

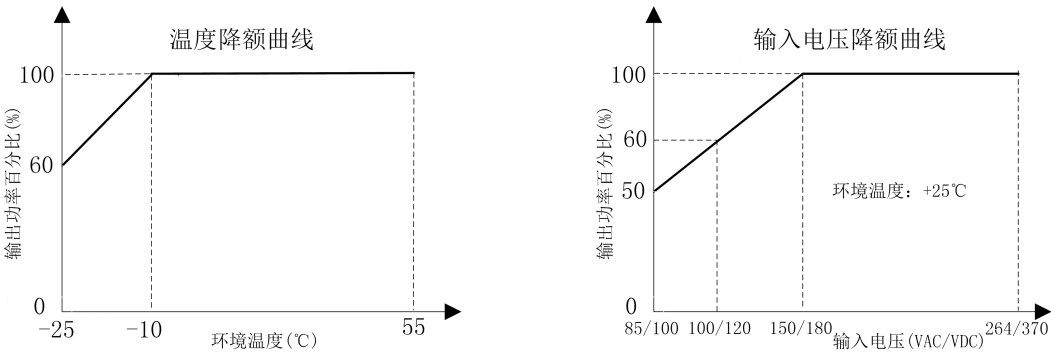
| 广州能达电源                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NH(L) 05-T2SXX                 | 5W 超小体积     |      |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 产品规格书                          | AC/DC 电源模块  |      |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| <div>● 主要特点</div> <div>■ 宽输入电压：85-264VAC 或 100-370VDC</div> <div>■ 单路稳压输出</div> <div>■ 输出过流保护，输出短路保护</div> <div>■ 输入与输出隔离</div> <div>■ 单列直插，超小体积</div> <div>■ 产品质保两年</div> <div>● 产品综述</div> <p>NH(L) 05-T2SXX 为最大功率 5W，兼容交直流输入的 AC/DC 电源模块，体积小，采用 PWM 高频变换技术，具有输入电压范围宽、安全隔离、可靠性好等优点，广泛应用于智能家居、仪器仪表等领域。</p> <div>● 选型表</div> <table><tr><th>型号</th><th>产品尺寸</th><th>输出电压和电流</th><th>典型效率</th></tr><tr><td>NH03-T2S03</td><td rowspan="5">26.0mm×13.5mm×24.0mm<br/>(立式)</td><td>3.3V/1000mA</td><td>65%</td></tr><tr><td>NH05-T2S05</td><td>5V/1000mA</td><td>68%</td></tr><tr><td>NH05-T2S12</td><td>12V/416mA</td><td>71%</td></tr><tr><td>NH05-T2S15</td><td>15V/333mA</td><td>72%</td></tr><tr><td>NH05-T2S24</td><td>24V/208mA</td><td>75%</td></tr><tr><td>NL03-T2S03</td><td rowspan="5">26.0mm×24.0mm×13.5mm<br/>(卧式)</td><td>3.3V/1000mA</td><td>65%</td></tr><tr><td>NL05-T2S05</td><td>5V/1000mA</td><td>68%</td></tr><tr><td>NL05-T2S12</td><td>12V/416mA</td><td>71%</td></tr><tr><td>NL05-T2S15</td><td>15V/333mA</td><td>72%</td></tr><tr><td>NL05-T2S24</td><td>24V/208mA</td><td>75%</td></tr></table> <div>● 输入特性</div> <table><tr><th>项目</th><th>工作条件</th><th>最小值</th><th>典型值</th><th>最大值</th><th>单位</th></tr><tr><td rowspan="2">输入电压范围</td><td>交流输入</td><td>85</td><td>—</td><td>264</td><td>VAC</td></tr><tr><td>直流输入</td><td>100</td><td>—</td><td>370</td><td>VDC</td></tr><tr><td>输入电压频率</td><td></td><td>47</td><td>—</td><td>63</td><td>Hz</td></tr><tr><td rowspan="2">输入电流</td><td>115VAC</td><td>—</td><td>—</td><td>150</td><td rowspan="2">mA</td></tr><tr><td>230VAC</td><td>—</td><td>—</td><td>75</td></tr></table> <div>● 输出特性</div> <table><tr><th>项目</th><th>工作条件</th><th>最小值</th><th>典型值</th><th>最大值</th><th>单位</th></tr><tr><td>输出电压精度</td><td></td><td>—</td><td>±3</td><td>—</td><td rowspan="3">%</td></tr><tr><td>线性调整率</td><td></td><td>—</td><td>±2</td><td>—</td></tr><tr><td>负载调整率</td><td>10%-100%负载</td><td>—</td><td>±2</td><td>—</td></tr><tr><td>输出纹波噪声<br/>(峰-峰值)</td><td>输出部分参考典型应用电路, 20MHz 带宽, 平行线靠测法</td><td>—</td><td>100</td><td>—</td><td>mV</td></tr><tr><td>输出短路保护</td><td></td><td colspan="4">可长期短路，自恢复</td></tr></table> |                                |             |      |     |     | 型号 | 产品尺寸 | 输出电压和电流 | 典型效率 | NH03-T2S03 | 26.0mm×13.5mm×24.0mm<br>(立式) | 3.3V/1000mA | 65% | NH05-T2S05 | 5V/1000mA | 68% | NH05-T2S12 | 12V/416mA | 71% | NH05-T2S15 | 15V/333mA | 72% | NH05-T2S24 | 24V/208mA | 75% | NL03-T2S03 | 26.0mm×24.0mm×13.5mm<br>(卧式) | 3.3V/1000mA | 65% | NL05-T2S05 | 5V/1000mA | 68% | NL05-T2S12 | 12V/416mA | 71% | NL05-T2S15 | 15V/333mA | 72% | NL05-T2S24 | 24V/208mA | 75% | 项目 | 工作条件 | 最小值 | 典型值 | 最大值 | 单位 | 输入电压范围 | 交流输入 | 85 | — | 264 | VAC | 直流输入 | 100 | — | 370 | VDC | 输入电压频率 |  | 47 | — | 63 | Hz | 输入电流 | 115VAC | — | — | 150 | mA | 230VAC | — | — | 75 | 项目 | 工作条件 | 最小值 | 典型值 | 最大值 | 单位 | 输出电压精度 |  | — | ±3 | — | % | 线性调整率 |  | — | ±2 | — | 负载调整率 | 10%-100%负载 | — | ±2 | — | 输出纹波噪声<br>(峰-峰值) | 输出部分参考典型应用电路, 20MHz 带宽, 平行线靠测法 | — | 100 | — | mV | 输出短路保护 |  | 可长期短路，自恢复 |  |  |  |
