

# GL4600/GL4610

## Double Ended Mold Type Infrared Emitting Diode

### ■ Features

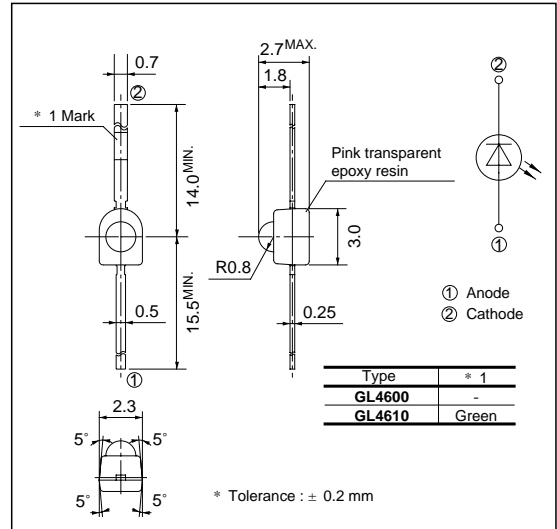
1. Compact double ended mold package  
(Packaging area : 37% smaller than **GL480**)
2. Narrow beam angle (Half intensity angle :  $\pm 13^\circ$  )  
(Radiant intensity : 3 times as large as **GL460**)
3. High output type (**GL4610**)
4. Taped model, 2,000 pieces/reel

### ■ Applications

1. Floppy disk drives
2. VCRs
3. Audio equipment
4. Video-movie kits

### ■ Outline Dimensions

(Unit : mm)



### ■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward current	$I_F$	50	mA
*1 Peak forward current	$I_{FM}$	1	A
Reverse voltage	$V_R$	6	V
Power dissipation	P	150	mW
Operating temperature	$T_{opr}$	- 20 to + 85	°C
Storage temperature	$T_{stg}$	- 40 to + 85	°C
*2 Soldering temperature	$T_{sol}$	260	°C

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

\*2 For MAX. 3 seconds at the position of 2.5 mm from the resin edge

■ Electro-optical Characteristics

(Ta=25 °C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage		$V_F$	$I_F = 20\text{mA}$	-	1.2	1.5	V
Peak forward voltage		$V_{FM}$	$I_{FM} = 0.5\text{A}$	-	2.2	4.0	V
Reverse current		$I_R$	$V_R = 3\text{V}$	-	-	10	$\mu\text{A}$
Terminal capacitance		$C_t$	$V_R = 0, F = 1\text{MHz}$	-	15	-	pF
Response frequency		$f_c$	-	-	300	-	kHz
Radiant flux	GL4600	$\Phi_e$	$I_F = 20\text{mA}$	1.0	-	4.0	mW
	GL4610			1.8	-	7.2	
Peak emission wavelength		$\lambda_p$	$I_F = 5\text{mA}$	-	950	-	nm
Half intensity wavelength		$\Delta \lambda$	$I_F = 5\text{mA}$	-	45	-	nm
Half intensity angle		$\Delta \theta$	$I_F = 20\text{mA}$	-	$\pm 13$	-	°

Fig. 1 Forward Current vs. Ambient Temperature

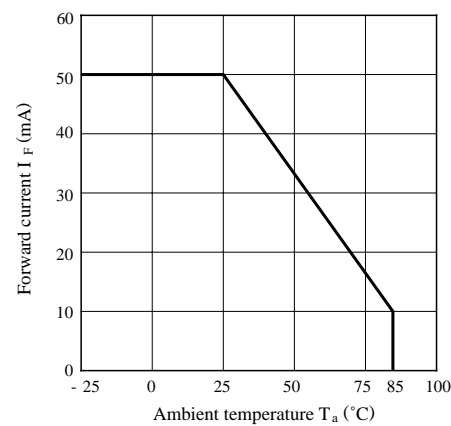


Fig. 2 Peak Forward Current vs. Duty Ratio

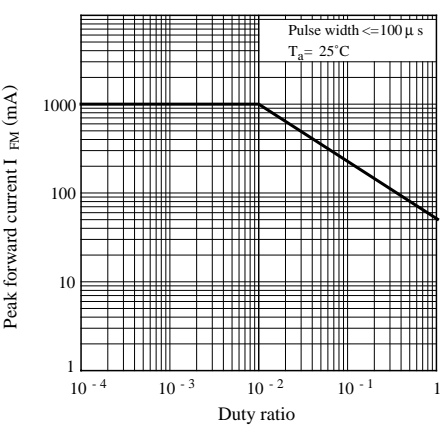


Fig. 3-a Spectral Distribution (GL4600)

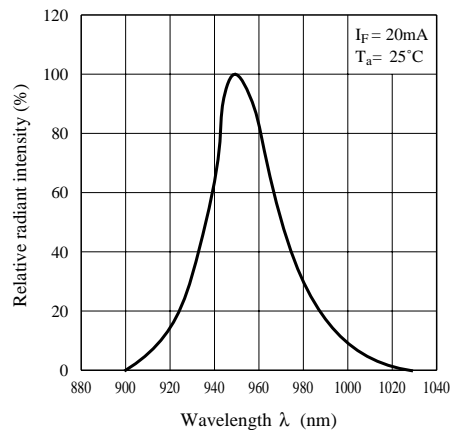


Fig. 3-b Spectral Distribution (GL4610)

