



# KODENSHI CORP.

## Infrared Emitting Diode

### EL-1L7

#### 1. General Description:

The EL-1L7 is a GaAlAs infrared emitting diode mounted in a T1 $\frac{1}{4}$  plastic package. Specially designed GaAlAs chip emits significant infrared light and specially designed plastic lens makes the component radiates wide beam.

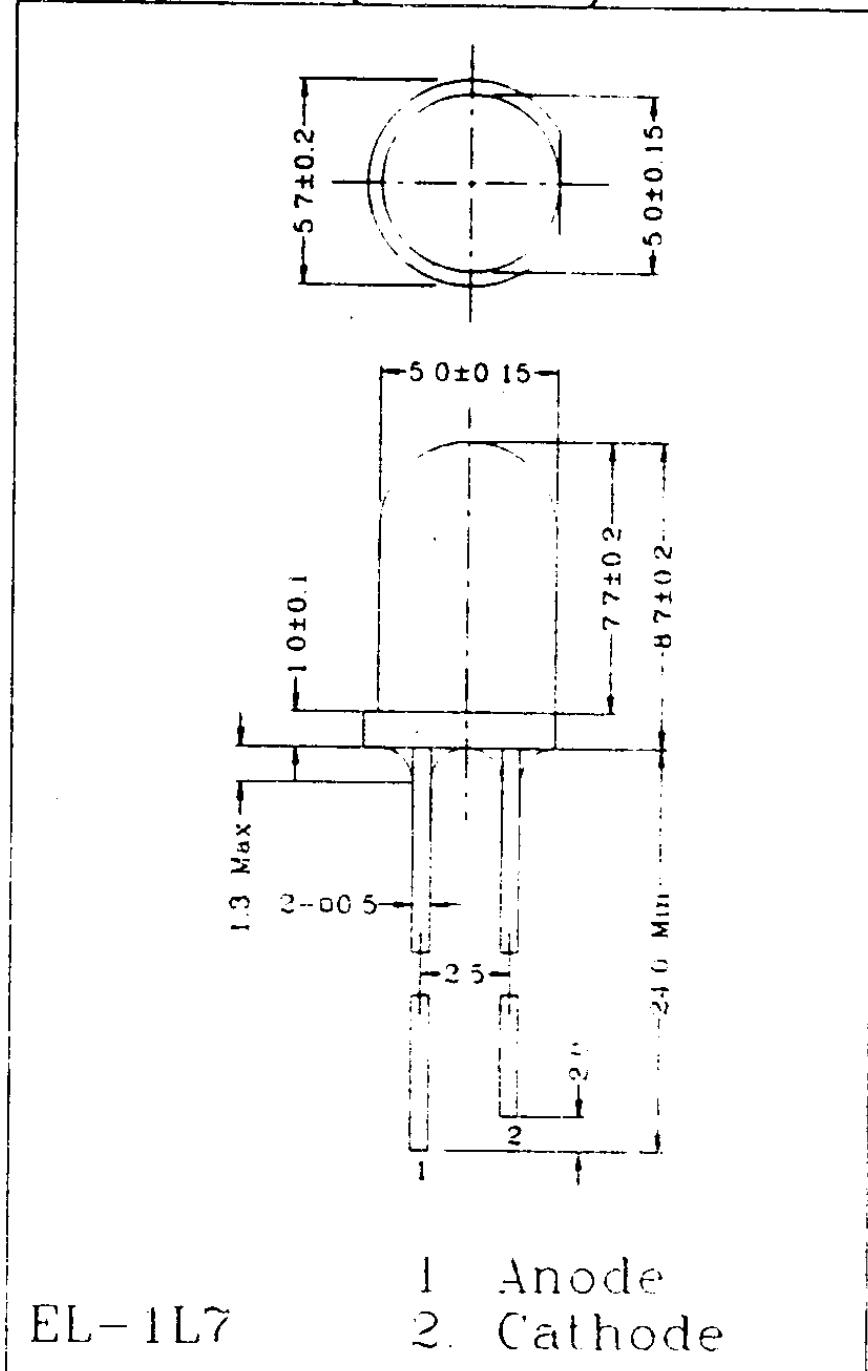
#### 2. Features

- High output power
- Suitable beam angle
- High reliability
- Capable of pulse operation

#### 3. Applications

- Optical emitters
- Optical switches
- Smoke sensors
- IR remote control
- IR sound transmission

#### Dimensions (Unit:mm)



#### 4. Absolute Maximum Ratings

(Ta=25°C)

| Parameter                | Symbol           | Ratings   | Unit |
|--------------------------|------------------|-----------|------|
| Forward Current          | I <sub>F</sub>   | 100       | mA   |
| Pulse Forward current *1 | I <sub>FP</sub>  | 1         | A    |
| Reverse Voltage          | V <sub>R</sub>   | 5         | V    |
| Power Dissipation        | P <sub>D</sub>   | 100       | mW   |
| Operating Temperature    | T <sub>opr</sub> | -30 ~ +70 | °C   |
| Storage Temperature      | T <sub>stg</sub> | -30 ~ +80 | °C   |
| Soldering Temperature *2 | T <sub>sol</sub> | 260       | °C   |

\*1 Pulse width tw ≤ 100μsec. Duty ratio T = 10msec.

\*2 At the position of 2mm from the bottom of the package within 5 seconds.

#### 5. Electro-optical Characteristics

(Ta=25°C)

| Parameter                 | Symbol         | Testing Conditions    | Min. | Typ. | Max. | Unit  |
|---------------------------|----------------|-----------------------|------|------|------|-------|
| Forward Voltage           | V <sub>F</sub> | I <sub>F</sub> =100mA |      | 1.4  | 1.7  | V     |
| Reverse Current           | I <sub>R</sub> | V <sub>R</sub> =5V    |      |      | 10   | μA    |
| Radiant Intensity         | I <sub>e</sub> | I <sub>F</sub> =100mA | 30   | 50   |      | mW/sr |
| Terminal Capacitance      | C <sub>t</sub> | f=1MHz                |      | 20   |      | pF    |
| Half Power Beam Angle     | Δθ             |                       |      | ±30  |      | deg.  |
| Peak Emission Wavelength  | λ <sub>p</sub> | I <sub>F</sub> =50mA  |      | 940  |      | nm    |
| Spectral Bandwidth at 50% | Δλ             | I <sub>F</sub> =50mA  |      | 50   |      | nm    |