

GL4100 Datasheet




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DiGi Electronics Part Number	GL4100-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	GL4100
Description	EMITTER IR 950NM 50MA RADIAL
Detailed Description	Infrared (IR) Emitter 950nm 1.2V 50mA 180° Radial

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Manufacturer Product Number:

GL4100

Series:

-

Manufacturer:

Sharp Microelectronics

GL4100

Side View and Thin Flat Type Infrared Emitting Diode

■ Features

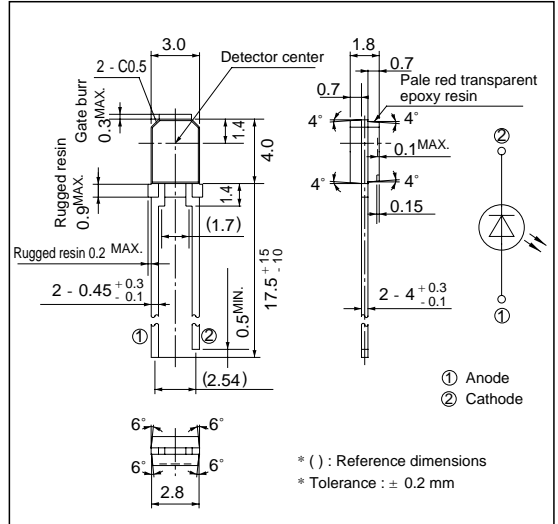
1. Compact flat package
2. Wide beam angle
(Half intensity angle : $\pm 90^\circ$)

■ Applications

1. Mouses
2. Track balls

■ Outline Dimensions

(Unit : mm)



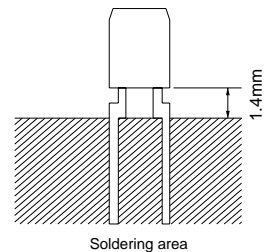
■ Absolute Maximum Ratings

(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	75	mW
Operating temperatur	T_{opr}	- 25 to + 85	°C
Storage temperature	T_{stg}	- 40 to + 85	°C
*2 Soldering temperature	T_{sol}	260	°C

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

* 2 For 5 seconds at the position of 1.4 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	1.4	V
Peak forward voltage	V_{FM}	$I_{FM} = 0.5\text{A}$	-	3.0	4.0	V
Reverse current	I_R	$V_R = 3\text{V}$	-	-	10	μA
Radiant flux	Φ_e	$I_F = 20\text{mA}$	1.0	-	2.0	mW
Peak emission wavelength	λ_p	$I_F = 5\text{mA}$	-	950	-	nm
Half intensity wavelength	$\Delta\lambda$	$I_F = 5\text{mA}$	-	45	-	nm
Terminal capacitance	C_t	$V_R = 0, f = 1\text{MHz}$	-	50	-	pF
Response frequency	f_c	-	-	300	-	kHz
Half intensity angle	$\Delta\theta$	$I_F = 20\text{mA}$	-	± 90	-	°

