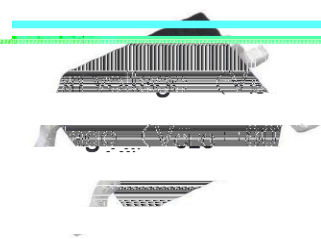


1. Features

- Current transfer ratio(CTR : MIN. 50% at $I_E = 5mA$ $V_{CE} = 5V$ $T_a=25^{\circ}C$)
- High input -output isolation voltage ($V_{ISO}=3.750V_{rms}$)

$$\beta(\text{DC}) \geq 800$$



2. Pinning Diagram

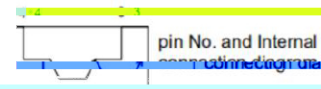
- ① Collector with (Pin) 5, PNP, 100mA
- ② Base (Pin) 1

3. Description

The OR-357 series device consists of an infrared led, photo transistor detector.

They are electrically coupled to provide amplification.

- ① It is used in (a) 257 (b) 257A



3. Applications

- ① Hybrid's that require in circuit density mounting.
- ② Trade controller's
- ③ System appliance, measuring instruments

4. Absolute Maximum Ratings: Maximum Terminal Temperature = 257°C

| | | | |
|--|-----------|---------|-------------|
| Forward Current | I_F | 700 | mA |
| Storage Temperature | T | 257 | $^{\circ}C$ |
| Reverse Voltage | V_R | 0 | V |
| Forward Power | P_F | 70 | mW |
| Collector and Emitter Junction Temperature | T_{JCE} | 80 | $^{\circ}C$ |
| Power Dissipation | P_D | 100 | mW |
| Consume Power | P_C | 150 | mW |
| Forward Voltage | V_{FE} | 200 | mV |
| Base Voltage | V_{BE} | 500 | mV |
| Wavelength | λ | 900-950 | nm |
| Wavelength | λ | 900-950 | nm |
| Wavelength | λ | 900-950 | nm |



- *1. AC Test, 1 minute, humidity = 40~60%
Insulation test method as below:
(1) Short circuit both terminals of photo coupler.
(2) No Current when testing insulation voltage.
(3) Adding sine wave voltage when testing.
- *2. soldering time is 10 seconds.

5. Opto-electronic Characteristics

| | Parameter | Symbol | Min | Typ.* | Max | Unit | Condition |
|-----------------|------------------------------|---------------|-----------------|--------------------|-----|----------|-------------------------------------|
| Input | Forward Voltage | V_F | --- | 1.2 | 1.4 | V | $I_F=20mA$ |
| | Reverse Current | I_R | --- | --- | 5 | μA | $V_R=5V$ |
| | Collector capacitance | C_t | --- | 30 | 250 | pF | $V=0, f=1KHz$ |
| Characteristics | Collector to emitter Current | I_{CEO} | --- | --- | 100 | mA | $V_{CE}=2V, V_F=0.7V, I_F=0mA$ |
| | Collector-emitter Voltage | $V_{CE(sat)}$ | 0 | --- | --- | V | $I_C=0.1mA, I_F=0mA$ |
| | Collector-emitter Voltage | V_{CE} | --- | --- | --- | V | $I_E=0.1mA, I_F=0mA$ |
| | Current Conversion Ratio | β_{DC} | --- | --- | --- | --- | $I_C=1mA, I_F=5mA$ |
| | Collector Current | I_C | --- | --- | 50 | mA | Collector Current |
| | Collector-emitter Voltage | V_{CE} | --- | --- | --- | --- | $I_C=1mA$ |
| | Insulation impedance | R_{iso} | 5×10^9 | 1×10^{11} | --- | Ω | DC500V 40~60%R.H. |
| | Floating capacitance | C | --- | --- | 1 | pF | $V=0, f=1MHz$ |
| | Turn-on time | t_r | --- | 4 | 18 | μs | $V_{CC}=2V, I_C=2mA, R_L=100\Omega$ |
| | Turn-off time | t_f | --- | 3 | 18 | μs | $R_L=100\Omega$ |

