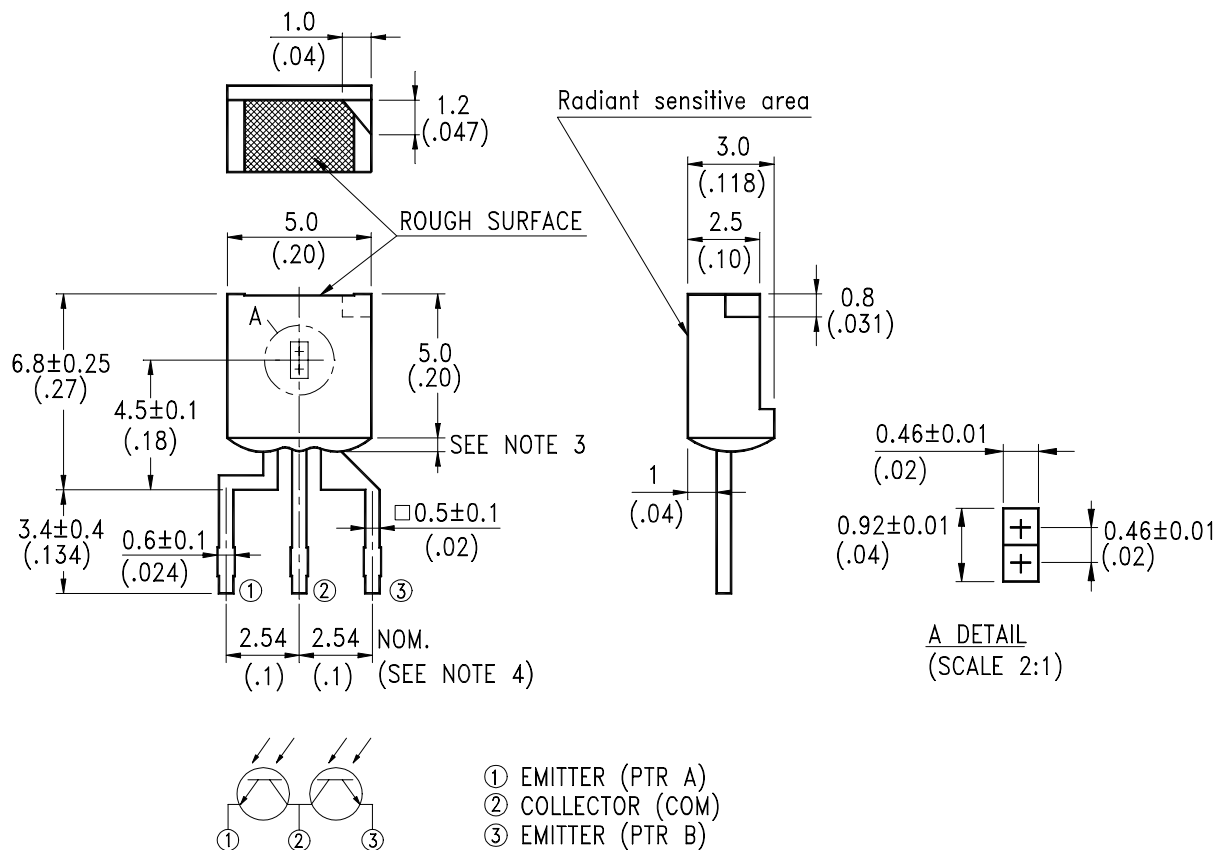


## FEATURES

- \* WIDE RANGE OF COLLECTOR CURRENT
- \* HIGH SENSITIVITY
- \* FAST SWITCHING TIME
- \* THE LTR-5579DP1 IS A SPECIAL DARK GREEN PLASTIC PACKAGE THAT CUT THE VISIBLE LIGHT FOR THE DETECTORS OF INFRARED APPLICATIONS

## PACKAGE DIMENSIONS



## NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15\text{mm}$  (0.006") unless otherwise noted.
3. Protruded resin under flange is 1.5mm (0.059") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Dice placement tolerance  $\pm 0.12\text{mm}$  (0.005").



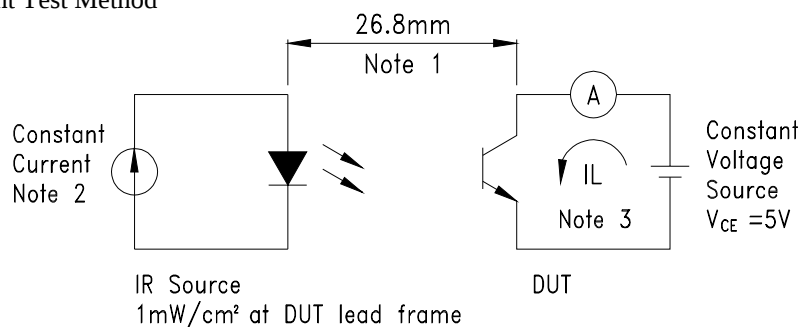
## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| PARAMETER                                              | MAXIMUM RATING      | UNIT |
|--------------------------------------------------------|---------------------|------|
| Power Dissipation                                      | 100                 | mW   |
| Collector-Emitter Voltage                              | 30                  | V    |
| Emitter-Collector Voltage                              | 5                   | V    |
| Operating Temperature Range                            | -10°C to + 50°C     |      |
| Storage Temperature Range                              | -55°C to + 100°C    |      |
| Lead Soldering Temperature<br>[1.6mm(.063") From Body] | 260°C for 5 Seconds |      |

## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

| PARAMETER                                                                                      | SYMBOL        | MIN. | TYP. | MAX. | UNIT    | TEST CONDITION                                    | BIN No. | Color Marking |
|------------------------------------------------------------------------------------------------|---------------|------|------|------|---------|---------------------------------------------------|---------|---------------|
| Collector-Emitter Breakdown Voltage                                                            | $V_{(BR)CEO}$ | 30   |      |      | V       | $I_c = 1mA$<br>$E_e = 0mW/cm^2$                   |         |               |
| Emitter-Collector Breakdown Voltage                                                            | $V_{(BR)ECO}$ | 5    |      |      | V       | $IE = 100 \mu A$<br>$E_e = 0mW/cm^2$              |         |               |
| Collector Emitter Saturation Voltage                                                           | $V_{CE(SAT)}$ |      | 0.1  | 0.4  | V       | $I_c = 50 \mu A$<br>$E_e = 1.0mW/cm^2$            |         |               |
| Rise Time                                                                                      | $T_r$         |      | 15   |      | $\mu s$ | $V_{CC} = 5V$<br>$I_c = 1mA$<br>$R_L = 1K \Omega$ |         |               |
| Fall Time                                                                                      | $T_f$         |      | 18   |      | $\mu s$ |                                                   |         |               |
| Collector Dark Current                                                                         | $I_{CEO}$     |      | 0.1  | 100  | nA      | $V_{CE} = 10V$<br>$E_e = 0mW/cm^2$                |         |               |
| On Stage Collector Current Ratio ( $I_{L1}/I_{L2}$ )                                           | R             | 0.8  | 1.0  | 1.2  |         |                                                   |         |               |
| Average On State Collector Current Range Setting of LITE-ON Production ( $I_{L1}+I_{L2}$ ) / 2 | $I_{C(ON)}$   | 100  |      | 200  | $\mu A$ | $V_{CE} = 5V$<br>$E_e = 1mW/cm^2$                 | BIN A   | Red           |
|                                                                                                |               | 200  |      | 300  |         |                                                   | BIN B   | Black         |
|                                                                                                |               | 300  |      | 400  |         |                                                   | BIN C   | Green         |
|                                                                                                |               | 400  |      | 500  |         |                                                   | BIN D   | Blue          |
| Average On State Collector Current Range Q.C Limits ( $I_{L1}+I_{L2}$ ) / 2                    | $I_{C(ON)}$   | 80   |      | 240  | $\mu A$ | $V_{CE} = 5V$<br>$E_e = 1mW/cm^2$                 | BIN A   | Red           |
|                                                                                                |               | 160  |      | 360  |         |                                                   | BIN B   | Black         |
|                                                                                                |               | 240  |      | 480  |         |                                                   | BIN C   | Green         |
|                                                                                                |               | 320  |      | 600  |         |                                                   | BIN D   | Blue          |

### On State Collector Current Test Method



- Notes: 1. IR source package face to DUT lead frame.  
 2. IR source bias level calibrated for 1mW/cm² at DUT.  
 3.  $I_L$  shown is one of two emitter currents,  $I_{L1}$  and  $I_{L2}$ .

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

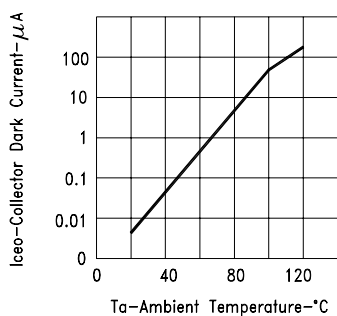


FIG.1 COLLECTOR DARK CURRENT VS. AMBIENT TEMPERATURE

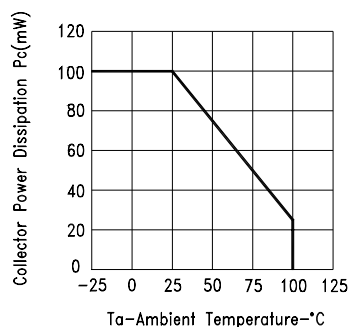


FIG.2 COLLECTOR POWER DISSIPATION VS. AMBIENT TEMPERATURE

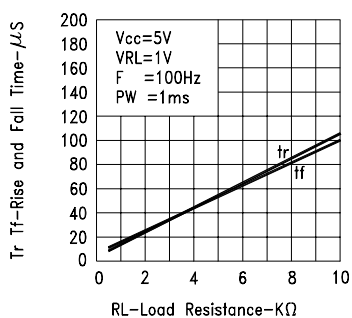


FIG.3 RISE AND FALL TIME VS. LOAD RESISTANCE

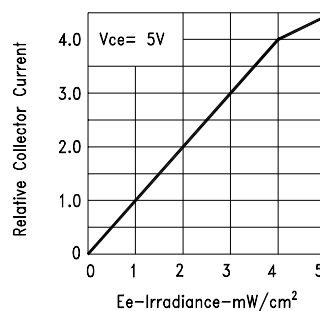


FIG.4 RELATIVE COLLECTOR CURRENT VS. IRRADIANCE

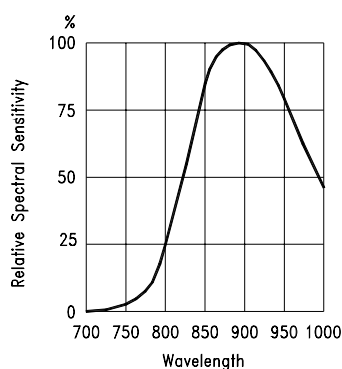


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS. WAVELENGTH