GL537/GL538

ϕ 5mm Resin Mold Type Infrared Emitting Diode

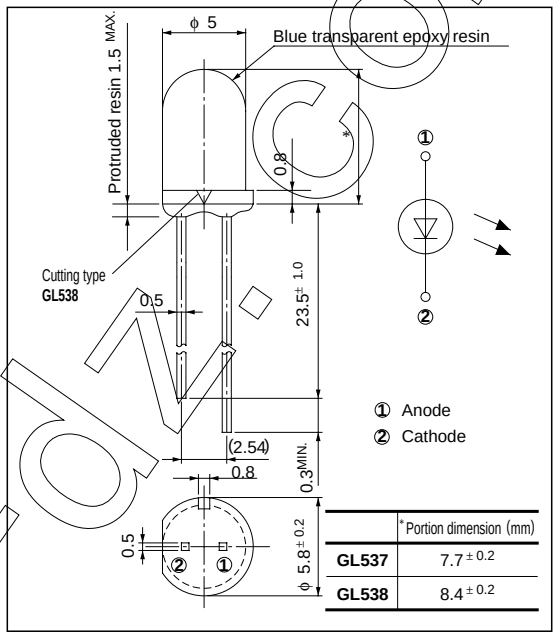
■ Features

1. High output power
   I_E: TYP. 30mW/sr at I_F = 50mA **(GL538)**
2. Beam angle
   GL538 Δθ : TYP. ± 13˚
   GL537 Δθ : TYP. ± 25˚
3. ϕ 5mm epoxy resin package

■ Applications

1. Infrared remote controllers for TVs, VCRs, audio equipment and air conditioners

■ Outline Dimensions (Unit : mm)



	*Portion dimension (mm)
GL537	7.7 ± 0.2
GL538	8.4 ± 0.2

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Power dissipation	P	150	mW
Forward current	I_F	100	mA
*1 Peak forward current	I_{FM}	1	A
Reverse voltage	V_R	6	V
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<=100 μ 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 = 50mA	-	1.3	1.5	V
Peak forward voltage		V_{FM}	I_{FM} = 0.5A	-	1.9	3.0	V
Reverse current		I_R	V_R = 3V	-	-	10	μ A
Peak emission wavelength		λ_P	I_F = 5mA	-	950	-	nm
Half intensity wavelength		Δ λ	I_F = 5mA	-	45	-	nm
*3 Radiation intensity	GL537	I_E	I_F = 50mA	6	13	-	mW/sr
	GL538			15	30	-	
Terminal capacitance		C_t	V_R = 0, f = 1kHz	-	50	-	pF
Response frequency		f_c	-	-	300	-	kHz
Half intensity angle	GL537	Δ θ	I_F = 20mA	-	± 25	-	˚
	GL538			-	± 13	-	˚

