GL382

IrDA-Based SIR System-Conforming Infrared Emitting Diode

■ Features

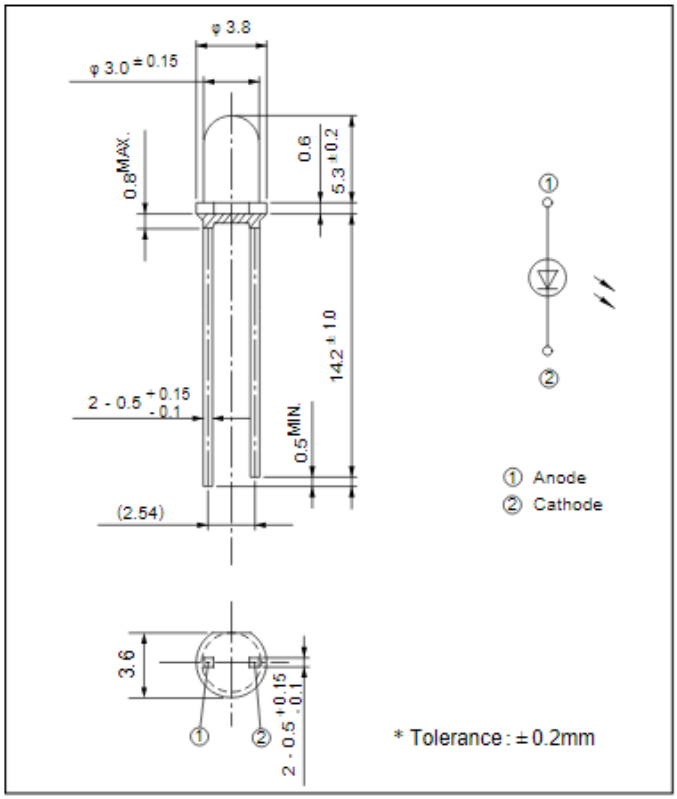
1. Compact 3 φ resin mold package
2. Peak emitting wavelength conforming to SIR system based on IrDA
   (λ p=880 nm [I_F=50mA])
3. Narrow beam angle
   (Half intensity angle : TYP. ± 17°)
4. High speed response
   (Cut-off frequency fc : TYP.12MHz)

■ Applications

1. Portable information terminal equipment
2. Personal computers
3. Printers

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward current	I_F	60	mA
*1 Peak forward current	I_{FM}	0.5	A
Reverse voltage	V_R	4	V
Operating temperature	T_{opr}	- 25 to + 85	°C
Storage temperature	T_{stg}	- 40 to + 85	°C
*2 Soldering temperature	T_{sol}	260	°C

*1 Pulse width <= 100∝ s, Duty ratio=0.01
*2 For 3 seconds at the position of 2.6 mm from the resin edge

■ Electro-optical Characteristics

(Ta=25 °C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	I_F = 50mA	-	1.5	1.7	V
Peak forward voltage	V_{FM}	I_{FM} = 0.5A	-	2.2	3.8	V
Reverse voltage	I_R	V_R = 3V	-	-	10	∝ A
*3 Radiant intensity	I_E	I_F = 50mA	6	18	-	mW/sr
Peak emission wavelength	λ_P	I_F = 50mA	-	880	-	nm
Half intensity wavelength	$\Delta\lambda$	I_F = 50mA	-	40	-	nm
Response frequency	f_C	I_F=50mA+10mA_{p-p}	-	12	-	MHz
Half intensity angle	$\Delta\theta$	I_F = 20mA	-	± 17	-	°

*3 I_E : Value obtained by converting the value in power of radiant fluxes emitted at the solid angle of 0.01 sr (steradian) in the direction of mechanical axis of the lens portion into 1 sr or all those emitted from the light emitting diode.

