



深圳市奥伦德科技有限公司
Shenzhen Orient Technology Co., Ltd

产品规格书

Specification Sheet

品 名(P/N): 光电耦合器 Photocoupler

客户名称(Customer): _____

本厂型号(Mfg P/N): ORPC-817

日 期(Date): _____

深圳市奥伦德科技有限公司

Shenzhen Orient Technology Co.,Ltd.

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● 特点(Features):

- 1. 电流转换比(CTR: 最小. 100% 工作条件 $I_F=5mA$, $V_{CE}=5V$) (CTR: 最小. 200% 工作条件 $I_F=2mA$, $V_{CE}=5V$)
Current conversion ratio (Min 100% Working condition $I_F=5mA$, $V_{CE}=5V$) (Min 200% Working condition $I_F=2mA$, $V_{CE}=5V$)
- 2. 绝缘电压: ($V_{ISO}=5,000V_{rms}$) Insulation Voltage = 5,000Vrms,
- 3. 响应时间 (tr: TYP. 4 μs ; tf: TYP. 5 μs)工作条件 $V_{CE}=10V$, $I_C=2mA$, $R_L=100\ \Omega$)
Response Time (tr: TYP. 4 μs ; tf: TYP. 5 μs)working condition $V_{CE}=10V$, $I_C=2mA$, $R_L=100\ \Omega$)

● 说明 (Instructions)

- 1. ORPC-817 系列光耦合器的组成是: 由一个 GaAs 的发射管和一个 NPN 的晶体管组成
ORPC-817 photocoupler consist of one piece of GaAs emitter and one piece of NPN transistor
- 2. ORPC-817 的引脚中心距是 2.54mm Pin pitch of ORPC-817 is 2.54mm

● 应用范围 (Application Range)

- 1. 开关电源.Switching power supply
- 2. 电表.Ammeter
- 3. 电脑. Computer
- 4. 器具的应用, 测量机. Instrumental application, measurement machine
- 5. 贮存器, 复印机, 自动售货机. Imbursement equipments, duplicating machine, automat
- 6. 家用电器, 如风扇等. Family-use electric equipments, such as fans
- 7. 信号传输系统. Signal transforming systems

● 最大绝对额定值 (常温=25℃) Max Absolute rated Value (Normal Temperature=25℃)

| 参数 Parameter | | 符号 Symbol | 额定值 Rated Value | 单位 Unit |
|--------------------------------------|--|------------|-----------------|---------|
| 输入 Inout | 顺向电流 Forward Current | I_F | 80 | mA |
| | 反向电压 Reverse Voltage | V_R | 6 | V |
| | 功消耗率 Consume Power | P | 150 | mW |
| 输出 Output | 集极与射极电压 Collector and emitter Voltage | V_{CEO} | 80 | V |
| | 射极与集极电压 Emitter and collector Voltage | V_{ECO} | 7 | |
| | 集极电流 Collector Current | I_C | 50 | mA |
| | 消耗功率 Consume Power | P_C | 150 | mW |
| 总功率消耗 Total Consume Power | | P_{tot} | 200 | mW |
| *1 绝缘电压 Insulation Voltage | | V_{iso} | 5,000 | Vrms |
| 最大绝缘电压 (绝缘油中) Max Insulation Voltage | | V_{IOTM} | 10,000 | V |
| 存贮温度 Deposit Temperature | | T_{stg} | -55 to + 125 | |
| *2 焊锡温度 Soldering Temperature | | T_{sol} | 260 | |

*1. 交流测试, 时间 1 分钟, 湿度. =40~60% AC Test, 1 minute, humidity = 40~60%

如下是绝缘测试的方法. Insulation test method as below:

- (1) 将产品的两端短路。 Short circuit both terminals of photocoupler
- (2) 测试绝缘电压时无电流通过。 No Current when testing insulation voltage
- (3) 测试时加正弦波形电压。 Adding sine wave voltage when testing

