GL380/GL381

High Output, ϕ 3mm Resin Mold Type Infrared Emitting Diode

■ Features

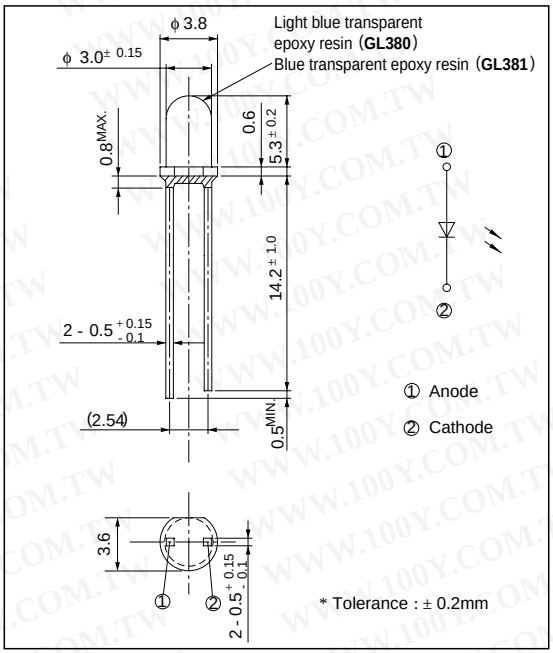
1. High output
   (I_E: MIN. 4.5mW/sr at I_F= 50mA, **GL380**)
   (I_E: MIN. 8.5mW/sr at I_F= 50mA, **GL381**)
2. Compact ϕ 3mm resin mold package
3. Narrow beam angle(Δθ: TYP. ± 13°)

■ Applications

1. Floppy disk drives
2. Optoelectronic switches
3. Infrared applied systems

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Forward current	I_F	60	mA
*1Peak 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
*2Soldering temperature	T_{sol}	260	°C

*1 Pulse width <=100μs, 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 = 50mA	-	1.3	1.5	V
Peak forward voltage		V_{FM}	I_{FM} = 0.5A	-	2.2	3.5	V
Reverse current		I_R	V_R = 3V	-	-	10	μA
*3Radiant intensity	GL380	I_E	I_F = 50mA	4.5	11	-	mW/sr
	GL381			8.5	20	-	
Peak emission wavelength		λ_P	I_F = 5mA	-	950	-	nm
Half intensity wavelength		Δλ	I_F = 5mA	-	45	-	nm
Terminal capacitance		C_t	V_R = 0, f = 1MHz	-	70	-	pF
Response frequency		f_C		-	300	-	kHz
Half intensity angle		Δθ	I_F = 20mA	-	± 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 the lens portion into 1 sr of all those emitted from the light emitting diode.

