



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# GL380/GL381

## High Output, $\phi$ 3mm Resin Mold Type Infrared Emitting Diode

### ■ Features

- High output  
( $I_E$  : MIN. 4.5mW/sr at  $I_F = 50\text{mA}$ , **GL380**)  
( $I_E$  : MIN. 8.5mW/sr at  $I_F = 50\text{mA}$ , **GL381**)
- Compact  $\phi$  3mm resin mold package
- Narrow beam angle(  $\Delta\theta$  : TYP.  $\pm 13^\circ$  )

### ■ Applications

- Floppy disk drives
- Optoelectronic switches
- Infrared applied systems

### ■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Forward current	$I_F$	60	mA
*1 Peak forward current	$I_{FM}$	1	A
Reverse voltage	$V_R$	6	V
Power dissipation	P	150	mW
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  $\leq 100\mu\text{s}$ , Duty ratio = 0.01

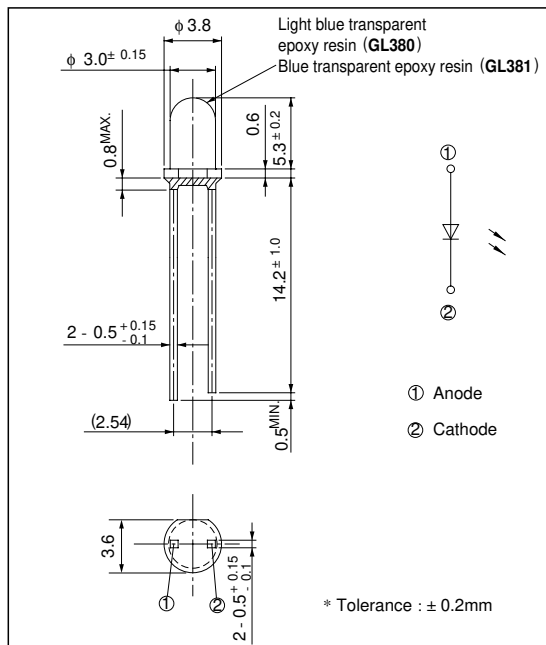
\*2 For 3 seconds at the position of 2.6mm from the bottom face of resin package.

### ■ Electro-optical Characteristics (Ta = 25°C)

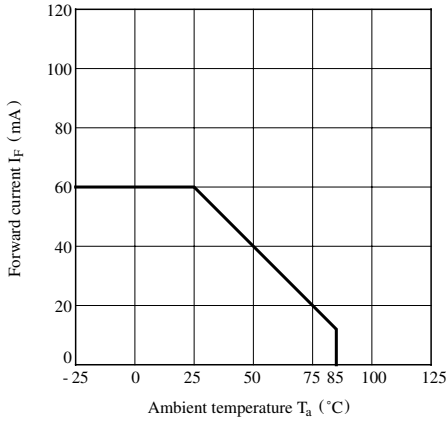
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	$V_F$	$I_F = 50\text{mA}$	-	1.3	1.5	V
Peak forward voltage	$V_{FM}$	$I_{FM} = 0.5\text{A}$	-	2.2	3.5	V
Reverse current	$I_R$	$V_R = 3\text{V}$	-	-	10	$\mu\text{A}$
*3 Radiant intensity	<b>GL380</b>	$I_F = 50\text{mA}$	4.5	11	-	mW/sr
	<b>GL381</b>		8.5	20	-	
Peak emission wavelength	$\lambda_P$	$I_F = 5\text{mA}$	-	950	-	nm
Half intensity wavelength	$\Delta\lambda$	$I_F = 5\text{mA}$	-	45	-	nm
Terminal capacitance	$C_t$	$V_R = 0, f = 1\text{MHz}$	-	70	-	pF
Response frequency	$f_C$		-	300	-	kHz
Half intensity angle	$\Delta\theta$	$I_F = 20\text{mA}$	-	$\pm 13$	-	°

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

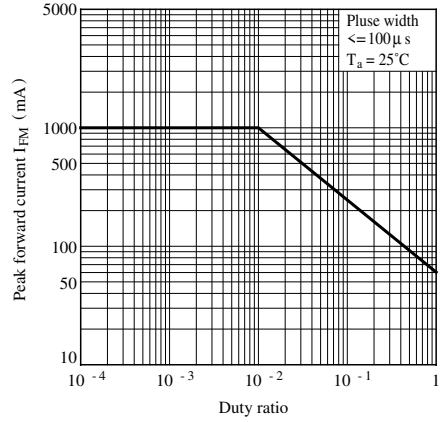
### ■ Outline Dimensions (Unit : mm)