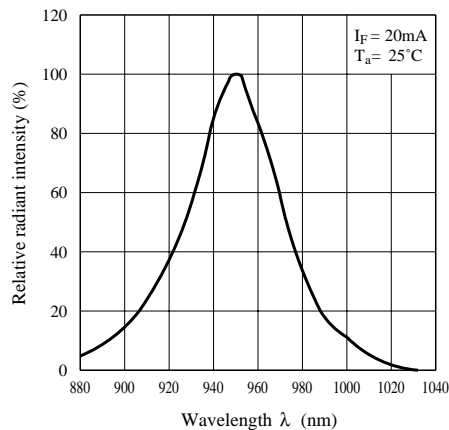


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

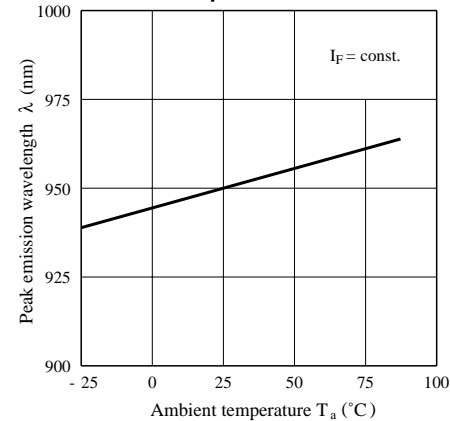


Fig. 5 Forward Current vs. Forward Voltage

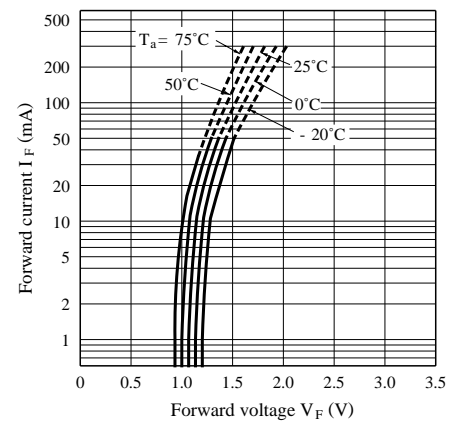


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

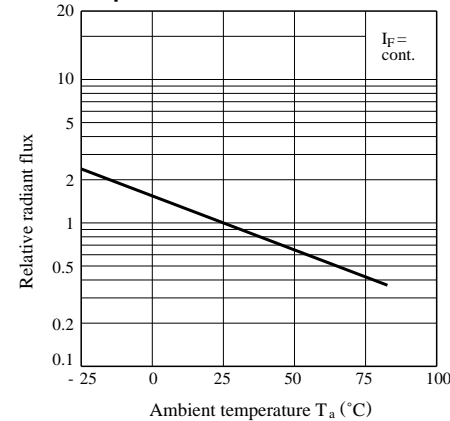


Fig. 7 Radiant Flux vs. Forward Current (GL4600/GL4610)

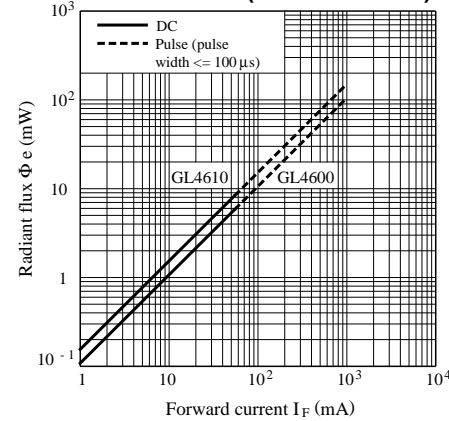


Fig. 8 GL4600 Relative Radiant Intensity vs. Distance

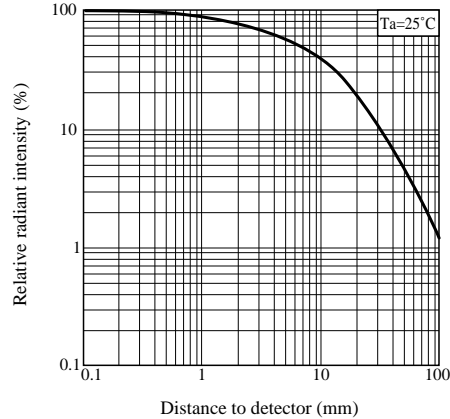


Fig. 9 GL4600 Relative Radiant Intensity vs. Distance (Detector : PT4600)

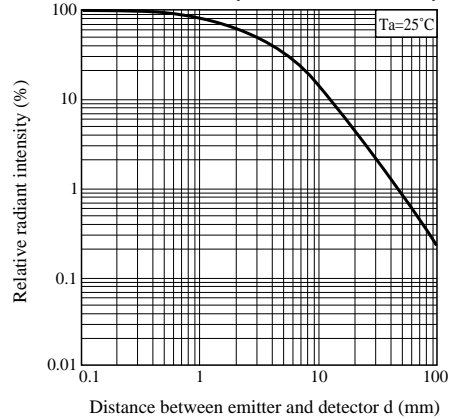
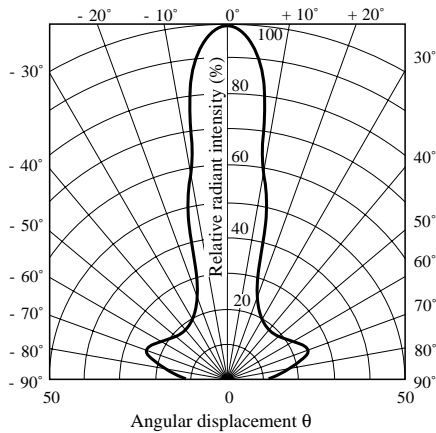


Fig. 10 Radiation Diagram



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