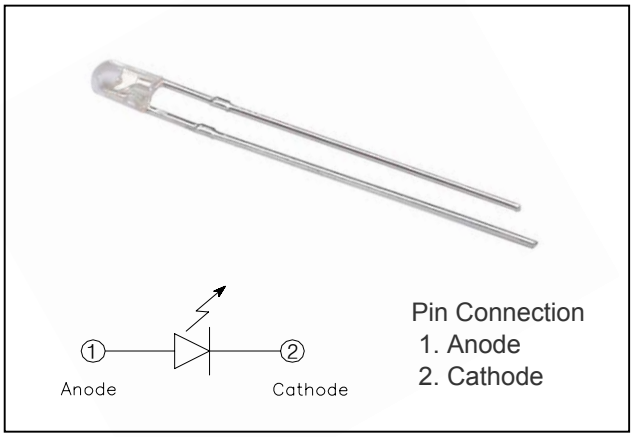
Infrared Emitting Diode

KEL3001A

Description

The KEL3001A is GaAlAs infrared emitting diode that is designed for high power, low forward voltage and high speed. 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 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℃]

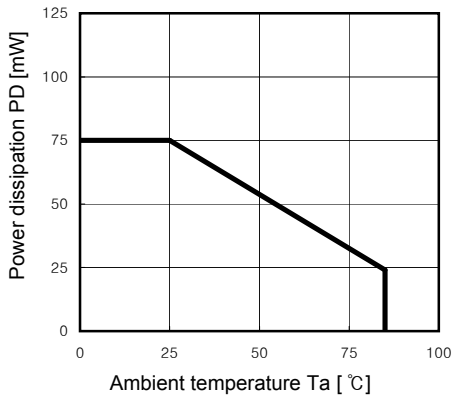
Parameter	Symbol	Min.	Max.	Max.
Reverse Voltage	V_R	-	5	V
Forward Current	I_F	-	50	mA
Power Dissipation	P_D	-	75	mW
Pulse Forward Current*1	I_{FP}	-	0.5	A
Operating Temperature	Topr	-25	85	℃
Storage Temperature	Tstg	-30	85	℃
Soldering Temperature*2	Tsol	-	260	℃

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

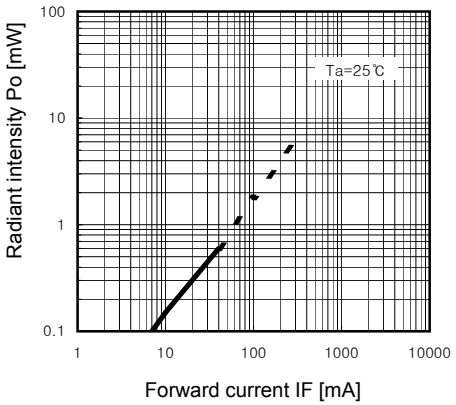
*2 : MAX 5s

Rating and Characteristic Curves

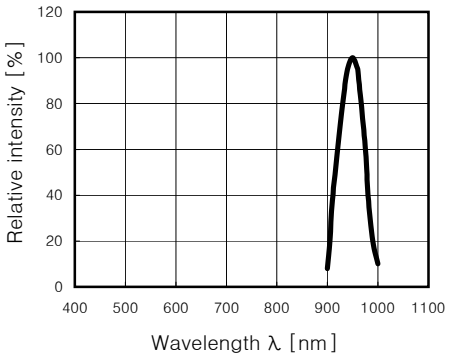
Power dissipation Vs. Ambient temperature



