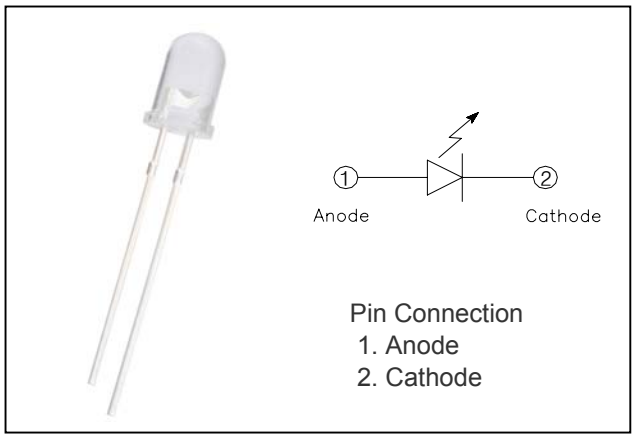
**Infrared Emitting Diode**

# KEL5002A

## Description

The KEL5002A is GaAlAs infrared emitting diode that is designed for high power, low forward voltage
This device is optimized for speed and efficiency at emission wavelength 940nm and has a high radient efficiency over a wide range of forward current.
This device is packaged T1 3/4 package.




RoHS

## Features

- 940nm wavelength
- Low forward voltage
- High power and high reliability
- Available for pulse operating

## Applications

- IR Audio and Telephone
- IR communication
- Optical Switch
- Available for wireless digital data transmission

## Absolute Maximum Ratings

[$T_A$ = 25℃ ]

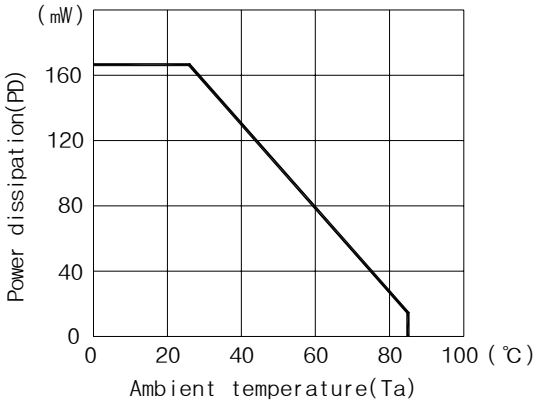
| Parameter | Symbol | Min. | Max. | Max. |
|---|---|---|---|---|
| Reverse Voltage | $V_R$ | - | 5 | V |
| Forward Current | $I_F$ | - | 100 | mA |
| Power Dissipation | $P_D$ | - | 170 | mW |
| Pulse Forward Current*1 | $I_{FP}$ | - | 1.0 | A |
| Operating Temperature | Topr | -30 | 85 | ℃ |
| Storage Temperature | Tstg | -30 | 100 | ℃ |
| Soldering Temperature*2 | Tsol | - | 260 | ℃ |

*1 : Pulse Width : Tw ≤ 100㎲, Periode : T = 10㎳

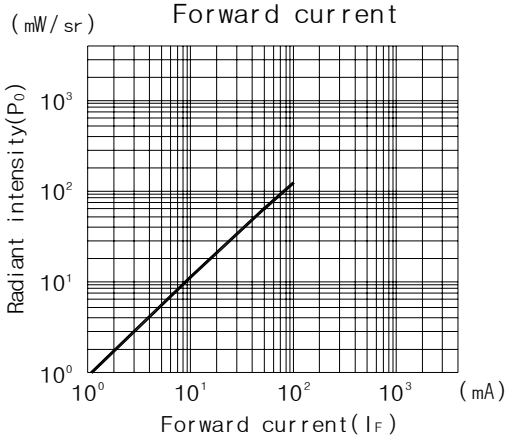
*2 : MAX 5s

## Rating and Characteristic Curves

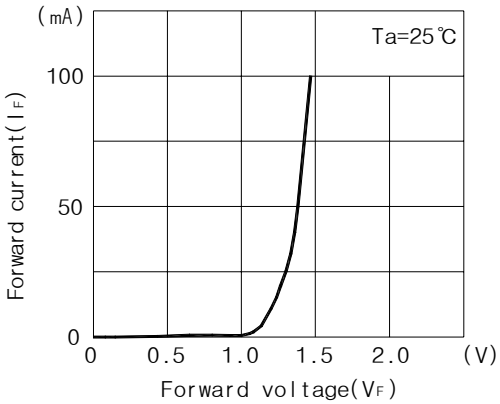
Power dissipation Vs.
Ambient temperature