*2. 锡焊时间为 10 秒 soldering time is 10 seconds

● 光电特性(常温=25℃) Opto-electronic Characteristics

| 参数 Parameter | | 符号 Symbol | 条件 Condition | 最小 Min | 中.Mid ium | 最 大 Max | 单位 Unit |
|--------------------------------------|--|----------------------|---|----------------------|--------------|---------|---------|
| 输入 Input | 顺向电压 Forward Current | V _F | I _F =10mA | 1.0 | --- | 1.3 | V |
| | 逆向电压 Reverse Voltage | I _R | V _R =5V | --- | --- | 5 | μA |
| | 集极电容 | C _t | V=0, f=1MHz | --- | 30 | --- | pF |
| | Collector capacitance | | | | | | |
| 输出 Output | 集极至射极电流 | I _{CEO} | V _{CE} =80V, I _F =0 | --- | --- | 100 | nA |
| | Collector to emitter Current | | | | | | |
| | 集极与射极衰减电压 | BV _{CEO} | I _C =0.1mA I _F =0 | 80 | --- | --- | V |
| | Collector and Emitter attenuation Voltage | | | | | | |
| 传输特性 Transforming Characteristics | 射极与集极衰减电压 | BV _{ECO} | I _E =10μA I _F =0 | 7 | --- | --- | V |
| | Emitter and Collector attenuation Voltage | | | | | | |
| | *1 电流转换比 | CTR | I _F =5mA V _{CE} =5V | 100 | --- | 600 | % |
| | Current conversion ratio | | | | | | |
| | 电流转换比 | CTR | I _F =2mA V _{CE} =5V | 200 | --- | 500 | % |
| | Current conversion ratio | | | | | | |
| | 集极与射极饱和电压 | V _{CE(sat)} | I _F =10mA I _C = 2mA | --- | --- | 0.3 | V |
| | Collector and Emitter Saturation Voltage | | | | | | |
| | 绝缘阻抗 | R _{iso} | DC500V 40~60%R.H. | 1×10 ¹² Ω | | --- | Ω |
| | Insulation Impedance | | | | | | |
| | 电容量 capacotance | C _f | V=0, f=1MHz | --- | 0.5 | --- | pF |
| | 转换频率 | f _c | V _{CE} =5V, I _C =2mA R _L =100Ω, -3dB | --- | 80 | --- | kHz |
| | Transforming Frequency | | | | | | |
| | 上升时间 Risetime | t _r | V _{CE} =10V, I _C =2mA | --- | 4 | 12 | μs |
| | 下降时间 Descend Time | t _f | R _L =100Ω | --- | 5 | 12 | μs |