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

Fig. 1 Forward Current vs. Ambient Temperature

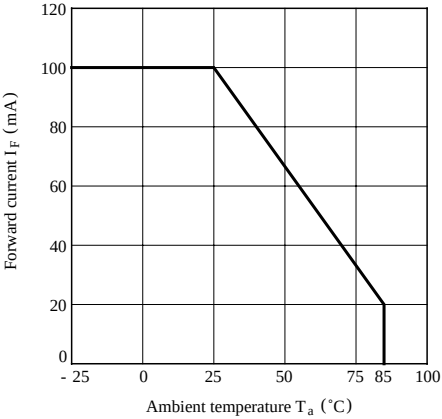


Fig. 2 Peak Forward Current vs. Duty Ratio

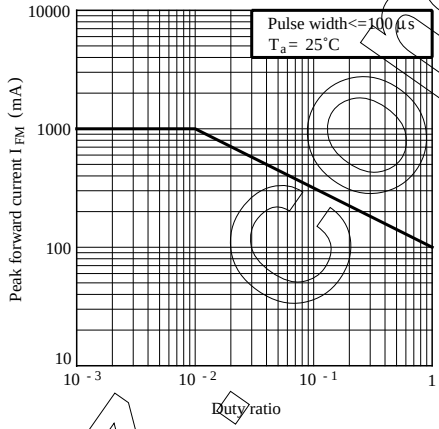


Fig. 3 Spectral Distribution

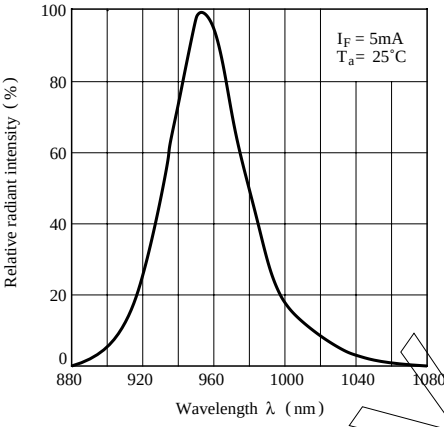


Fig. 4 Peak Emission Wave length vs. Ambient Temperature

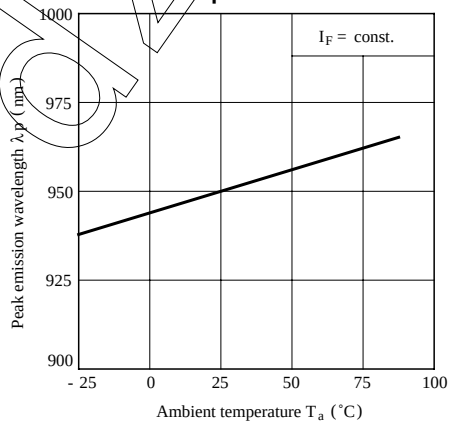


Fig. 5 Forward Current vs. Forward Voltage

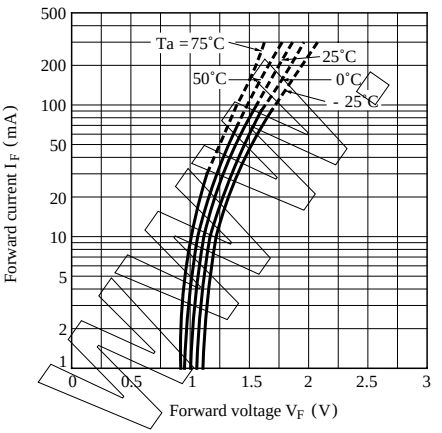


Fig. 6 Relative Forward Voltage vs. Ambient Temperature

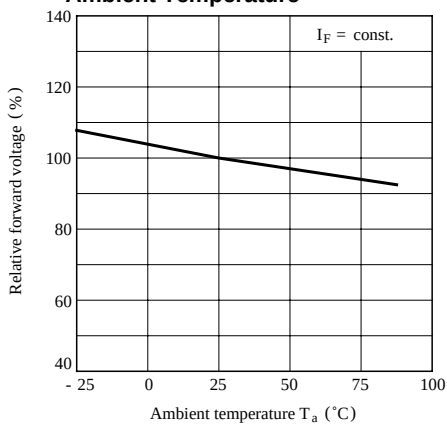


Fig. 7 Relative Output vs. Ambient Temperature (Detector : PD410PI)

