



### ■ 特性

- ◆ 宽电压输入，双路、独立双路输出
- ◆ 双列直插，阻燃塑壳封装
- ◆ 隔离电压2500VAC
- ◆ 符合UL1950、IEC950、CCEE安全规程
- ◆ 符合IEC1000、EN61000电磁兼容（EMC）标准

■ 产品特性 (除特殊说明，其它所有参数测试条件为：标称输入电压，全阻性标称负载和25℃室温环境)

| 输入特性 |          | 注释                |
|------|----------|-------------------|
| 输入电压 | 标称值220   | 85~265VAC<br>尾缀W  |
|      | 标称值220   | 165~265VAC<br>尾缀N |
| 开关频率 | 47-440Hz | 典型值               |

| 输出特性                      |           |     |
|---------------------------|-----------|-----|
| 输出电压精度                    | ±1%       | Vo1 |
|                           | ±3%       | Vo2 |
| 源效应<br>(标称负载 全电压输入范围)     | ±0.5%     | Vo1 |
|                           | ±1.5%     | Vo2 |
| 负载效应 (标称输入, 10%-100%标称负载) | ±0.5%     | Vo1 |
|                           | ±3%       | Vo2 |
| 输出过流保护                    | ≥120%Io   |     |
| 瞬态响应                      | ±3%/200us |     |

| 一般特性        |                                |              |
|-------------|--------------------------------|--------------|
| 隔离电压        | 2500Vac                        | 输入对输出        |
|             | 2500Vac                        | 输入对壳         |
|             | 500Vdc                         | 输出对壳         |
| 绝缘电阻        | 100MΩ                          |              |
| 短路保护        | 短路自恢复                          |              |
| 温度系数        | 0.01%/°C                       |              |
| 工作温度        | -10~+70℃                       | 商业级          |
|             | -25~+85℃                       | 工业级          |
| 储存温度        | -40~+105℃                      |              |
| 储存湿度        | <90%                           |              |
| 冷却方式        | 自然风冷                           |              |
| 平均无故障时间MTBF | 2×10 <sup>5</sup> hrs          | MIL-HDBK-217 |
| 重量          | 55g(5W),70g(10W,15W),100g(20W) | 标准产品         |