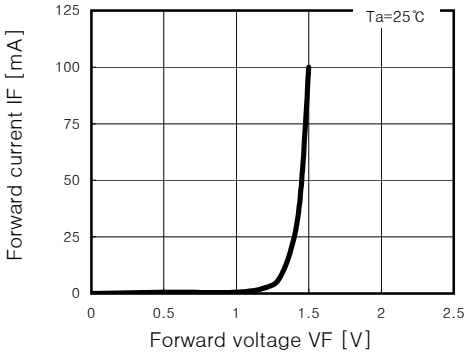
Radiant intensity Vs. Forward current



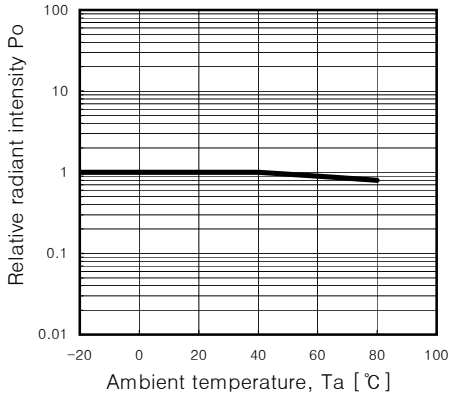
Relative intensity Vs. Wavelength



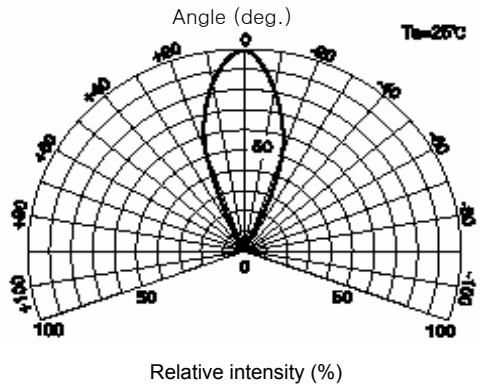
Forward current Vs. Forward voltage



Relative radiant intensity Vs. Ambient temperature



Radiant Pattern



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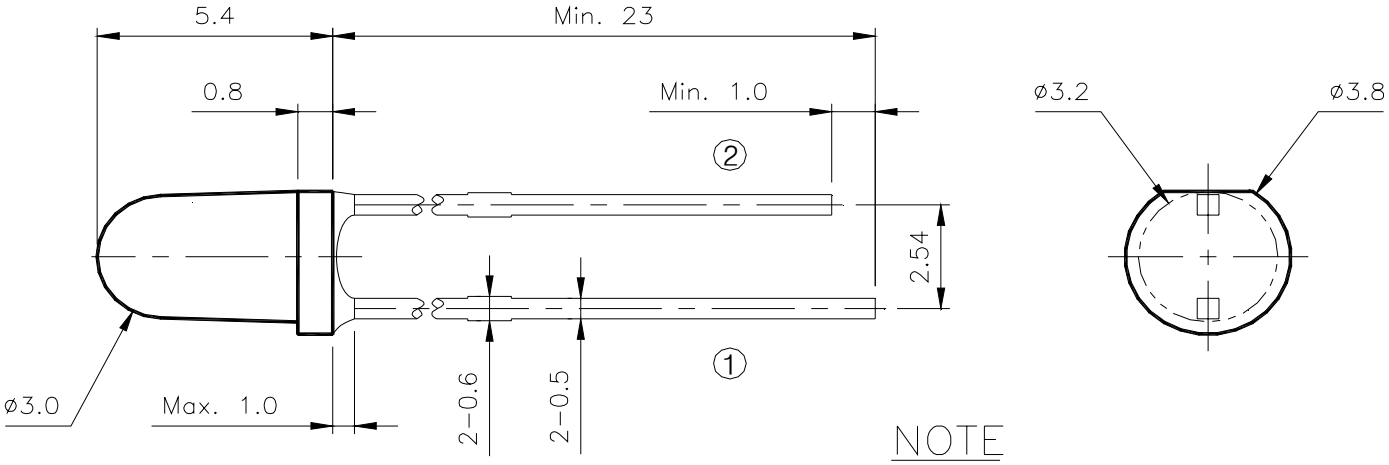
Electrical Characteristics

[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	P_O	I_F=50mA	5.0	8.0	-	μW
Peak Emission Wavelength	λ_P	I_F=50mA	-	940	-	nm
Spectral Bandwidth 50%	Δλ	I_F=50mA	-	45	-	nm
Half Angle	Δθ	IF=50mA	-	±20		deg.

Package Outline Dimensions

(Unit : mm)



NOTE

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