

KEM5001R

The KEM5001R 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 870nm and has a high radiant efficiency over a wide range of forward current.

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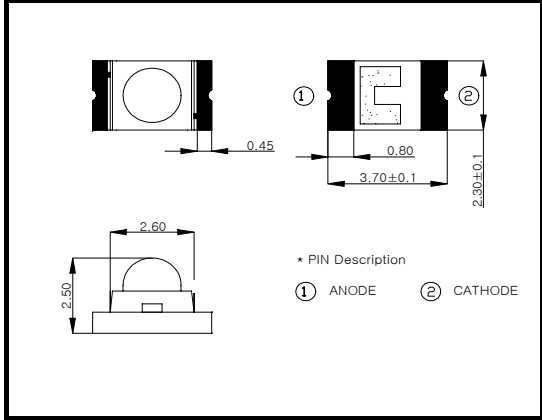
Features

- 870nm wavelength
- Low forward voltage
- High power and high reliability
- Available for pulse operating
- Surface Mountable Leadless Package

Applications

- IR Audio and Telephone
- IR Communication
- Optical Switch
- Available for Wireless Digital Data Transmission

Dimensions [Unit : mm]



Absolute Maximum Ratings [T_A = 25 °C]

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	95	mW
Forward Current	I _F	50	mA
Pulse Forward Current *1	I _{FP}	1	A
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr.}	-25~+85	°C
Storage Temperature	T _{stg.}	-25~+100	°C
Soldering Temperature *2	T _{sol}	260	°C

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

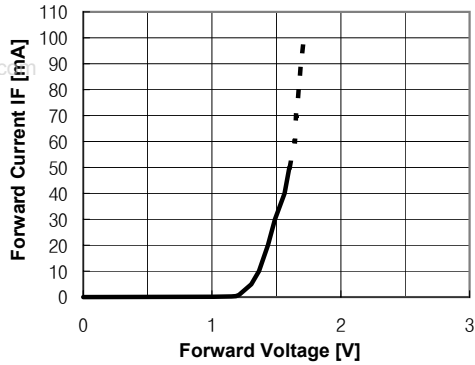
*2. MAX 5sec

Electro-Optical Characteristics [T_A = 25 °C]

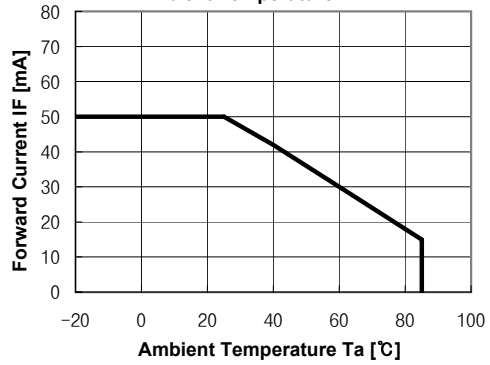
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Forward Voltage	V _F	I _F =50mA	-	1.6	1.9	V
Reverse Voltage	V _R	I _R =10uA	4	-	-	V
Radiant intensity	P _O	I _F =50mA	13	16	-	mW/sr
Peak Emission Wavelength	λ _p	I _F =20mA	-	870	-	nm
Spectral Bandwidth 50%	Δλ	I _F =20mA	-	45	-	nm
Half Angle	Θ _{1/2}	I _F =30mA	-	±20	-	deg.
Rise Time	T _r	I _F =50mA	-	15	-	ns

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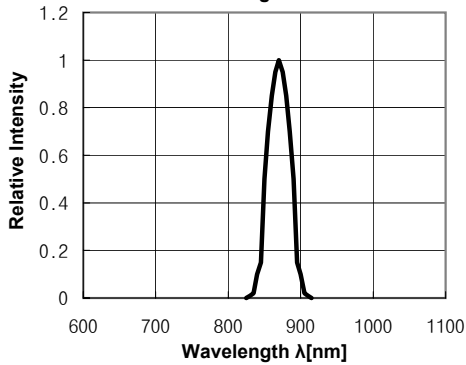
Forward Current
Vs
Forward Voltage



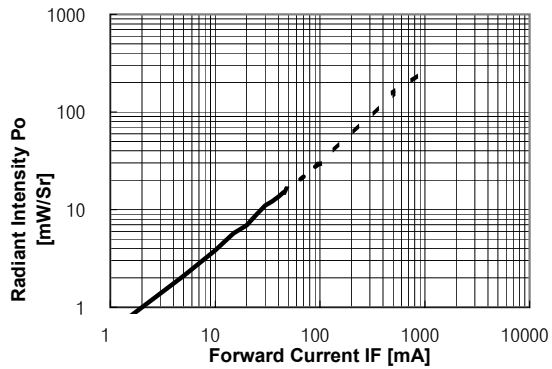
Forward Current
Vs
Ambient Temperature



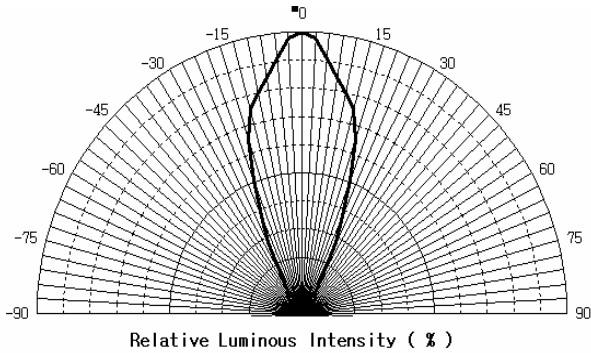
Relative Intensity
Vs
Wavelength



Radiant Intensity
Vs
Forward current



Radiant Angle
Angle(deg.)



Pulse Current Vs
Duty Ratio