ℓ 电流转换比 Current Conversion Ratio = I_C / I_F × 100%

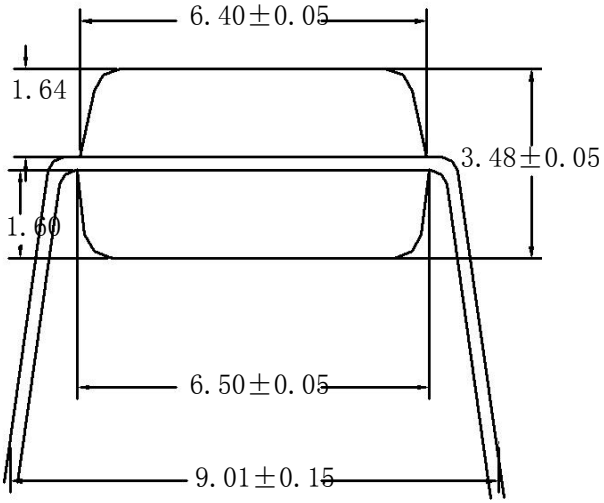
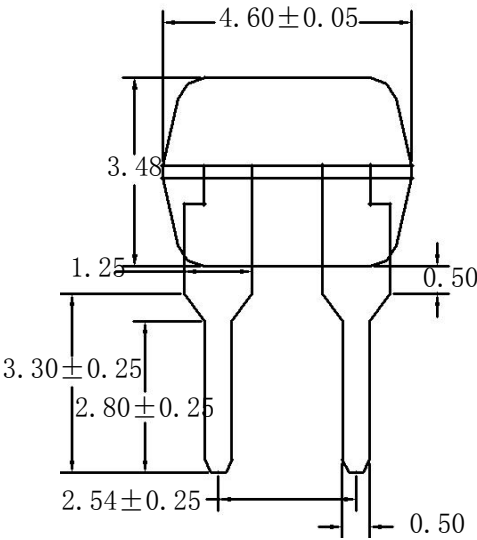
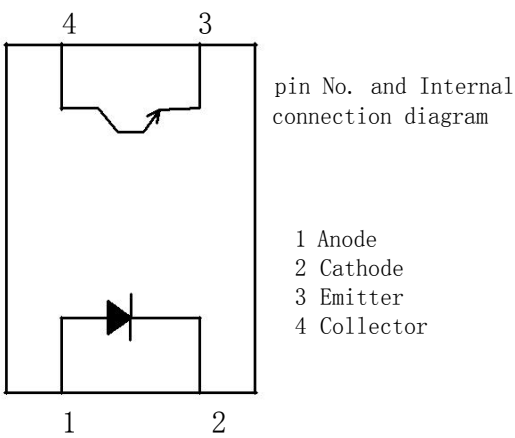
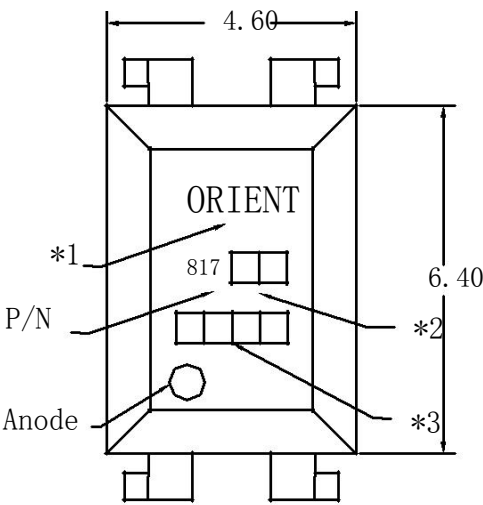
● 电流转换比的等级分类 **Grades of Current conversion ratio**

| 等级标示 Grade Sign | 最小 .Min (%) | 最大 .Max (%) |
|------------------------|--------------------|--------------------|
| ORPC-817SA | 80 | 160 |
| ORPC-817SB | 130 | 260 |
| ORPC-817SC | 200 | 400 |
| ORPC-817SD | 300 | 600 |
| ORPC-817SE | 50 | 80 |
| ORPC-817SF | 80 | 100 |
| ORPC-817SG | 100 | 120 |
| ORPC-817SH | 600 | 1000 |
| ORPC-817SI | 120 | 140 |
| ORPC-817SJ | 140 | 180 |
| ORPC-817SK | 180 | 220 |
| ORPC-817SL | 50 | 100 |
| ORPC-817SM | 220 | 260 |
| ORPC-817SN | 260 | 300 |
| ORPC-817SO | 300 | 340 |
| ORPC-817SP | 340 | 380 |
| ORPC-817SQ | 380 | 420 |
| ORPC-817SR | 420 | 440 |
| ORPC-817SS | 440 | 460 |
| ORPC-817ST | 460 | 480 |
| ORPC-817SU | 480 | 500 |
| ORPC-817SV | 500 | 520 |
| ORPC-817SW | 520 | 540 |
| ORPC-817SX | 540 | 560 |
| ORPC-817SY | 560 | 580 |
| ORPC-817SZ | 580 | 600 |

说明：工作条件: $I_F=2\text{mA}$, $V_{CE}=5\text{V}$, $T_a=25^\circ\text{C}$. Note:

Working condition: $I_F=2\text{mA}$, $V_{CE}=5\text{V}$, $T_a=25^\circ\text{C}$.

● 外形尺寸 Outer Dimension



● 注解: Note

- *1. 公司英文名. Company name
- *2. BIN 级. Bin
- *3. 生产周期. Production period

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