Fig. 1 Forward Current vs. Ambient Temperature

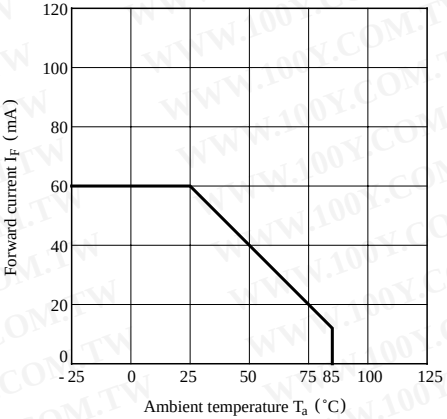


Fig. 2 Peak Forward Current vs. Duty Ratio

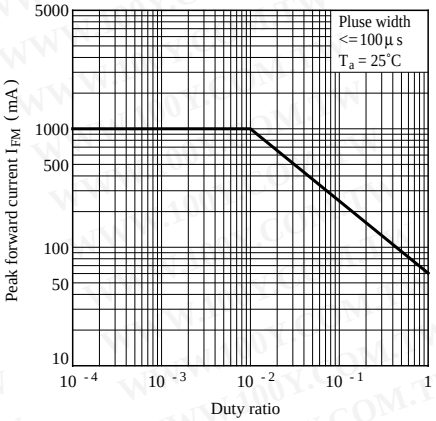


Fig. 3 Spectral Distribution

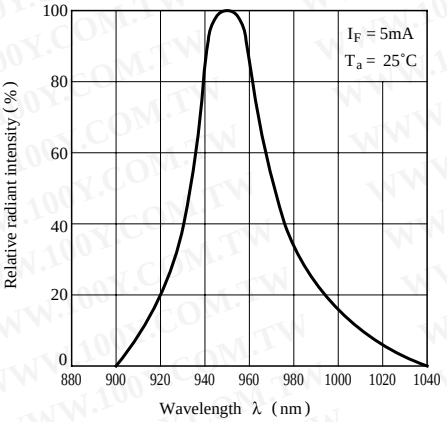


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

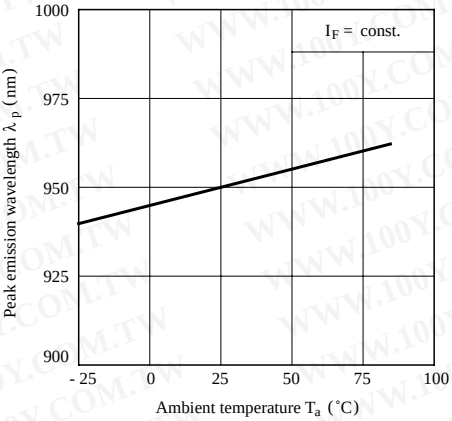


Fig. 5 Forward Current vs. Forward Voltage

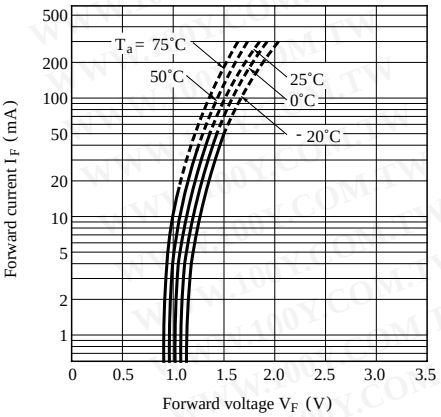


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

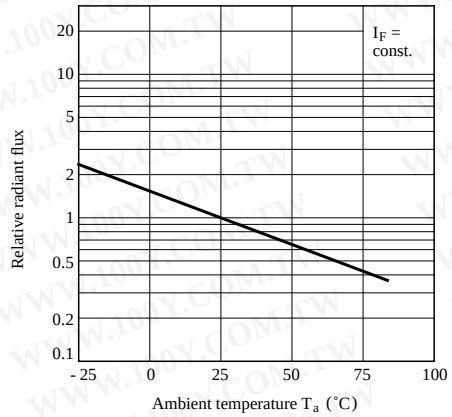


Fig. 7 Radiant Intensity vs. Forward Current

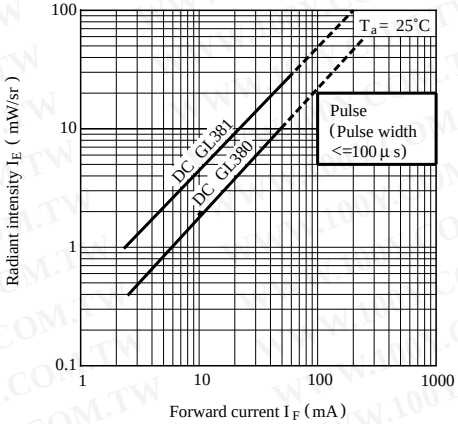


Fig. 8 Relative Collector Current vs. Distance (Detector：PT380 / PT381)

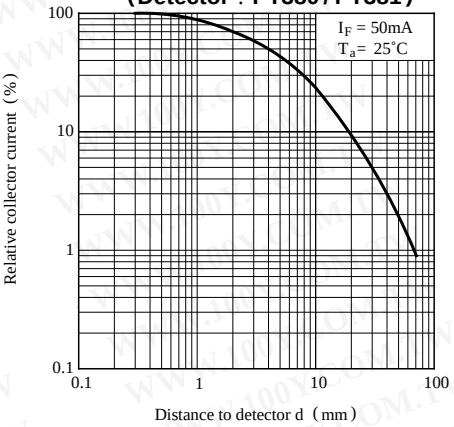
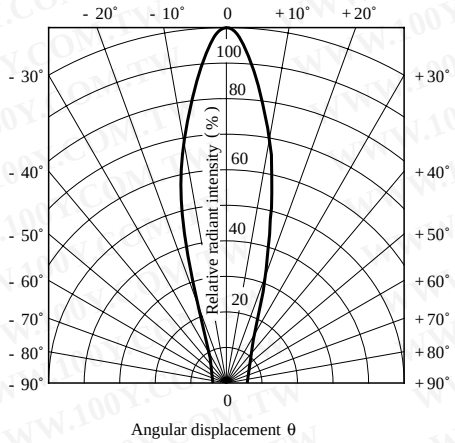


Fig. 9 Radiation Diagram



● Please refer to the chapter “Precautions for Use”