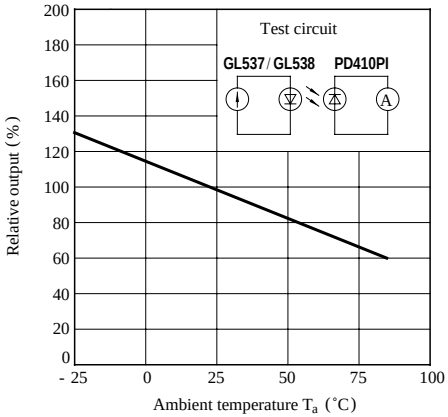


Fig. 8 Radiation Intensity vs. Peak Forward Current

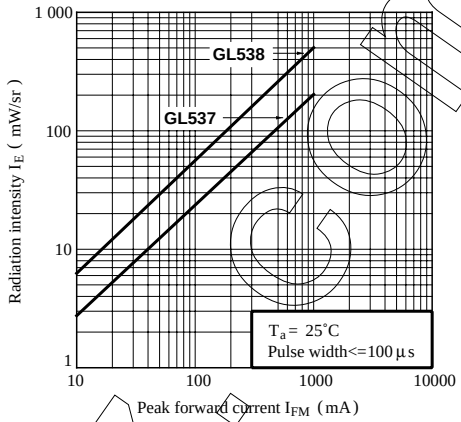


Fig. 9 Relative Collector Current vs. Distance (Detector : PD410PI)

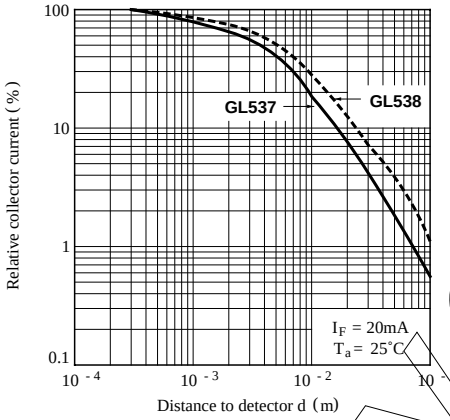


Fig.10 Relative Collector Current vs. Distance (Detector : PD49PI)

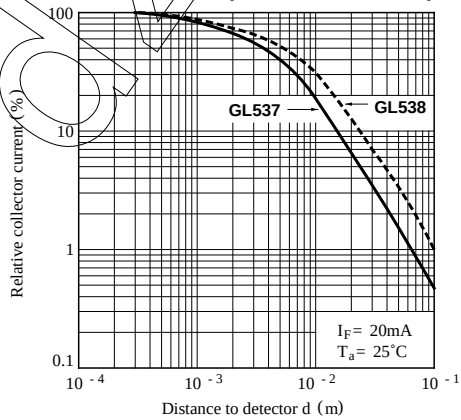


Fig.11-a Radiation Diagram (GL537)

(T_a = 25°C)

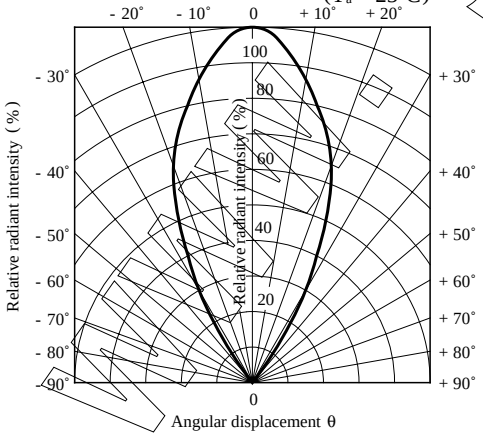
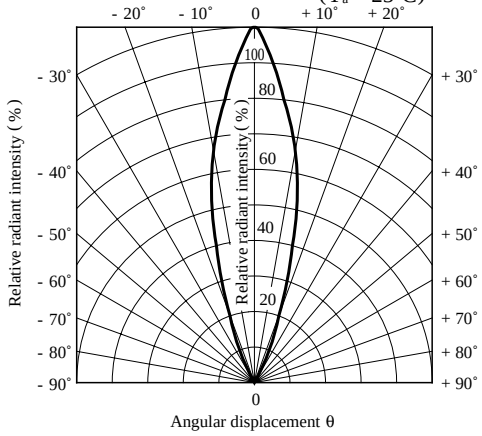


Fig.11-b Radiation Diagram (GL538)

(T_a = 25°C)



● Please refer to the chapter " Precautions for Use."

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- Audio visual equipment
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