Fig. 1 Forward Current vs. Ambient Temperature

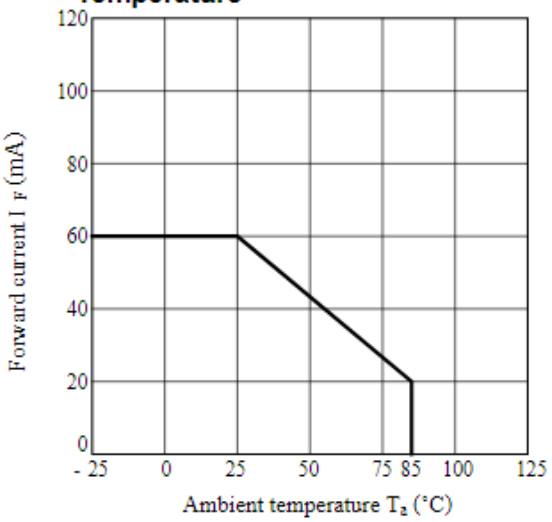


Fig. 2 Peak Forward Current vs. Duty Ratio

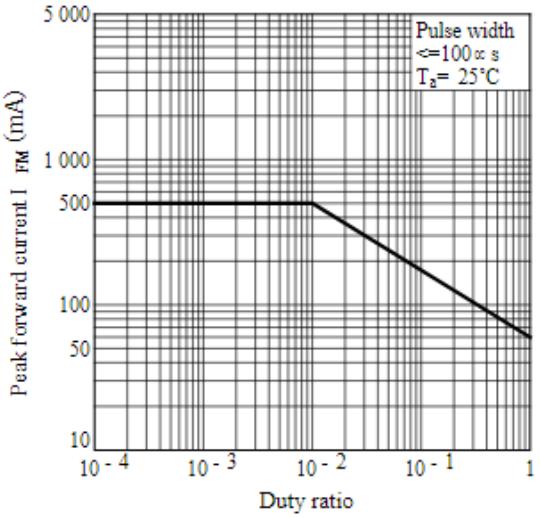


Fig. 3 Spectral Distribution

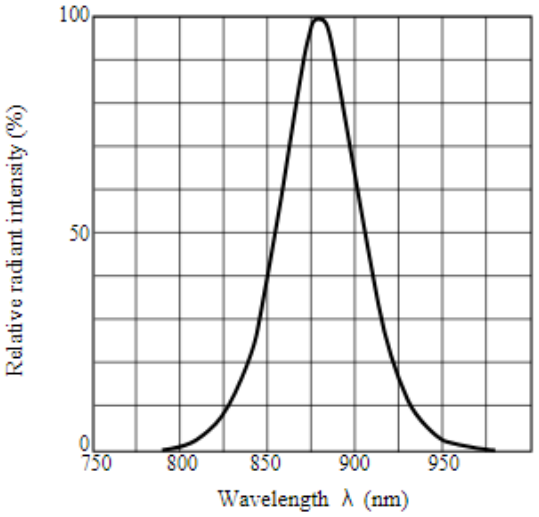


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

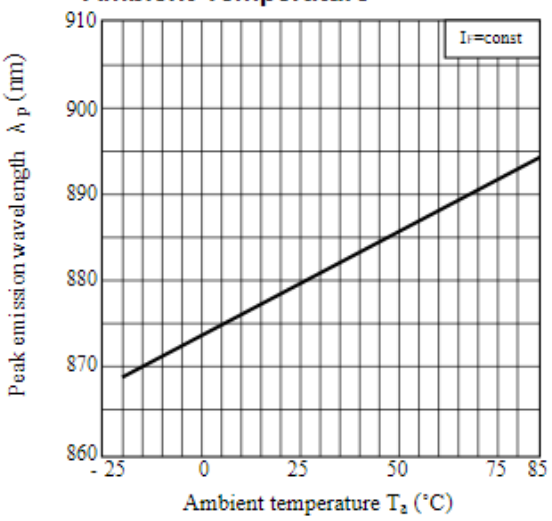


Fig. 5 Forward Current vs. Forward Voltage

