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## NTE30116 IR LED Emitter, 940nm T-1 3/4 (5mm) Package

**Description:**

The NTE30116 is an infrared LED emitter in a T-1 3/4 (5mm) round head package with flange and a tinted blue lens.

**Features:**

- Chip Material: GaAlAs
- Lens: Tinted Blue
- Peak Wavelength: 940nm
- Viewing Angle: 20°

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

|  |               |
|--|---------------|
| Continuous Forward Current, $I_F$ .....                      | 100mA         |
| Peak Forward Current (Note 1), $I_{FP}$ .....                | 1A            |
| Reverse Voltage, $V_R$ .....                                 | 5V            |
| Power Dissipation ( $T_A = +25^\circ\text{C}$ ), $P_D$ ..... | 200mW         |
| Operating Temperature Range, $T_{opr}$ .....                 | -40° to +85°C |
| Storage Temperature Range, $T_{stg}$ .....                   | -40° to +85°C |
| Lead Temperature (During Soldering, Note 2), $T_L$ .....     | +260°C        |

Note 1. IFP Conditions: Pulse Width  $\leq 100\mu\text{s}$ , Duty Cycle  $\leq 1\%$

Note 2. Soldering time  $\leq 5$  seconds.

**Electrical/Optical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Parameter          | Symbol          | Test Conditions      | Min | Typ | Max | Unit          |
|--------------------|-----------------|----------------------|-----|-----|-----|---------------|
| Radiant Intensity  | $I_E$           | $I_F = 20\text{mA}$  | 10  | -   | 20  | mW/sr         |
|                    |                 | $I_F = 100\text{mA}$ | 70  | 80  | 90  | mW/sr         |
|                    |                 | $I_F = 1\text{A}$    | -   | 200 | -   | mW/sr         |
| Peak Wavelength    | $\lambda_P$     | $I_F = 20\text{mA}$  | -   | 940 | -   | nm            |
| Spectral Bandwidth | $\Delta\lambda$ | $I_F = 20\text{mA}$  | -   | 45  | -   | nm            |
| Forward Voltage    | $V_F$           | $I_F = 20\text{mA}$  | 1.2 | -   | 1.4 | V             |
|                    |                 | $I_F = 100\text{mA}$ | 1.4 | -   | 1.8 | V             |
|                    |                 | $I_F = 1\text{A}$    | 2.6 | -   | 4.0 | V             |
| Reverse Current    | $I_R$           | $V_R = 5\text{V}$    | -   | -   | 5   | $\mu\text{A}$ |
| Viewing Angle      | 20 1/2          | $I_F = 20\text{mA}$  | -   | 20  | -   | deg           |

Note 1. IFP Conditions: Pulse Width  $\leq 100\mu\text{s}$ , Duty Cycle  $\leq 1\%$



### Instructions, Lead Forming:

1. During lead formation, the leads should be bent at a point at least 3mm away from the base of the epoxy bulb.
2. Lead forming should be done before soldering.
3. Avoid stressing the LED package during lead forming. The stress to the base may damage the LED's characteristics or it may break the LEDs.
4. Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause failure of the LEDs.
5. When mounting the LEDs onto a PCB, the PCB holes must be aligned exactly with the lead position of the LED. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

