

Infrared Emitting Diode

KEL3002A

**Description**

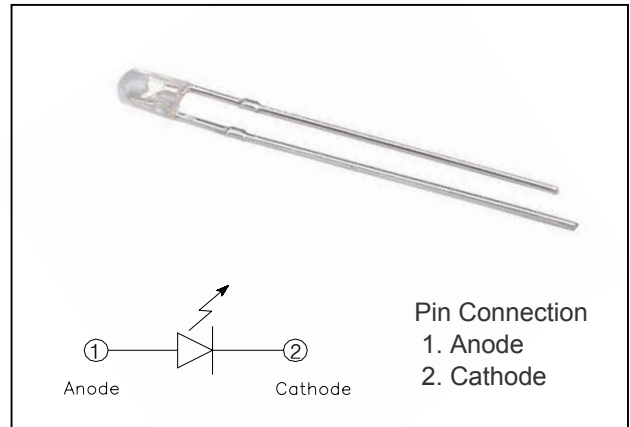
The KEL3002A is GaAlAs infrared emitting diode that is designed for high power, low forward voltage

This device is optimized for speed and efficiency at emission wavelength 940nm and has a high radiant efficiency over a wide range of forward current.

This device is packaged T1 package.

**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<sub>A</sub> = 25°C ]

Parameter	Symbol	Min.	Max.	Max.
Reverse Voltage	V <sub>R</sub>	-	5	V
Forward Current	I <sub>F</sub>	-	50	mA
Power Dissipation	P <sub>D</sub>	-	75	mW
Pulse Forward Current*1	I <sub>FP</sub>	-	0.5	A
Operating Temperature	Topr	-25	85	°C
Storage Temperature	Tstg	-30	85	°C
Soldering Temperature*2	Tsol	-	260	°C

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

\*2 : MAX 5s

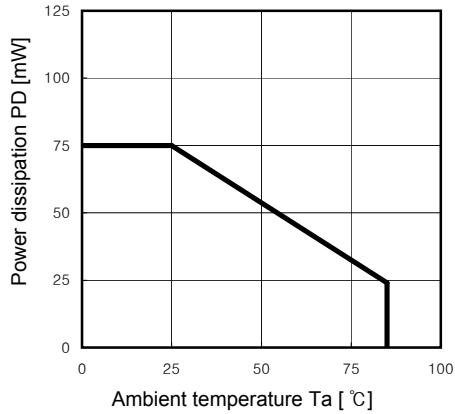
The contents of this data sheet are subject to change without advance notice for the purpose of improvement.  
When using this product, would you please refer to the latest specifications.

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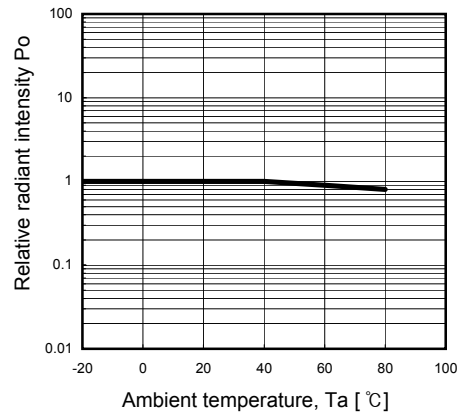
# KEL3002A

## Rating and Characteristic Curves

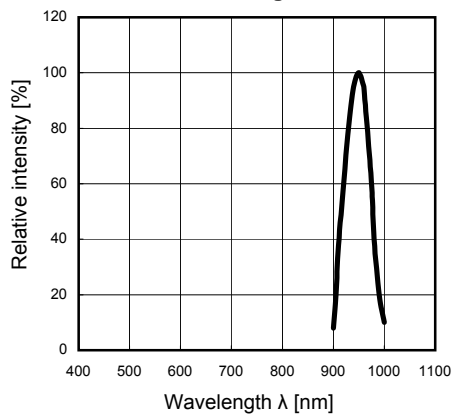
Power dissipation Vs. Ambient temperature



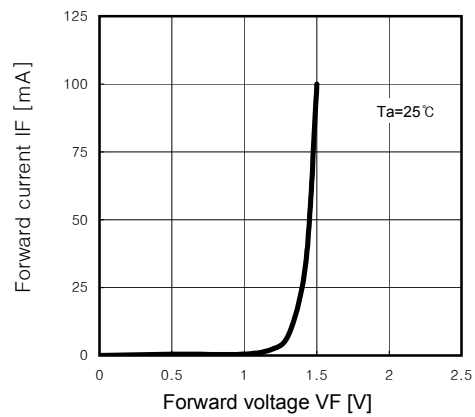
Relative radiant intensity Vs. Ambient temperature



