隔离电压(注 2) Isolation Voltage | | | 3000Vac | 输入与输出 Input-Output |
| | | | 1500Vac | 输入与壳 Input-Case |
| | | | 500Vac | 输出与壳 Output-Case |
| | | | 1500Vac | 输入与输出 金属壳封装 Input-Output Metal Case |
| 开关频率 Switching Frequency | 50KHz | | 150KHz | |

| | | | | | |
|-------------------------------------|--|------|-----------------------|-------|-----------------------|
| 平均故障间隔时间 MTBF | | | 3×10 ⁵ Hrs | | Mil HDBK 217F Tc=25℃ |
| 工作壳温 Case Temperature | 工业级 | -25℃ | | +85℃ | |
| | AD、AG 级 | -40℃ | | +90℃ | |
| | AH2 | -55℃ | | +100℃ | |
| 储存温度 Storage Temperature | | -55℃ | | +105℃ | |
| 相对湿度 Relative Humidity | | 10% | | 90% | |
| 管脚焊接温度 Pin Solder Temperature | | | | 250℃ | Wave Solder <10S |
| 手工焊接时间 Hand Soldering Time | | | | 5S | Iron Temperature 425℃ |
| 传导 Conducted Emission | GB9254/CISPR22/EN55022 Class B (推荐电路见图) | | | | |
| 静电放电 Electrostatic Discharge | GB17626/EN61000-4-2 Contact ±4KV | | | | |
| 浪涌抗扰度 Surge Immunity | GB17626/EN61000-4-5 ±2KV (推荐电路见图) perf. Criteria B | | | | |
| 脉冲群抗扰度 Electrical Fast Transient | GB17626/EN61000-4-4 ±2KV (推荐电路见图) perf. Criteria B | | | | |

注 1: 纹波噪声采用 20MHz 带宽、平行线法测试;

注 2: 交流电压测试漏电流为 5mA, 直流电压测试漏电流为 0.5mA;

注 3: 若符合相关行业 EMI 标准, 需增加外围推荐电路或者滤波器;

产品型号列表 Product Model List

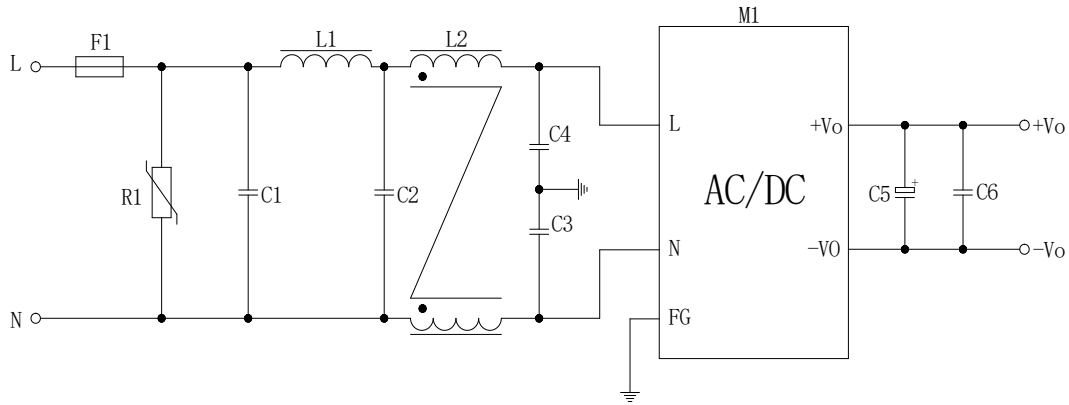
| 型号 Models | 输入电压范围 (Vac) Input Voltage Range | 输出电压 (Vdc) Output Voltage | 输出电流 (A) Output current | 纹波噪声 (mv) Ripple and noise | 典型效率 Efficiency | 容性负载 (μF) Max.Capacitor Load |
|--------------|---|------------------------------------|----------------------------------|-------------------------------------|--------------------|------------------------------------|
| WAN3S3V3 | 165~265Vac | 3.3 | 0.75 | 50 | 70% | 4700 |
| WAN3S5 | 165~265Vac | 5.05 | 0.6 | 50 | 74% | 4700 |
| WAN3S9 | 165~265Vac | 9 | 0.33 | 100 | 75% | 4700 |
| WAN3S12 | 165~265Vac | 12 | 0.25 | 100 | 77% | 1000 |
| WAN3S15 | 165~265Vac | 15 | 0.2 | 100 | 78% | 1000 |
| WAN3S18 | 165~265Vac | 18 | 0.17 | 100 | 78% | 1000 |
| WAN3S24 | 165~265Vac | 24 | 0.13 | 100 | 80% | 1000 |
| WAN3S28 | 165~265Vac | 28 | 0.11 | 100 | 80% | 1000 |
| WAN3S36 | 165~265Vac | 36 | 0.08 | 100 | 80% | 1000 |
| WAN3S48 | 165~265Vac | 48 | 0.06 | 200 | 82% | 220 |

