

GL537/GL538

φ 5mm Resin Mold Type Infrared Emitting Diode

■ Features

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

■ Applications

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

■ Absolute Maximum Ratings (T_a = 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 (T_a = 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 = 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	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.

■ Outline Dimensions (Unit : mm)

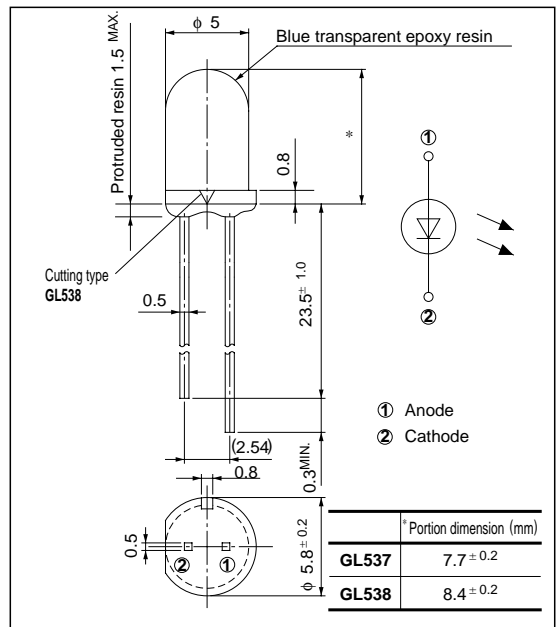


Fig. 1 Forward Current vs. Ambient Temperature

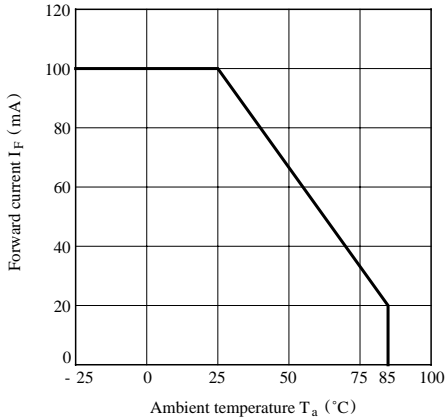


Fig. 2 Peak Forward Current vs. Duty Ratio

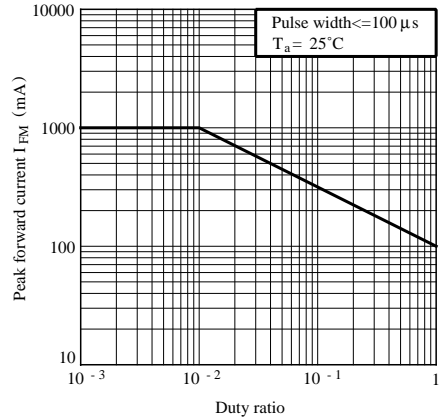


Fig. 3 Spectral Distribution

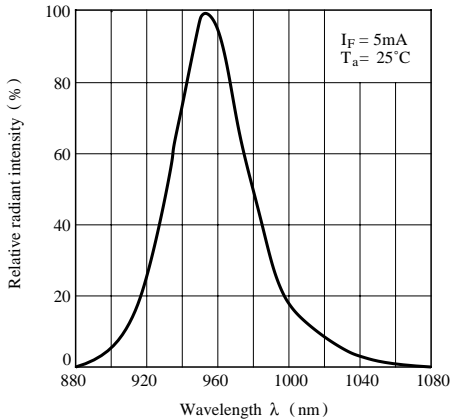


Fig. 4 Peak Emission Wave length vs. Ambient Temperature

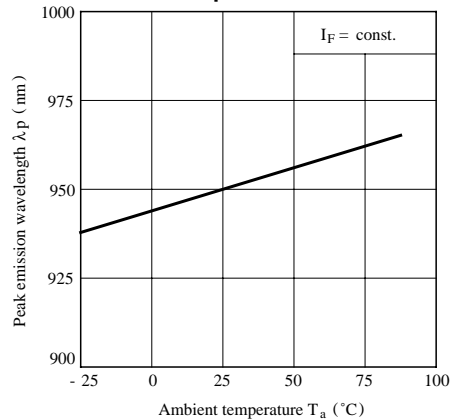


Fig. 5 Forward Current vs. Forward Voltage

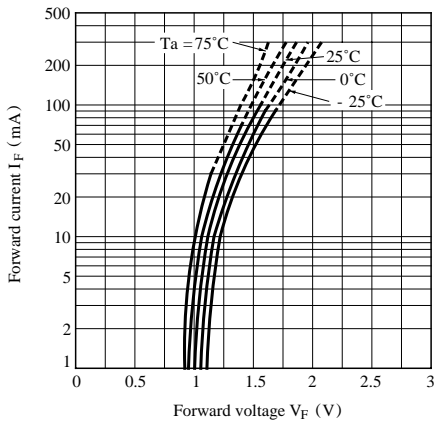


Fig. 6 Relative Forward Voltage vs. Ambient Temperature

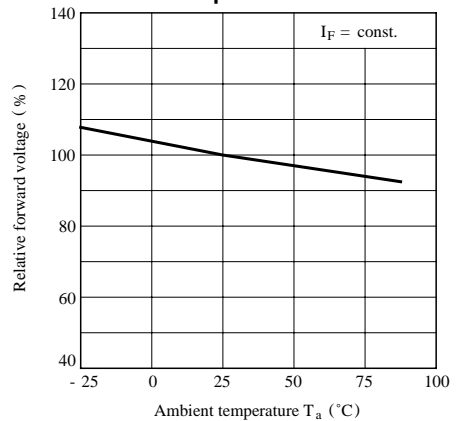


Fig. 7 Relative Output vs. Ambient Temperature (Detector : PD410PI)