| 型号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 产品尺寸                           | 输出电压和电流     | 典型效率 |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NH03-T2S03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26.0mm×13.5mm×24.0mm<br>(立式)   | 3.3V/1000mA | 65%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NH05-T2S05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 5V/1000mA   | 68%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NH05-T2S12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 12V/416mA   | 71%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NH05-T2S15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 15V/333mA   | 72%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NH05-T2S24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 24V/208mA   | 75%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NL03-T2S03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 26.0mm×24.0mm×13.5mm<br>(卧式)   | 3.3V/1000mA | 65%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NL05-T2S05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 5V/1000mA   | 68%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NL05-T2S12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 12V/416mA   | 71%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NL05-T2S15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 15V/333mA   | 72%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| NL05-T2S24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                | 24V/208mA   | 75%  |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 项目                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 工作条件                           | 最小值         | 典型值  | 最大值 | 单位  |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输入电压范围                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 交流输入                           | 85          | —    | 264 | VAC |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 直流输入                           | 100         | —    | 370 | VDC |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输入电压频率                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | 47          | —    | 63  | Hz  |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输入电流                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 115VAC                         | —           | —    | 150 | mA  |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 230VAC                         | —           | —    | 75  |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 项目                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 工作条件                           | 最小值         | 典型值  | 最大值 | 单位  |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输出电压精度                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | —           | ±3   | —   | %   |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 线性调整率                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                | —           | ±2   | —   |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 负载调整率                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10%-100%负载                     | —           | ±2   | —   |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输出纹波噪声<br>(峰-峰值)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 输出部分参考典型应用电路, 20MHz 带宽, 平行线靠测法 | —           | 100  | —   | mV  |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |
| 输出短路保护                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | 可长期短路，自恢复   |      |     |     |    |      |         |      |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |            |                              |             |     |            |           |     |            |           |     |            |           |     |            |           |     |    |      |     |     |     |    |        |      |    |   |     |     |      |     |   |     |     |        |  |    |   |    |    |      |        |   |   |     |    |        |   |   |    |    |      |     |     |     |    |        |  |   |    |   |   |       |  |   |    |   |       |            |   |    |   |                  |                                |   |     |   |    |        |  |           |  |  |  |