| | | | | | | |
|------------|------------|-------------|-------------|---------|-----|-----------|
| WAN3D5 | 165~265Vac | +5.05/-5.05 | +0.3/-0.3 | 50/50 | 74% | 2200/2200 |
| WAN3D9 | 165~265Vac | +9/-9 | +0.17/-0.17 | 50/50 | 75% | 2200/2200 |
| WAN3D12 | 165~265Vac | +12/-12 | +0.13/-0.13 | 100/100 | 77% | 1000/1000 |
| WAN3D15 | 165~265Vac | +15/-15 | +0.1/-0.1 | 100/100 | 78% | 1000/1000 |
| WAN3D18 | 165~265Vac | +18/-18 | +0.08/-0.08 | 100/100 | 78% | 1000/1000 |
| WAN3D24 | 165~265Vac | +24/-24 | +0.06/-0.06 | 100/100 | 80% | 470/470 |
| WAN3D28 | 165~265Vac | +28/-28 | +0.05/-0.05 | 100/100 | 80% | 470/470 |
| WAN3D5-5I | 165~265Vac | 5/5 | 0.5/0.1 | 50/50 | 74% | 2200/2200 |
| WAN3D5-12I | 165~265Vac | 5/12 | 0.36/0.1 | 50/100 | 75% | 2200/470 |
| WAN3D5-15I | 165~265Vac | 5/15 | 0.3/0.1 | 50/100 | 76% | 2200/470 |
| WAN3D5-24I | 165~265Vac | 5/24 | 0.4/0.04 | 50/100 | 77% | 2200/220 |
| WAW3S3V3 | 85~265Vac | 3.3 | 0.75 | 50 | 70% | 4700 |
| WAW3S5 | 85~265Vac | 5.05 | 0.6 | 50 | 74% | 4700 |
| WAW3S9 | 85~265Vac | 9 | 0.33 | 100 | 75% | 4700 |
| WAW3S12 | 85~265Vac | 12 | 0.25 | 100 | 77% | 1000 |
| WAW3S15 | 85~265Vac | 15 | 0.2 | 100 | 78% | 1000 |
| WAW3S18 | 85~265Vac | 18 | 0.17 | 100 | 78% | 1000 |
| WAW3S24 | 85~265Vac | 24 | 0.13 | 100 | 80% | 1000 |
| WAW3S28 | 85~265Vac | 28 | 0.11 | 100 | 80% | 1000 |
| WAW3S36 | 85~265Vac | 36 | 0.08 | 100 | 80% | 1000 |
| WAW3S48 | 85~265Vac | 48 | 0.06 | 200 | 82% | 220 |
| WAW3D5 | 85~265Vac | +5.05/-5.05 | +0.3/-0.3 | 50/50 | 74% | 2200/2200 |
| WAW3D9 | 85~265Vac | +9/-9 | +0.17/-0.17 | 50/50 | 75% | 2200/2200 |
| WAW3D12 | 85~265Vac | +12/-12 | +0.13/-0.13 | 100/100 | 77% | 1000/1000 |
| WAW3D15 | 85~265Vac | +15/-15 | +0.1/-0.1 | 100/100 | 78% | 1000/1000 |
| WAW3D18 | 85~265Vac | +18/-18 | +0.08/-0.08 | 100/100 | 78% | 1000/1000 |
| WAW3D24 | 85~265Vac | +24/-24 | +0.06/-0.06 | 100/100 | 80% | 470/470 |
| WAW3D28 | 85~265Vac | +28/-28 | +0.05/-0.05 | 100/100 | 80% | 470/470 |
| WAW3D5-5I | 85~265Vac | 5/5 | 0.5/0.1 | 50/50 | 74% | 2200/2200 |
| WAW3D5-12I | 85~265Vac | 5/12 | 0.36/0.1 | 50/100 | 75% | 2200/470 |

| | | | | | | |
|------------|-----------|------|----------|--------|-----|----------|
| WAW3D5-15I | 85~265Vac | 5/15 | 0.3/0.1 | 50/100 | 76% | 2200/470 |
| WAW3D5-24I | 85~265Vac | 5/24 | 0.4/0.04 | 50/100 | 77% | 2200/220 |

