

## EL - 1KL3 · EL - 1KL5

The EL - 1KL3 and 1KL5 are high - power GaAs IREDs mounted in durable, hermetically sealed TO - 18 metal can package, which provides years of reliable performance even under demanding conditions such as use outdoors.

## FEATURES

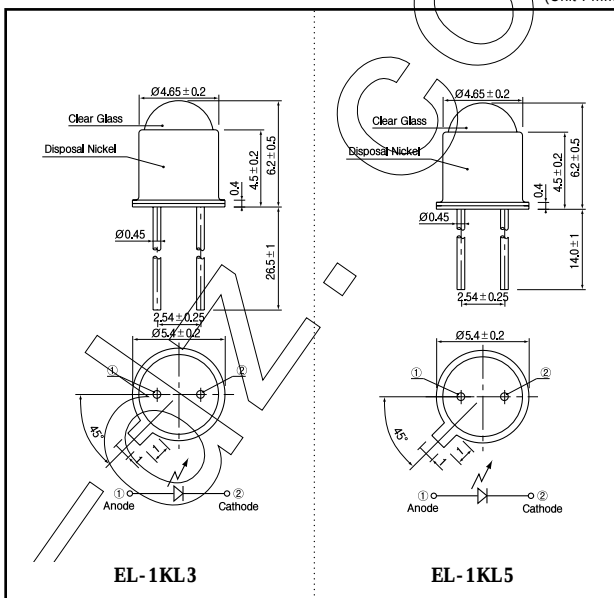
- Narrow beam angle
- Durable
- High reliability in demanding environments

## APPLICATIONS

- Optical emitters
- Optical switches
- Encoders
- Smoke sensors

## DIMENSIONS

(Unit : mm)



## MAXIMUM RATINGS

(Ta=25 °C)

| Item                                | Symbol     | Rating       | Unit |
|-------------------------------------|------------|--------------|------|
| Reverse voltage                     | $V_R$      | 5            | V    |
| Forward current                     | $I_F$      | 100          | mA   |
| Pulse forward current <sup>*1</sup> | $I_{FP}$   | 1            | A    |
| Power dissipation                   | $P_c$      | 170          | mW   |
| Operating temp.                     | $T_{opr.}$ | - 40 ~ + 100 |      |
| Storage temp.                       | $T_{stg.}$ | - 55 ~ + 125 |      |
| Soldering temp. <sup>*2</sup>       | $T_{sol.}$ | 260          |      |

\*1. pulse width :  $t_w$  100  $\mu$ sec. period :  $T$  = 10msec.

\*2. For MAX.5 seconds at the position of 2 mm from the package

## ELECTRO-OPTICAL CHARACTERISTICS

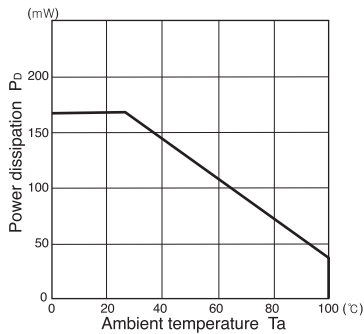
(Ta=25 °C)

| Item                     | Symbol           | Conditions    | EL - 1KL3 |         |      | EL - 1KL5 |         |      | Unit.   |
|--------------------------|------------------|---------------|-----------|---------|------|-----------|---------|------|---------|
|                          |                  |               | Min.      | Typ.    | Max. | Min.      | Typ.    | Max. |         |
| Forward voltage          | $V_F$            | $I_F$ = 100mA |           | 1.35    | 1.7  |           | 1.35    | 1.7  | V       |
| Reverse current          | $I_R$            | $V_R$ = 5V    |           |         | 10   |           |         | 10   | $\mu$ A |
| Capacitance              | $C_t$            | $f$ = 1MHz    |           | 25      |      |           | 25      |      | pF      |
| Radiant intensity        | $P_o$            | $I_F$ = 100mA |           | 15      |      |           | 10      |      | mW/sr   |
| Peak emission wavelength | $\lambda_p$      | $I_F$ = 100mA |           | 940     |      |           | 940     |      | nm      |
| Spectral bandwidth 50%   | $\Delta \lambda$ | $I_F$ = 100mA |           | 50      |      |           | 50      |      | nm      |
| Half angle               | $\theta$         |               |           | $\pm 8$ |      |           | $\pm 5$ |      | deg.    |

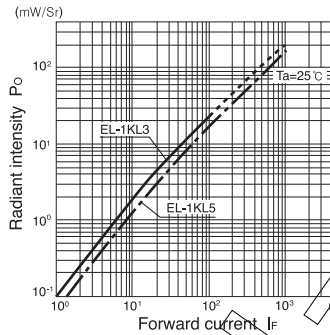
# Infrared Emitting Diodes(GaAs)

EL - 1KL3 · EL - 1KL5

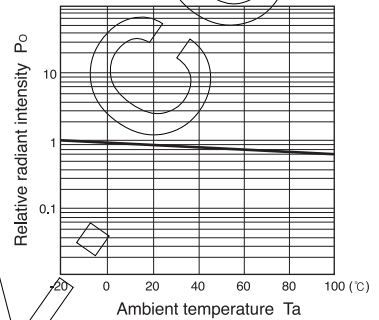
**Power dissipation Vs. Ambient temperature**



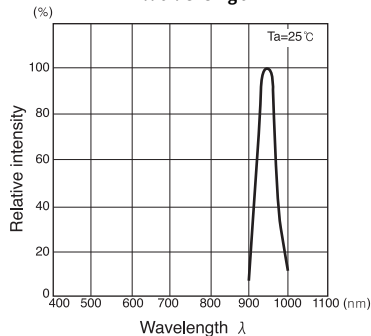
**Radiant intensity Vs. Forward current**



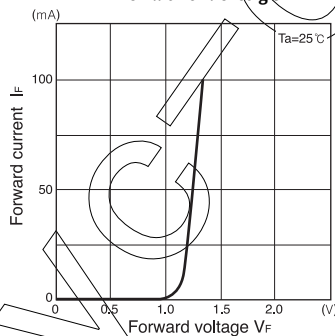
**Relative radiant intensity Vs. Ambient temperature**



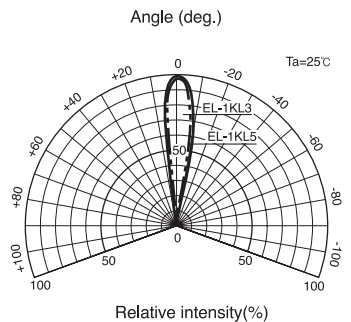
**Relative intensity Vs. Wavelength**



**Forward current Vs. Forward voltage**



**Radiant Pattern**



**Relative radiant intensity Vs. Distance**