|        |           |                      |    |   |    |
|--------|-----------|----------------------|----|---|----|
| 输出过流保护 |           | $\geq 110\%I_o$ ，自恢复 |    |   |    |
| 最小负载   |           | 0                    | -  | - | %  |
| 掉电保持时间 | 230VAC，满载 | -                    | 10 | - | ms |

● 一般特性

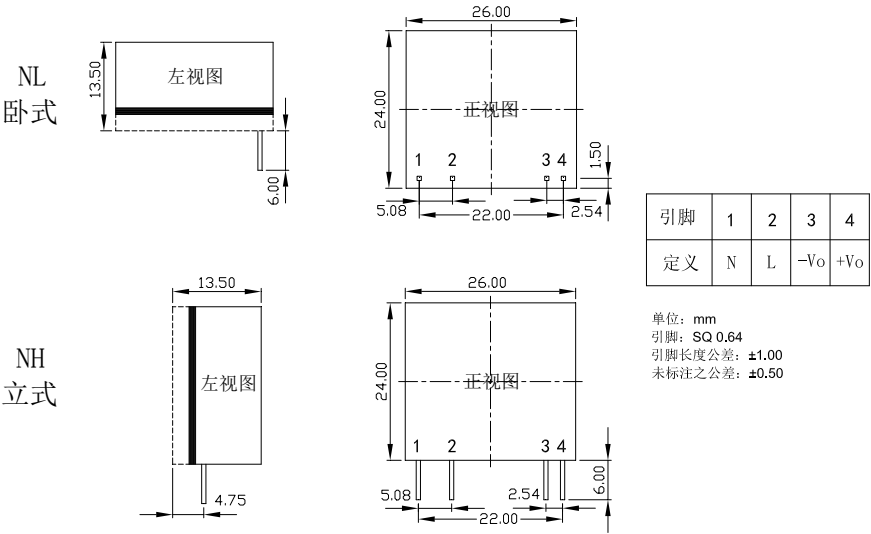
| 项目   | 工作条件                   | 最小值    | 典型值 | 最大值 | 单位    |
|------|------------------------|--------|-----|-----|-------|
| 工作温度 |                        | -25    | -   | +55 | ℃     |
| 存储温度 |                        | -40    | -   | +85 | ℃     |
| 存储湿度 |                        | -      | -   | 85  | %RH   |
| 开关频率 |                        | -      | 65  | -   | kHz   |
| 隔离耐压 |                        | 1500   | -   | -   | VAC   |
| 绝缘阻抗 | 输入-输出，500VDC，25℃，70%RH | 100    | -   | -   | MOhms |
| MTBF | MIL-HDBK-217F@25℃      | 215000 | -   | -   | 小时    |

● 降额曲线



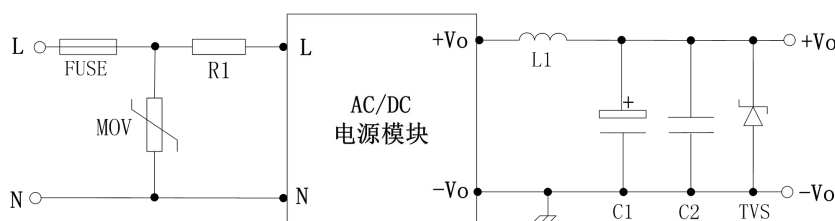
注 1：当输入电压低于 150VAC/180VDC 时，需在温度降额基础上进行电压降额；  
注 2：若产品使用环境的散热条件不佳（如密闭环境），请根据实际情况降额使用。

● 外形尺寸和管脚定义

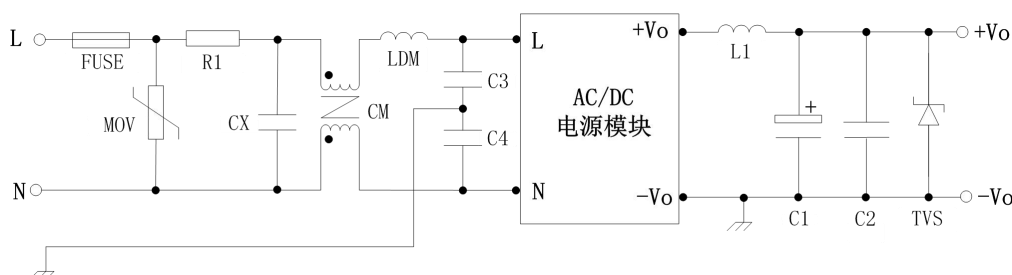


## ● 设计参考

### ①典型应用电路



### ②EMC 推荐电路



### ③推荐参数

| 输入部分 | 位置     | 参数推荐                     |
|------|--------|--------------------------|
|      | FUSE   | 保险丝, 1A/250VAC, 慢熔断, 必接  |
|      | MOV    | 压敏电阻, 14D511K            |
|      | LDM    | 差模电感, 330 $\mu$ H        |
|      | CX     | X 电容 (安规电容), 0.1 $\mu$ F |
|      | C3, C4 | Y 电容 (安规电容), 1nF         |
|      | CM     | 共模电感, 10mH~30mH          |

| 输出部分 | 输出电压 | 位置及参数推荐    |                 |               |          |
|------|------|------------|-----------------|---------------|----------|
|      |      | L1         | C1              | C2            | TVS      |
|      | 5V   | 10 $\mu$ H | 220 $\mu$ F/10V | 1 $\mu$ F/50V | SMBJ7.0A |
|      | 12V  |            | 100 $\mu$ F/25V |               | SMBJ20A  |
|      | 24V  |            | 68 $\mu$ F/50V  |               | SMBJ30A  |

备注: C1 建议采用高频低阻电解电容或固态电容; C2 建议采用陶瓷电容, 滤除高频噪声; TVS 管在模块异常时保护后级电路, 建议使用。

## ● 说明

- 说明 1: 除特殊说明外, 所有参数的测试条件为: 230VAC 输入、额定负载、25℃环境温度;  
 说明 2: 所有参数的测试方法均依据本公司企业标准;  
 说明 3: 本产品不支持热插拔, 不支持输出直接并联使用;  
 说明 4: 本文档最终解释权归广州能达电源技术有限公司所有, 如有更新, 恕不另行通知。