## ■ 产品选型表

| 型号            | 输出功率      | 输入电压范围VAC | 输出电压VDC    | 输出电流A    | 效率% | 输出外接电容    |            |           |
|---------------|-----------|-----------|------------|----------|-----|-----------|------------|-----------|
|               |           |           | Vo1/Vo2    | Io1/Io2  |     | C1/C2     | C3         | C4        |
| HAD5-05-W     | 5W<br>不隔离 | 85-265    | ±5         | 0.5      | 75  | 0.1uF/25V | 330uF/16V  | 330uF/16V |
| HAD5-12-W     |           |           | ±12        | 0.21     | 79  | 0.1uF/25V | 220uF/25V  | 0.1uF/25V |
| HAD5-15-W     |           |           | ±15        | 0.17     | 79  | 0.1uF/25V | 220uF/25V  | 0.1uF/25V |
| HAD5-0505-W   | 5W<br>隔离  | 85-265    | 5/5        | 0.9/0.1  | 72  | 0.1uF/25V | 470uF/16V  | 220uF/16V |
| HAD5-0512-W   |           |           | 5/12       | 0.8/0.1  | 74  | 0.1uF/25V | 470uF/16V  | 100uF/25V |
| HAD5-0515-W   |           |           | 5/15       | 0.8/0.1  | 74  | 0.1uF/25V | 470uF/16V  | 100uF/25V |
| HAD5-0524-W   |           |           | 5/24       | 0.6/0.1  | 75  | 0.1uF/50V | 470uF/16V  | 100uF/35V |
| HAD5-05H05-W  |           |           | 5/5        | 0.8/0.2  | 73  | 0.1uF/25V | 470uF/16V  | 330uF/16V |
| HAD5-05H12-W  |           |           | 5/12       | 0.6/0.2  | 73  | 0.1uF/50V | 470uF/16V  | 220uF/25V |
| HAD5-05H15-W  |           |           | 5/15       | 0.6/0.15 | 73  | 0.1uF/50V | 470uF/16V  | 220uF/25V |
| HAD5-05H24-W  |           |           | 5/24       | 0.3/0.15 | 75  | 0.1uF/50V | 330uF/16V  | 220uF/35V |
| HAD5-05V05-W  |           |           | 5/5        | 0.7/0.3  | 75  | 0.1uF/25V | 470uF/16V  | 330uF/16V |
| HAD5-05V12-W  |           |           | 5/12       | 0.3/0.3  | 77  | 0.1uF/25V | 470uF/16V  | 220uF/25V |
| HAD5-05V15-W  |           |           | 5/15       | 0.3/0.25 | 77  | 0.1uF/25V | 470uF/16V  | 220uF/25V |
| HAD10-05-W    |           |           | 10W<br>不隔离 | 85-265   | ±5  | 1.0       | 76         | 0.1uF/25V |
| HAD10-12-W    | ±12       | 0.42      |            |          | 80  | 0.1uF/25V | 330uF/25V  | 330uF/25V |
| HAD10-15-W    | ±15       | 0.33      |            |          | 81  | 0.1uF/25V | 330uF/25V  | 330uF/25V |
| HAD10-0505-W  | 10W<br>隔离 | 85-265    | 5/5        | 2/0.1    | 73  | 0.1uF/25V | 1000uF/16V | 220uF/16V |
| HAD10-0512-W  |           |           | 5/12       | 1.8/0.1  | 75  | 0.1uF/25V | 1000uF/16V | 100uF/25V |
| HAD10-0515-W  |           |           | 5/15       | 1.8/0.1  | 75  | 0.1uF/25V | 1000uF/16V | 100uF/25V |
| HAD10-0524-W  |           |           | 5/24       | 1.6/0.1  | 76  | 0.1uF/50V | 1000uF/16V | 100uF/35V |
| HAD10-05H05-W |           |           | 5/5        | 1.8/0.2  | 73  | 0.1uF/25V | 1000uF/16V | 330uF/16V |
| HAD10-05H12-W |           |           | 5/12       | 1.5/0.2  | 74  | 0.1uF/25V | 1000uF/16V | 220uF/25V |
| HAD10-05H15-W |           |           | 5/15       | 1.4/0.2  | 74  | 0.1uF/25V | 1000uF/16V | 220uF/25V |
| HAD10-05H24-W |           |           | 5/24       | 1.0/0.2  | 75  | 0.1uF/50V | 470uF/16V  | 220uF/35V |
| HAD10-05V05-W |           |           | 5/5        | 1.6/0.4  | 75  | 0.1uF/25V | 1000uF/16V | 330uF/16V |
| HAD10-05V12-W |           |           | 5/12       | 1.0/0.4  | 79  | 0.1uF/25V | 680uF/16V  | 330uF/25V |
| HAD10-05V15-W |           |           | 5/15       | 1.1/0.3  | 79  | 0.1uF/25V | 680uF/16V  | 330uF/25V |
| HAD10-05V24-W |           |           | 5/24       | 0.8/0.25 | 81  | 0.1uF/50V | 470uF/16V  | 220uF/35V |

