# GL380/GL381

# Features

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

# Applications

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

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Parameter	Symbol	Rating	Unit	
Forward current	IF	60	mA	
*1Peak forward current	I <sub>FM</sub>	1	Α	
Reverse voltage	VR	6	V	
Power dissipation	Р	150	mW	
Operating temperature	T opr	- 25 to + 85	°C	
Storage temperature	T stg	- 40 to + 85	°C	
*2Soldering temperature	T sol	260	°C	

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

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

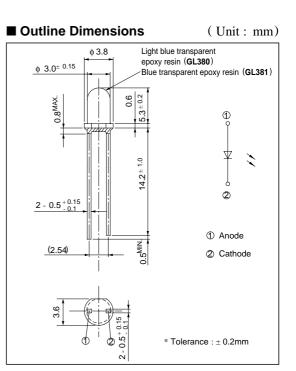
\*2 For 3 seconds at the position of 2.6mm from the bottom face of resin package.

### Electro-optical Characteristics

#### $(Ta = 25^{\circ}C)$

-							
Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage		V <sub>F</sub>	$I_F = 50 m A$	-	1.3	1.5	V
Peak forward voltage		V FM	$I_{FM} = 0.5A$	-	2.2	3.5	V
Reverse current		IR	$V_R = 3V$	-	-	10	μA
*3Radiant intensity	GL380	- I <sub>E</sub>	$I_{\text{F}}=50mA$	4.5	11	-	mW/sr
	GL381			8.5	20	-	
Peak emission waveler	gth	λp	$I_F = 5mA$	-	950	-	nm
Half intensity waveleng	gth	Δλ	$I_F = 5mA$	-	45	-	nm
Terminal capacitance		Ct	$V_R = 0$ , $f = 1$ MHz	-	70	-	pF
Response frequency		fc		-	300	-	kHz
Half intensity angle		Δθ	$I_F = 20 m A$	-	± 13	-	٥

\*3 I <sub>E</sub> : 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.

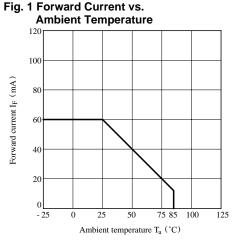


High Output,  $\phi$  3mm Resin

Mold Type Infrared Emitting

Diode

<sup>11</sup> In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest version of the device specification sheets before using any SHARP's device."



#### Fig. 3 Spectral Distribution

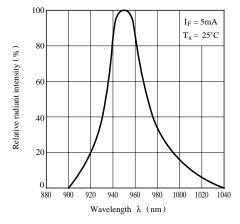
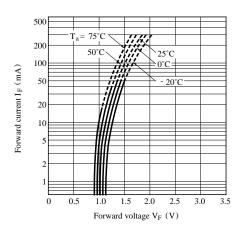


Fig. 5 Forward Current vs. Forward Voltage



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

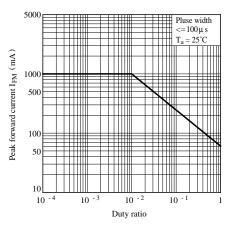


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

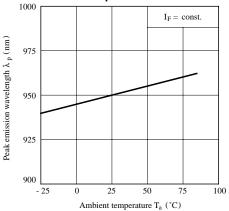
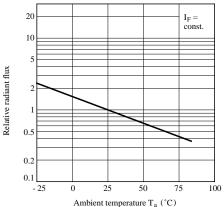
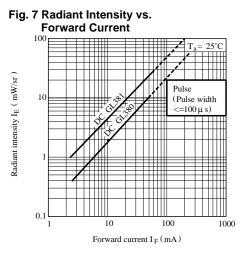
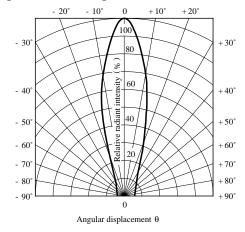


Fig. 6 Relative Radiant Flux vs. Ambient Temperature





#### Fig. 9 Radiation Diagram



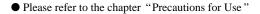
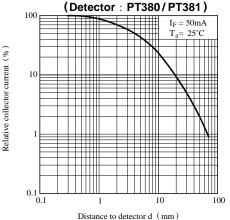


Fig. 8 Relative Collector Current vs. Distance



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