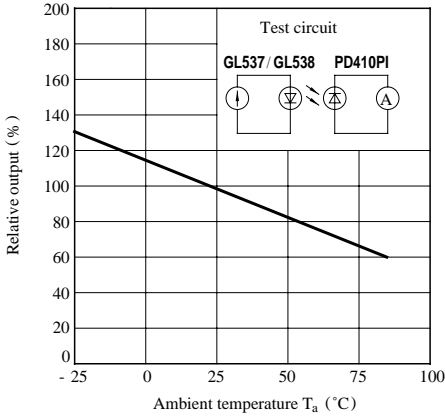


Fig. 8 Radiation Intensity vs. Peak Forward Current

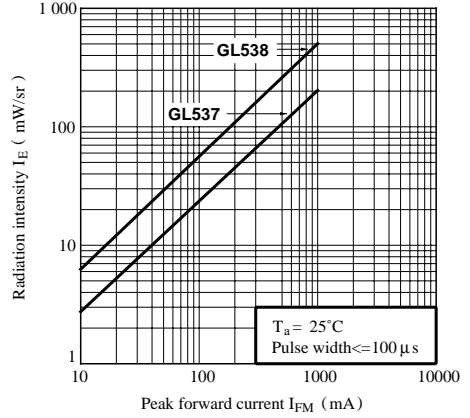


Fig. 9 Relative Collector Current vs. Distance (Detector : PD410PI)

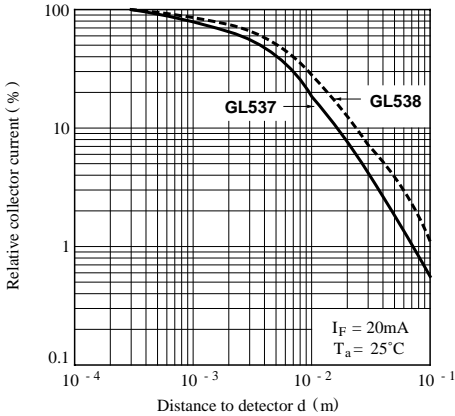


Fig.10 Relative Collector Current vs. Distance (Detector : PD49PI)

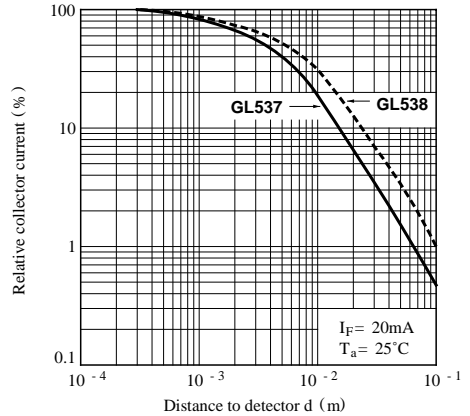


Fig.11-a Radiation Diagram (GL537) ($T_a = 25^\circ\text{C}$)

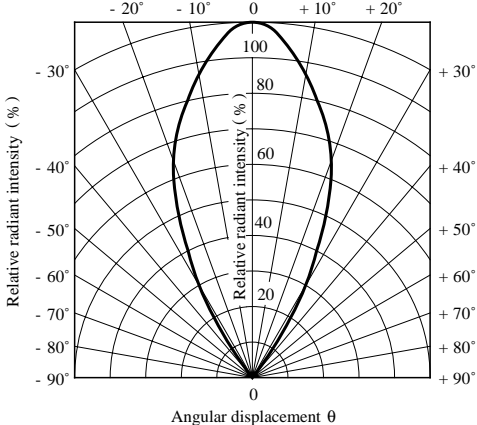
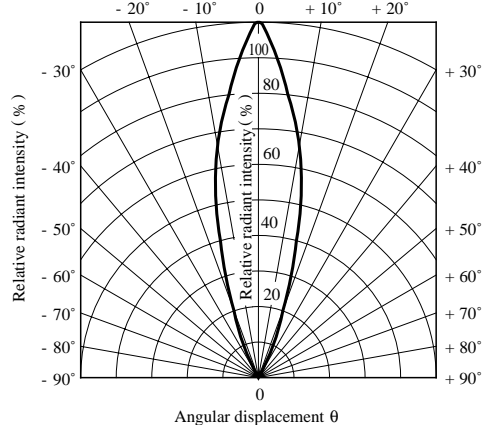


Fig.11-b Radiation Diagram (GL538) ($T_a = 25^\circ\text{C}$)



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