

# GL382

## IrDA-Based SIR System-Conforming Infrared Emitting Diode

### ■ Features

1. Compact 3  $\phi$  resin mold package
2. Peak emitting wavelength conforming to SIR system based on IrDA  
( $\lambda_p=880$  nm [ $I_F=50$ mA])
3. Narrow beam angle  
(Half intensity angle : TYP.  $\pm 17^\circ$  )
4. High speed response  
(Cut-off frequency  $f_c$  : TYP.12MHz)

### ■ Applications

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

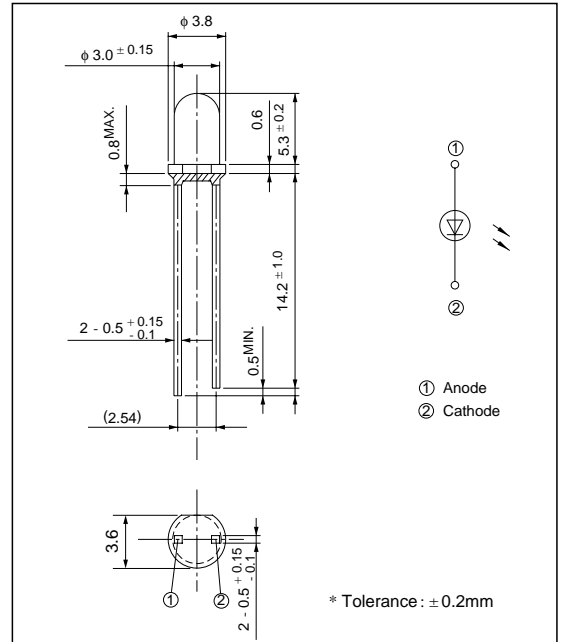
### ■ Absolute Maximum Ratings

(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

### ■ Outline Dimensions

(Unit : mm)

\*1 Pulse width  $\leq 100 \mu$ s, Duty ratio=0.01

\*2 For 3 seconds at the position of 2.6 mm from the resin edge

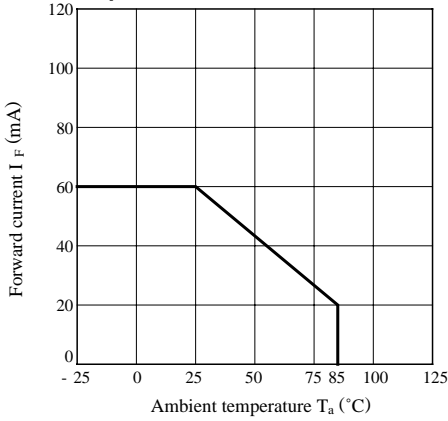
### ■ Electro-optical Characteristics

(Ta=25 °C)

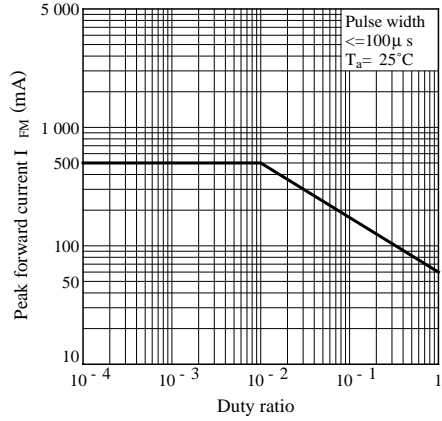
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	$V_F$	$I_F = 50$ mA	-	1.5	1.7	V
Peak forward voltage	$V_{FM}$	$I_{FM} = 0.5$ A	-	2.2	3.8	V
Reverse voltage	$I_R$	$V_R = 3$ V	-	-	10	$\mu$ A
*3 Radiant intensity	$I_E$	$I_F = 50$ mA	6	18	-	mW/sr
Peak emission wavelength	$\lambda_p$	$I_F =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

\*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.