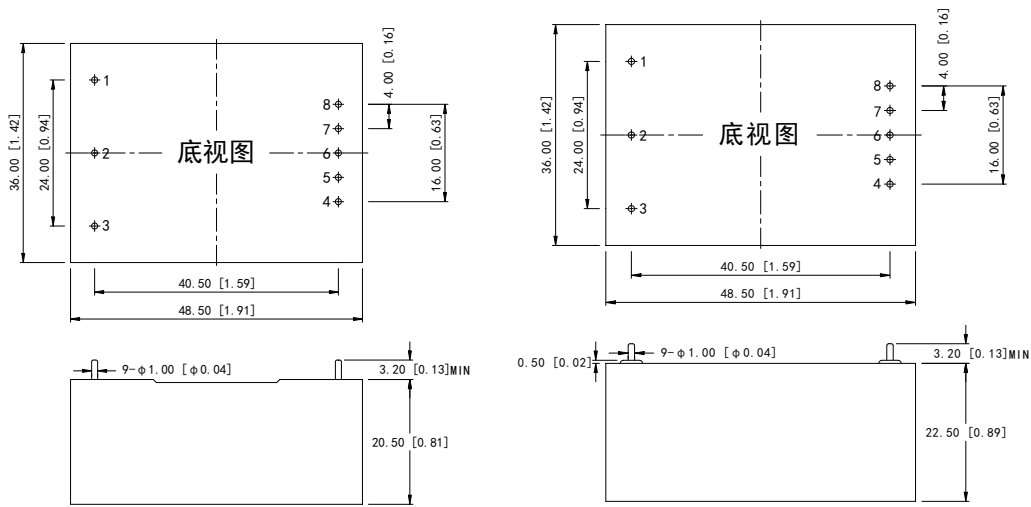
注 5: 未列出型号, 可联系销售定制;

电磁兼容应用 (EMC)



| 型号 | 输出电压 5V | 输出电压 9V/12V/15V | 输出电压 18V/24V |
|-------------|---------------------|-----------------|-----------------|
| F1(保险丝) | 3.15A 慢熔 | | |
| R1(压敏电阻) | 471KD14 | | |
| C1/C2(X 电容) | 0.22 μ F/275Vac | | |
| C3/C4(Y 电容) | 2.2nF/250Vac | | |
| L1(差模电感) | 4.7 μ H/2A | | |
| L2(共模电感) | 10mH | | |
| C5(电解电容) | 470 μ F/16V | 220 μ F/25V | 100 μ F/35V |
| C6(陶瓷电容) | 1 μ F/50V | | |

机械图及管脚说明 (Mechanical Chart、Pins) (Unit: mm/ inch)



塑料壳尺寸

金属壳尺寸

1) 单路输出电源管脚定义 (如 WAN3S12) :

| 项目 | 输入端 | | | 输出端 | | | | |
|----|-----------------|----|----|-----|------|----|----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 管脚 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 定义 | L | N | FG | -Vo | NP | NP | NP | +Vo |
| 说明 | 火线 | 零线 | 地线 | 输出负 | 无此管脚 | | | 输出正 |
| 备注 | 不区分零火线, 建议外接保险丝 | | | | | | | |

2) 双路对称输出电源管脚定义(如 WAN3D15):

| 项目 | 输入端 | | | 输出端 | | | | |
|----|-----------------|----|----|-------|------|-------|------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 管脚 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 定义 | L | N | FG | -Vo2 | NP | COM | NP | +Vo1 |
| 说明 | 火线 | 零线 | 地线 | 二路输出负 | 无此管脚 | 输出公共地 | 无此管脚 | 一路输出正 |
| 备注 | 不区分零火线, 建议外接保险丝 | | | | | | | |

3) 双路非均载输出电源管脚定义(如 WAN3D5-5I):

| 项目 | 输入端 | | | 输出端 | | | | |
|----|-----------------|----|----|-------|-------|------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 管脚 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 定义 | L | N | FG | -Vo1 | +Vo1 | NP | -Vo2 | +Vo2 |
| 说明 | 火线 | 零线 | 地线 | 一路输出负 | 一路输出正 | 无此管脚 | 二路输出负 | 二路输出正 |
| 备注 | 不区分零火线, 建议外接保险丝 | | | | | | | |

注: 安装定位尺寸公差按 GB/T1804-2000 F 级标准、外型尺寸公差按 GB/T1804-2000 C 级标准。