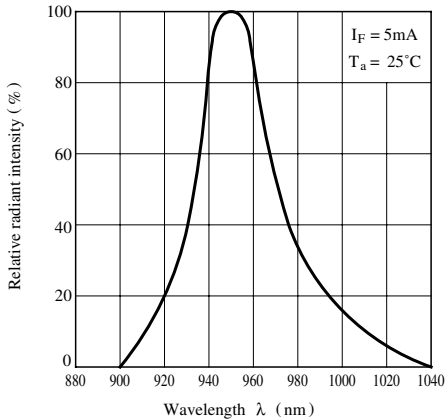
**Fig. 1 Forward Current vs. Ambient Temperature**



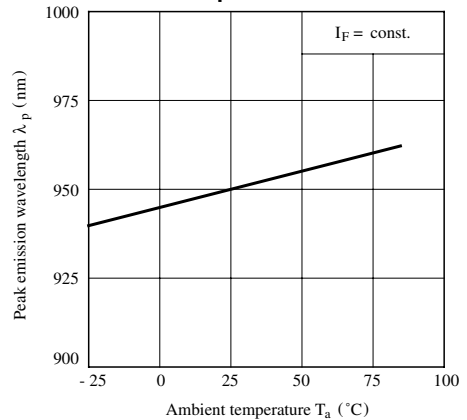
**Fig. 2 Peak Forward Current vs. Duty Ratio**



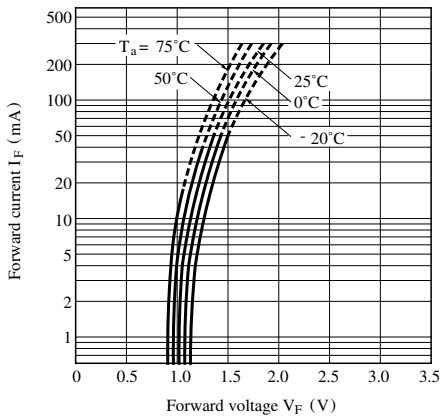
**Fig. 3 Spectral Distribution**



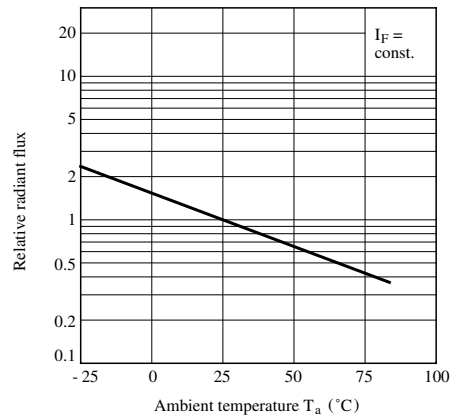
**Fig. 4 Peak Emission Wavelength vs. Ambient Temperature**



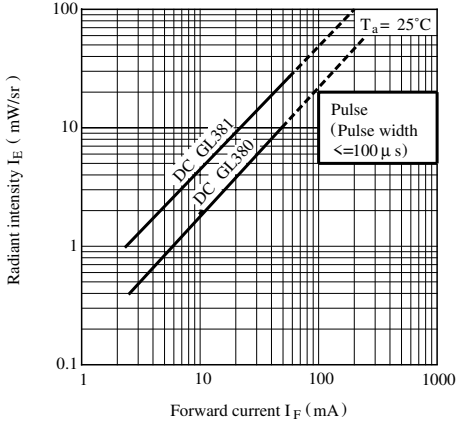
**Fig. 5 Forward Current vs. Forward Voltage**



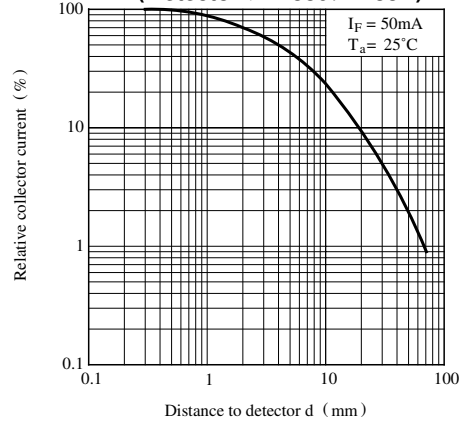
**Fig. 6 Relative Radiant Flux vs. Ambient Temperature**



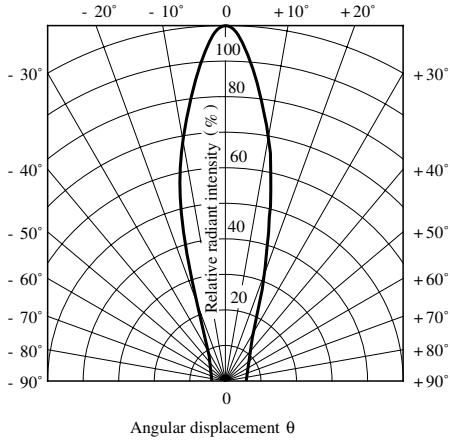
**Fig. 7 Radiant Intensity vs. Forward Current**



**Fig. 8 Relative Collector Current vs. Distance**  
(Detector : PT380 / PT381)



**Fig. 9 Radiation Diagram**



● Please refer to the chapter “Precautions for Use”