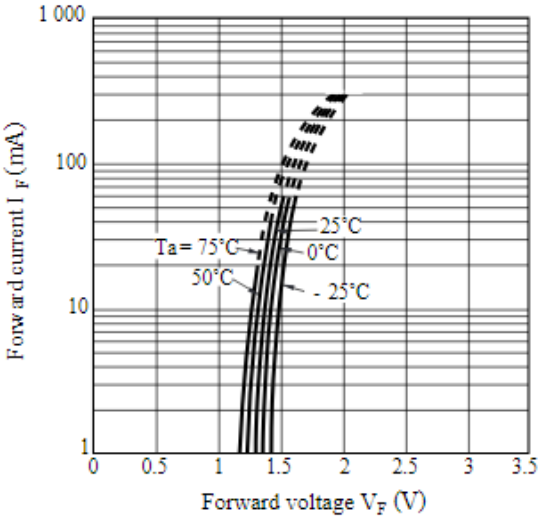


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

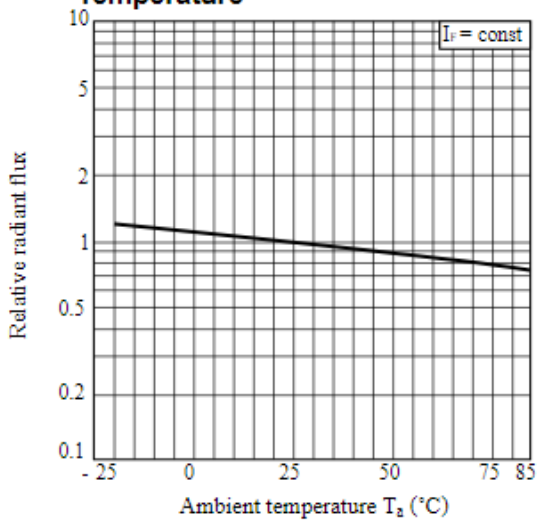


Fig. 7 Radiant Intensity vs. Forward Current

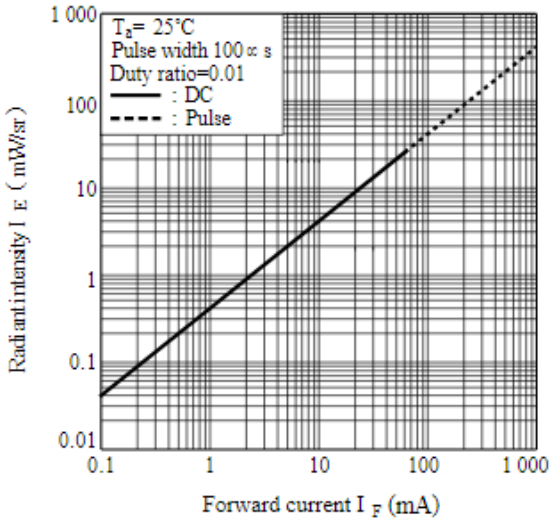
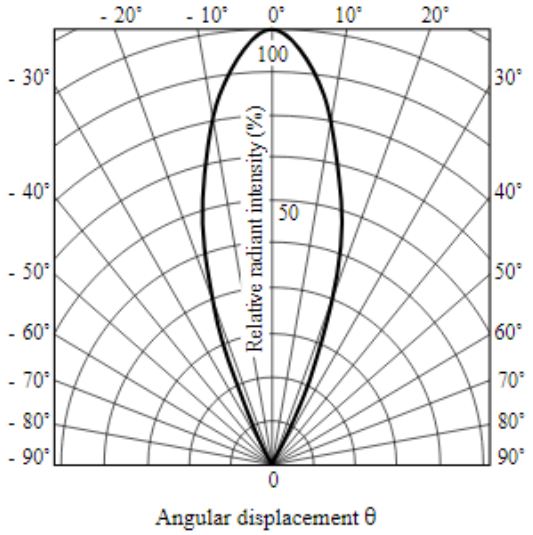


Fig. 8 Radiation Diagram



- Please refer to the chapter "Precautions for Use". (Page 78 to 93)