Fig. 1 Forward Current vs. Ambient Temperature

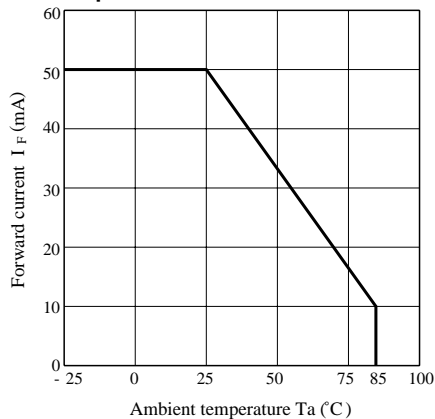


Fig. 2 Peak Forward Current vs. Duty Ratio

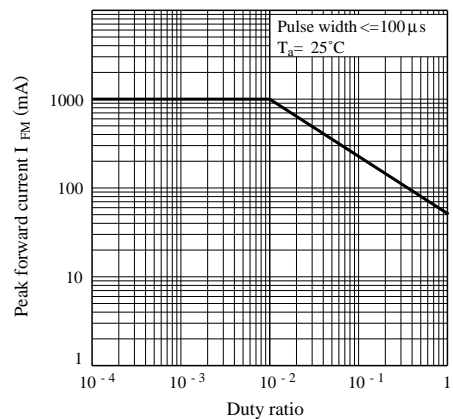


Fig. 3 Spectral Distribution

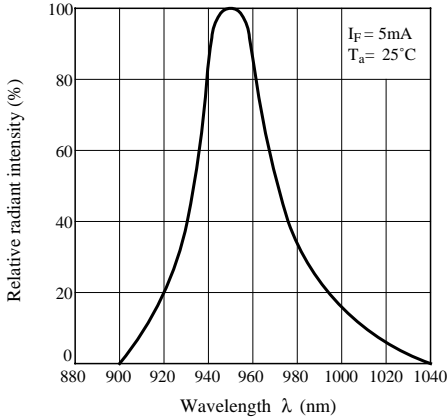


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

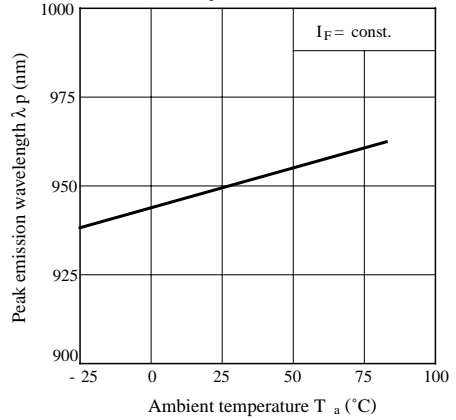


Fig. 5 Forward Current vs. Forward Voltage

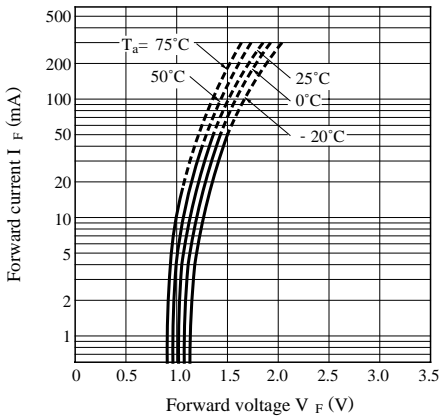


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

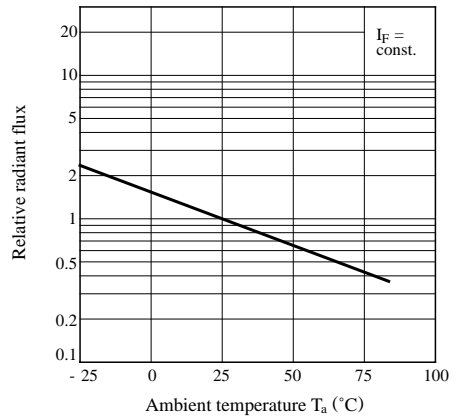


Fig. 7 Radiant Flux vs. Forward Current

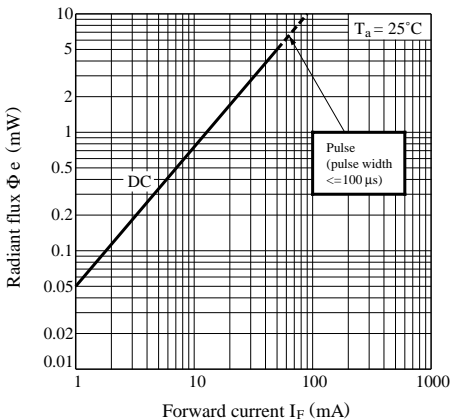


Fig. 8 Relative Radiant Intensity vs. Distance

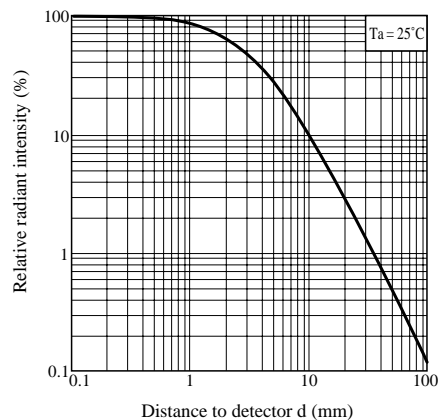


Fig. 9 Relative Radiant Intensity vs. Distance (Detector : PT4110)

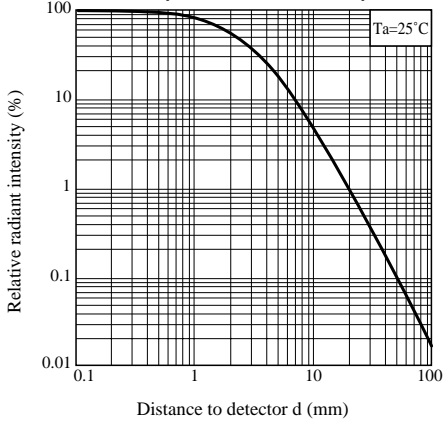
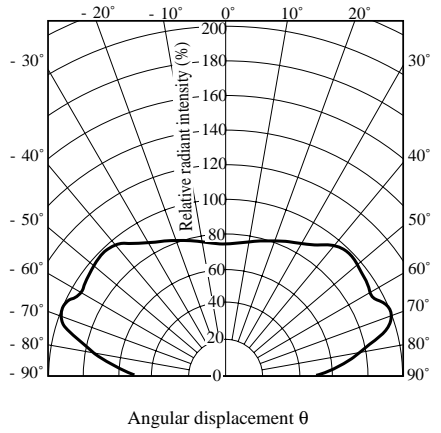


Fig. 10 Radiation Diagram (Ta=25°C)



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

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