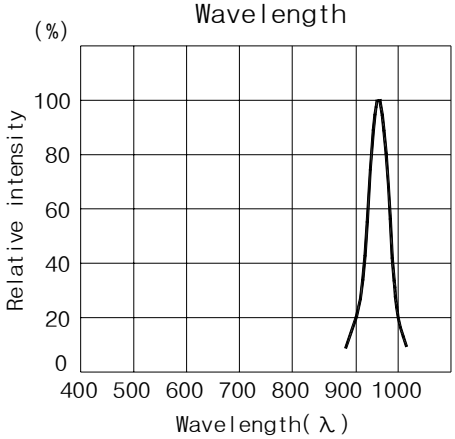

Relative intensity Vs.
Forward current



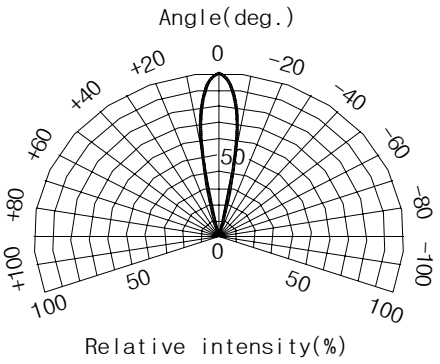

Forward current Vs.
Forward voltage




Relative intensity Vs.
Wavelength




Radiant Pattern

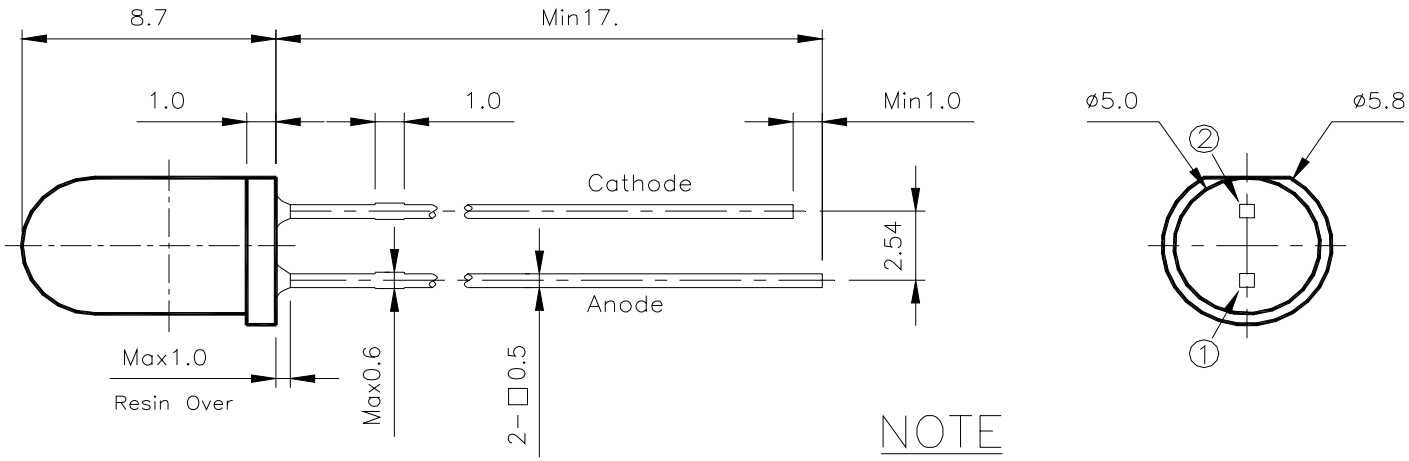


# KEL5002A

**Electrical Characteristics** [$T_A$ = 25℃]

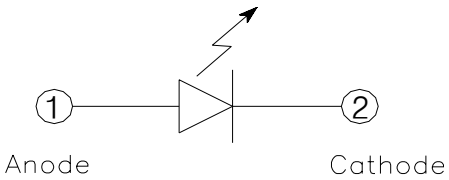
| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=50mA | - | 1.4 | 1.7 | V |
| Reverse Current | $I_R$ | $V_R$=5V | - | - | 10 | μA |
| Radiant Intensity | Ie | $I_F$=50mA | 30 | 60 | - | mW/sr |
| Peak Emission Wavelength | $\lambda_P$ | $I_F$=50mA | - | 940 | - | nm |
| Spectral Bandwidth 50% | Δλ | $I_F$=50mA | - | 45 | - | nm |
| Half Angle | Δθ | IF=50mA | - | ±10 | | deg. |

**Package Outline Dimensions** (Unit : mm)




NOTE

1. GENERAL TOLERANCE : ±0.2
2. THICKNESS : 0.5mm
3. PIN CONFIGURATION



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