

KEL-3001A

The KEL-3001A is GaAs infrared emitting diode that is designed for high power, low forward voltage and high speed rise / fall time. 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.

FEATURES

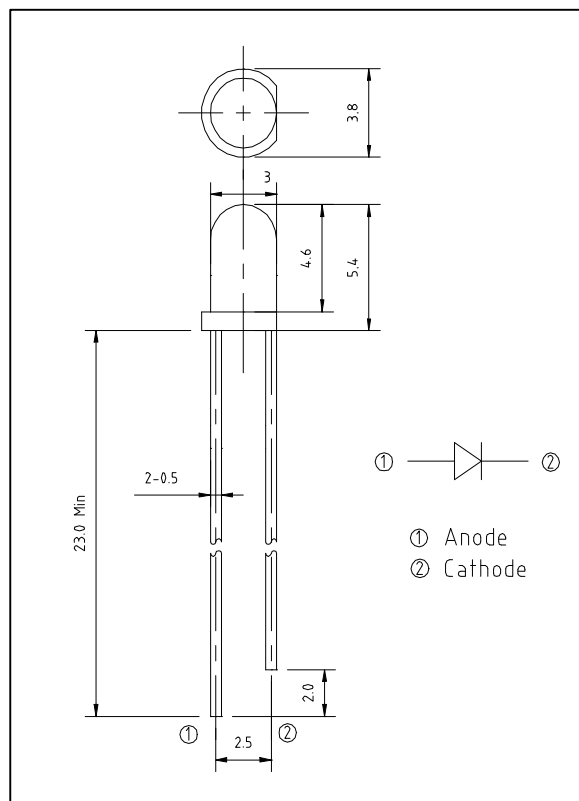
- 940nm wavelength
- Low forward voltage
- High power and high reliability
- Available for pulse operating

APPLICATIONS

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

DIMENSIONS

(Unit : mm)



ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Item	Symbol	Ratings	Unit
Power dissipation	PD	75	mW
Forward current	IF	50	mA
Pulse forward current *1	IFP	0.5	A
Reverse voltage	VR	5	V
Operating temp.	Topr.	-25 ~ +85	°C
Storage temp.	Tstg.	-30 ~ +85	°C
Soldering temp. *2	Tsol.	240	°C

*1. Duty ratio=1/100, pulse width=0.1ms

*2. Lead Soldering Temperature (3mm from case for 5sec).

ELECTRO-OPTICAL CHARACTERISTICS

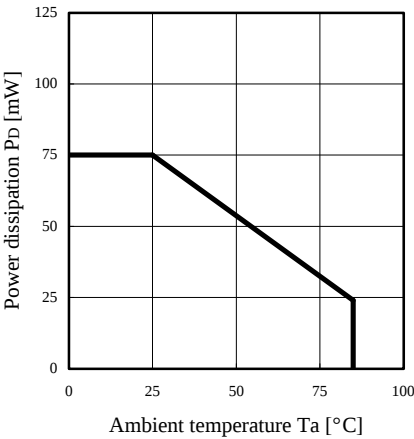
(Ta=25°C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	VF	IF=50mA	-	1.4	1.7	V
Reverse current	IR	VR=5V	-	-	10	uA
Capacitance	Ct	f=1MHz, V=0V	-	70	-	pF
Radiant intensity	Po	IF=50mA	5.0	8.0	-	mW
Peak emission wavelength	λ_p	IF=50mA	-	940	-	nm
Spectral bandwidth 50%	$\Delta\lambda$	IF=50mA	-	45	-	nm
Half angle	$\Delta\theta$	IF=50mA	-	± 20	-	deg.

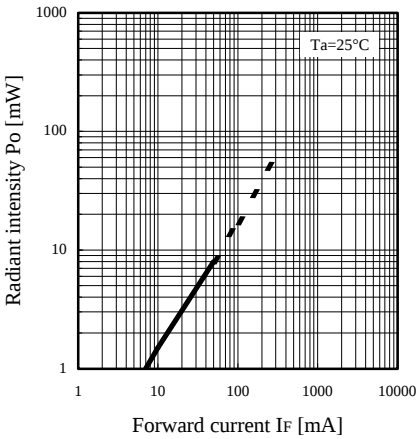
Infrared Emitting Diodes(GaAs)

KEL-3001A

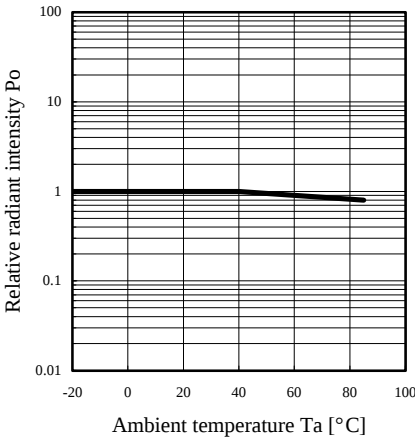
Power dissipation Vs. Ambient temperature



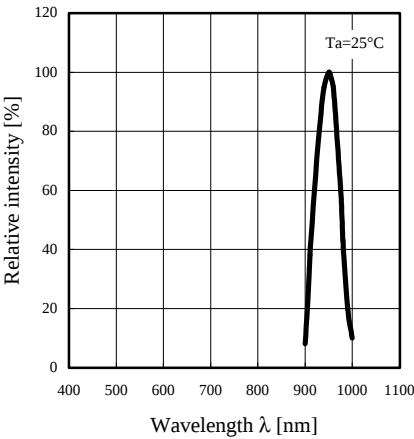
Radiant intensity Vs. Forward current



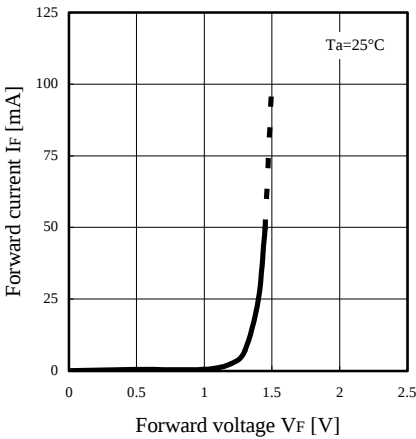
Relative radiant intensity Vs. Ambient temperature



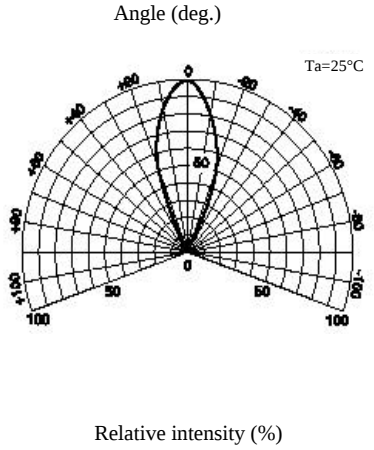
Relative intensity Vs. Wavelength



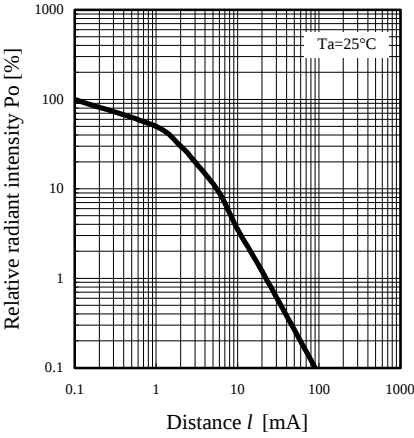
Forward current Vs. Forward voltage



Radiant Pattern



Relative radiant intensity Vs. Distance



Relative radiant intensity Vs. Distance test method