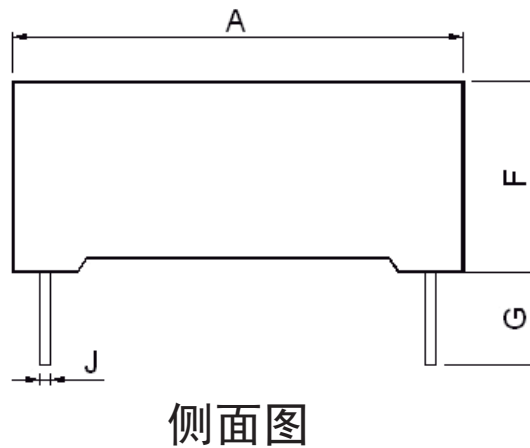
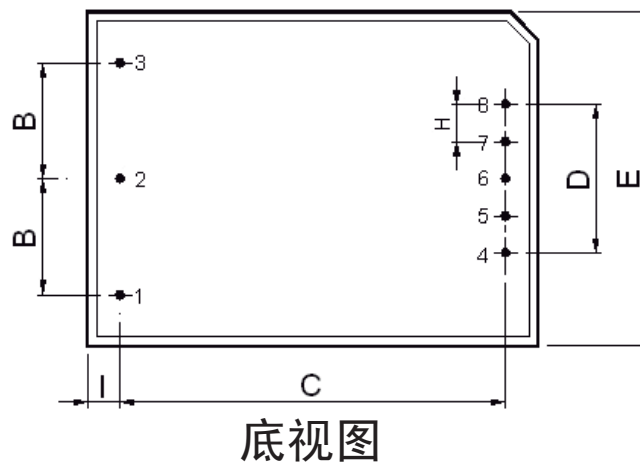
## ■ 产品选型表

| 型号            | 输出功率       | 输入电压范围VAC | 输出电压VDC   | 输出电流A    | 效率% | 输出外接电容    |            |            |
|---------------|------------|-----------|-----------|----------|-----|-----------|------------|------------|
|               |            |           | Vo1/Vo2   | Io1/Io2  |     | C1/C2     | C3         | C4         |
| HAD15-05-W    | 15W<br>不隔离 | 85-265    | ±5        | 1.5      | 76  | 0.1uF/25V | 1000uF/16V | 1000uF/16V |
| HAD15-12-W    |            |           | ±12       | 0.63     | 81  | 0.1uF/25V | 470uF/25V  | 470uF/25V  |
| HAD15-15-W    |            |           | ±15       | 0.5      | 83  | 0.1uF/25V | 470uF/25V  | 470uF/25V  |
| HAD15-0505-W  | 15W<br>隔离  | 85-265    | 5/5       | 3.0/0.1  | 75  | 0.1uF/25V | 1000uF/16V | 220uF/16V  |
| HAD15-0512-W  |            |           | 5/12      | 2.8/0.1  | 76  | 0.1uF/25V | 1000uF/16V | 100uF/25V  |
| HAD15-0515-W  |            |           | 5/15      | 2.8/0.1  | 77  | 0.1uF/25V | 1000uF/16V | 100uF/25V  |
| HAD15-0524-W  |            |           | 5/24      | 2.6/0.1  | 77  | 0.1uF/50V | 1000uF/16V | 100uF/35V  |
| HAD15-05H05-W |            |           | 5/5       | 2.8/0.2  | 75  | 0.1uF/25V | 1000uF/16V | 330uF/16V  |
| HAD15-05H12-W |            |           | 5/12      | 2.5/0.2  | 75  | 0.1uF/25V | 1000uF/16V | 220uF/25V  |
| HAD15-05H15-W |            |           | 5/15      | 2.4/0.2  | 76  | 0.1uF/25V | 1000uF/16V | 220uF/25V  |
| HAD15-05H24-W |            |           | 5/24      | 2.0/0.2  | 77  | 0.1uF/25V | 1000uF/16V | 220uF/25V  |
| HAD15-05V05-W |            |           | 15W<br>隔离 | 85-265   | 5/5 | 2.5/0.5   | 76         | 0.1uF/25V  |
| HAD15-05V12-W | 5/12       | 1.8/0.5   |           |          | 80  | 0.1uF/25V | 1000uF/16V | 330uF/25V  |
| HAD15-05V15-W | 5/15       | 1.8/0.4   |           |          | 80  | 0.1uF/25V | 1000uF/16V | 330uF/25V  |
| HAD15-05V24-W | 5/24       | 1.6/0.3   |           |          | 81  | 0.1uF/50V | 1000uF/16V | 220uF/35V  |
| HAD20-05-W    | 20W<br>不隔离 | 85-265    | ±5        | 2        | 75  | 0.1uF/25V | 2200uF/16V | 2200uF/16V |
| HAD20-12-W    |            |           | ±12       | 0.83     | 82  | 0.1uF/25V | 680uF/25V  | 680uF/25V  |
| HAD20-15-W    |            |           | ±15       | 0.67     | 83  | 0.1uF/25V | 680uF/25V  | 680uF/25V  |
| HAD20-0505-W  | 20W<br>隔离  | 85-265    | 5/5       | 4/0.1    | 73  | 0.1uF/25V | 2200uF/16V | 220uF/16V  |
| HAD20-0512-W  |            |           | 5/12      | 3.8/0.1  | 75  | 0.1uF/25V | 1000uF/16V | 100uF/25V  |
| HAD20-0515-W  |            |           | 5/15      | 3.7/0.1  | 76  | 0.1uF/25V | 1000uF/16V | 100uF/35V  |
| HAD20-0524-W  |            |           | 5/24      | 3.5/0.1  | 78  | 0.1uF/50V | 1000uF/16V | 100uF/35V  |
| HAD20-05H05-W |            |           | 5/5       | 3.8/0.2  | 73  | 0.1uF/25V | 2200uF/16V | 330uF/16V  |
| HAD20-05H12-W |            |           | 5/12      | 3.5/0.2  | 75  | 0.1uF/25V | 1000uF/16V | 220uF/25V  |
| HAD20-05H15-W |            |           | 5/15      | 3.4/0.2  | 76  | 0.1uF/25V | 1000uF/16V | 220uF/25V  |
| HAD20-05H24-W |            |           | 5/24      | 3.0/0.2  | 77  | 0.1uF/50V | 1000uF/16V | 220uF/35V  |
| HAD20-05V05-W |            |           | 5/5       | 3.0/1.0  | 73  | 0.1uF/25V | 1000uF/16V | 1000uF/16V |
| HAD20-05V12-W |            |           | 5/12      | 2.1/0.8  | 75  | 0.1uF/25V | 1000uF/16V | 470uF/25V  |
| HAD20-05V15-W |            |           | 5/15      | 2.2/0.6  | 76  | 0.1uF/25V | 100uF/16V  | 470uF/25V  |
| HAD20-05V24-W |            |           | 5/24      | 2.8/0.25 | 77  | 0.1uF/50V | 1000uF/16V | 220uF/35V  |

