

GaAs INFRARED EMITTING DIODE

■ **GENERAL DESCRIPTION**

The NJL1104B is a high efficient infrared emitting diode with a glass lens.

■ **FEATURES**

- Narrow beam angle
- High density luminous flux
- High speed response

■ **APPLICATIONS**

- Card reader
- Long distance Optoelectronic switches
- Tachometer
- Smoke detectors

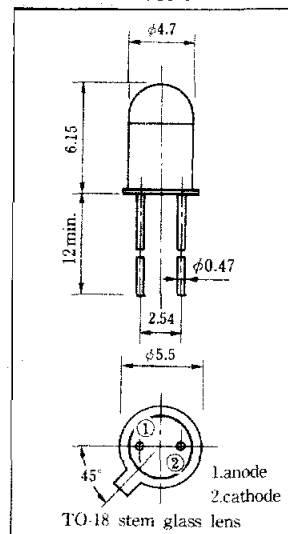
■ **ABSOLUTE MAXIMUM RATINGS** (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Forward Current (Continuous)	I _F	100	mA
Pulse Forward Current	I _{FP}	1 (note)	A
Reverse Voltage (Continuous)	V _R	6	V
Power Dissipation	P _D	150	mW
Operating Temperature	T _{opr}	-40~100	°C
Storage Temperature	T _{stg}	-55~+125	°C
Soldering Temperature	T _{sol}	260	°C

(10sec. 1.5mm from body)

(note) Pulse Width: 100μs. Duty Ratio: 0.01

■ **OUTLINE (typ.)** Unit: mm

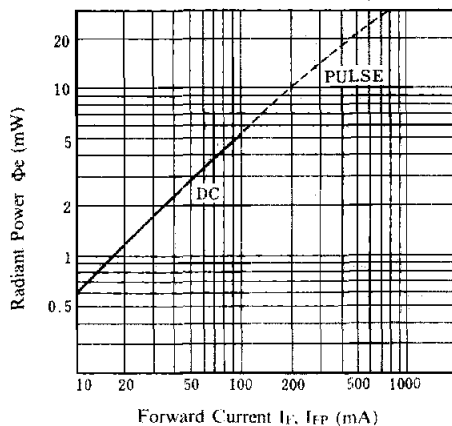


■ **ELECTRO-OPTICAL CHARACTERISTICS** (Ta=25°C)

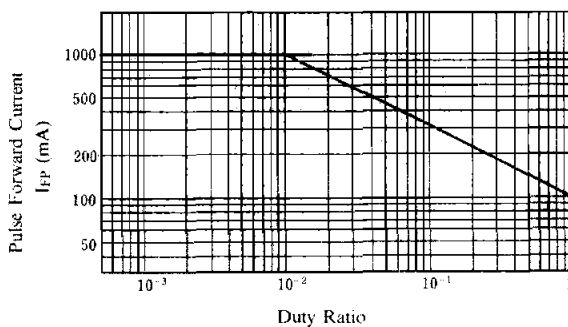
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Radiant Power	Φ _e	I _F = 50mA	—	2.8	—	mW
Spectral Line Halfwidth	Δλ	I _F = 50mA	—	50	—	nm
Forward Voltage	V _F	I _F = 50mA	—	1.2	1.5	V
Reverse Current	I _R	V _R = 6V	—	—	1	μA
Capacitance	C _i	V _R = 0V, f = 1MHz	—	35	—	pF
Rise Time	t _r	I _F = 50mA	—	1	—	μs
Fall Time	t _f	I _F = 50mA	—	1	—	μs
Peak Wavelength	λ _p	I _F = 50mA	—	940	—	nm

■ **TYPICAL CHARACTERISTICS**

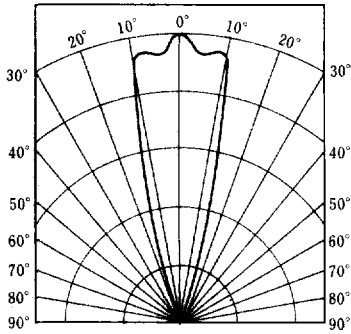
Radiant power vs. Forward Current
(Ta=25°C)



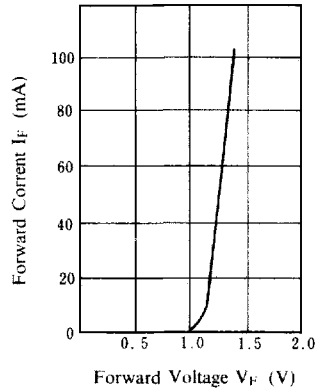
Maximum Pulse Forward Current vs. Duty Ratio
(Ta=25°C, tw=100μs max.)



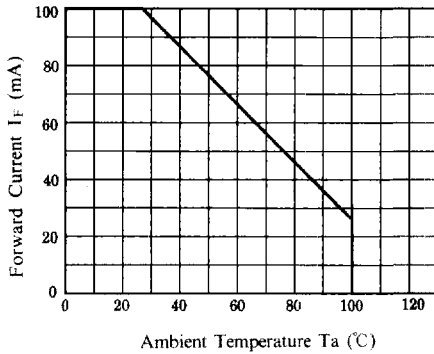
Typical Radiation Pattern
($T_a=25^\circ\text{C}$)



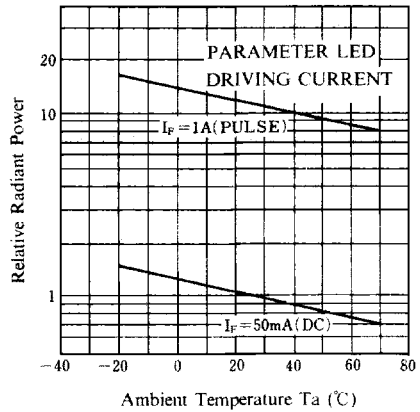
Forward Current vs. Forward Voltage ($T_a=25^\circ\text{C}$)



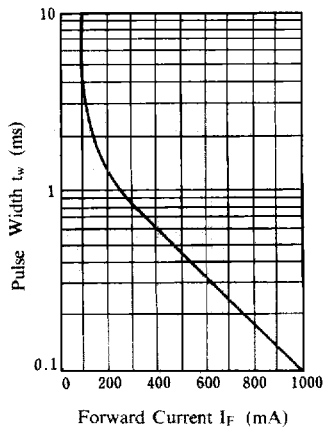
Forward Current vs. Temperature



Relative Radiant Power vs. Temperature



Maximum Pulse Width vs. Forward Current
($T_a=25^\circ\text{C}$, Duty Ratio 0.01 max.)



Relative Intensity vs. Wavelength ($T_a=25^\circ\text{C}$)