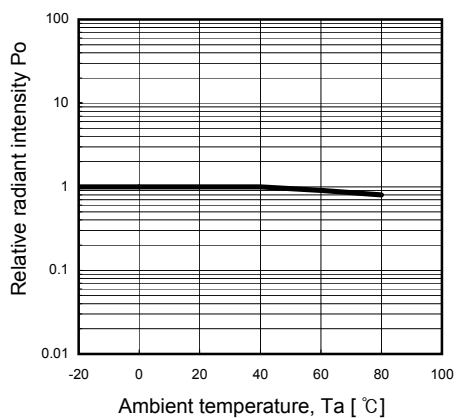
Relative intensity Vs. Wavelength



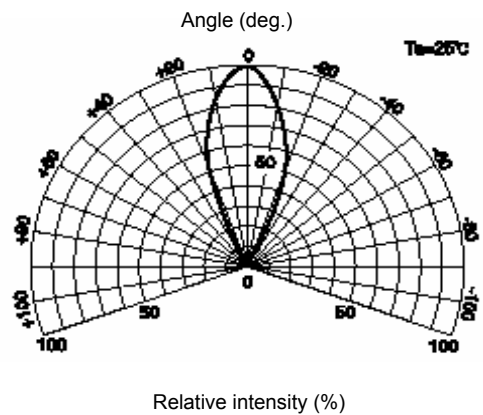
Forward current Vs. Forward voltage



Relative radiant intensity Vs. Ambient temperature



Radiant Pattern



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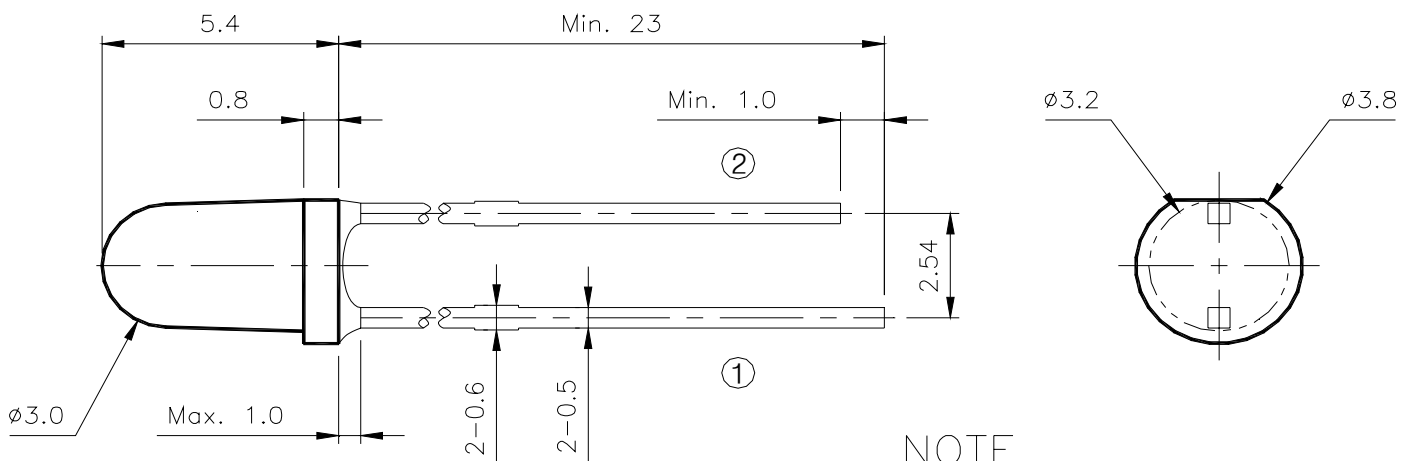
## Electrical Characteristics

[T<sub>A</sub> = 25°C]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =50mA	-	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> =50mA	18	20	-	mW/ sr
Peak Emission Wavelength	λ <sub>p</sub>	I <sub>F</sub> =50mA	-	940	-	nm
Spectral Bandwidth 50%	Δλ	I <sub>F</sub> =50mA	-	45	-	nm
Half Angle	Δθ	I <sub>F</sub> =50mA	-	±20		deg.

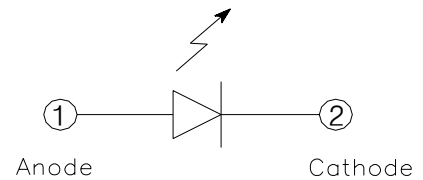
## Package Outline Dimensions

(Unit : mm)



## NOTE

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



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