注：由于篇幅有限，只列出常规产品，欲咨询定制产品，请致电公司销售人员。

## ■ HAD系列外型尺寸(mm)

| 字母      | A(长) | B    | C  | D  | E(宽) | F(高) | G    | H    | I | J   |
|---------|------|------|----|----|------|------|------|------|---|-----|
| 5W      | 55   | 17.5 | 47 | 20 | 45   | 20.5 | 8min | 5    | 4 | 1.3 |
| 10W/15W | 62   | 17.5 | 47 | 20 | 45   | 20.5 | 8min | 5    | 4 | 1.3 |
| 20W     | 70   | 20   | 62 | 23 | 48   | 23.5 | 8min | 5.75 | 4 | 1.3 |



## ■ HAD系列引脚定义

| 引脚  | 1    | 2     | 3     | 4     | 5     | 6     | 7     | 8     |
|-----|------|-------|-------|-------|-------|-------|-------|-------|
| 隔离  | FG   | AC(N) | AC(L) | -Vo1  | +Vo1  | NC    | -Vo2  | +Vo2  |
| 说明  | 接外壳端 | 交流零线  | 交流火线  | 一路输出负 | 一路输出正 | 空脚    | 二路输出负 | 二路输出正 |
| 不隔离 | FG   | AC(N) | AC(L) | -Vo   | NC    | COM   | NC    | +Vo   |
| 说明  | 接外壳端 | 交流零线  | 交流火线  | 输出负   | 空脚    | 输出公共地 | 空脚    | 输出正   |