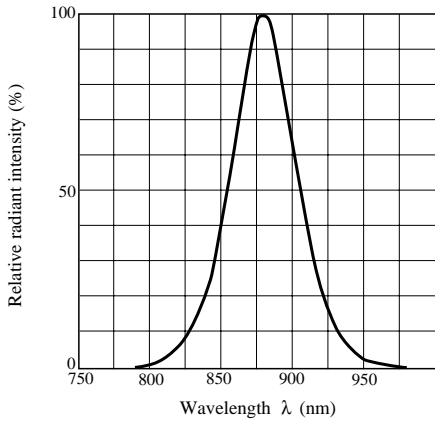
**Fig. 1 Forward Current vs. Ambient Temperature**



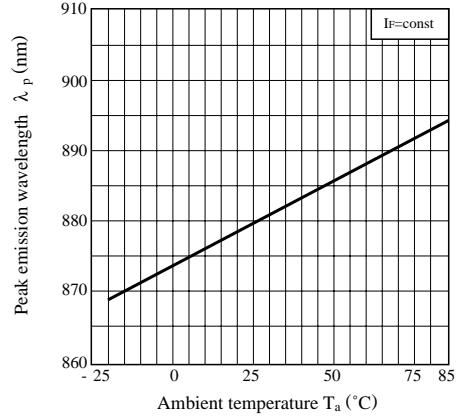
**Fig. 2 Peak Forward Current vs. Duty Ratio**



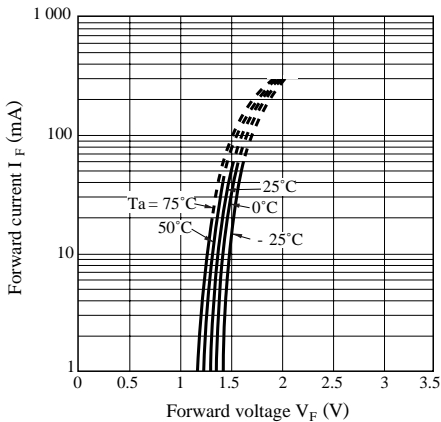
**Fig. 3 Spectral Distribution**



**Fig. 4 Peak Emission Wavelength vs. Ambient Temperature**



**Fig. 5 Forward Current vs. Forward Voltage**



**Fig. 6 Relative Radiant Flux vs. Ambient Temperature**

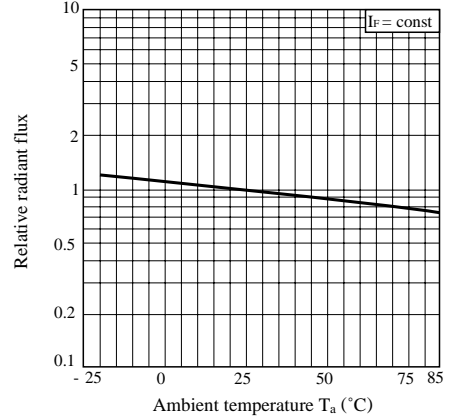


Fig. 7 Radiant Intensity vs. Forward Current

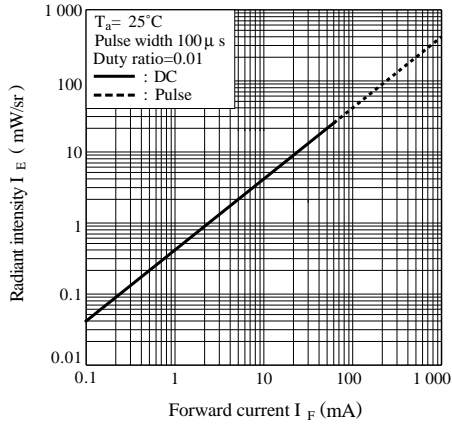
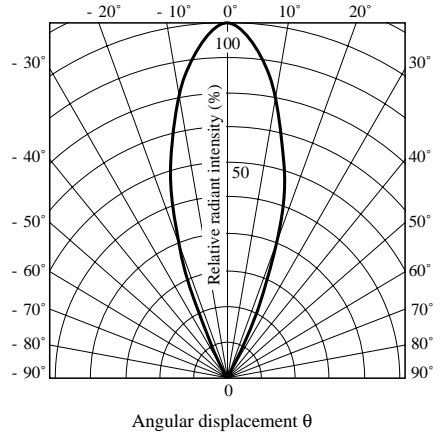


Fig. 8 Radiation Diagram



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