GL514/GL513F

TO-18 Type Infrared Emitting Diode

■ Features

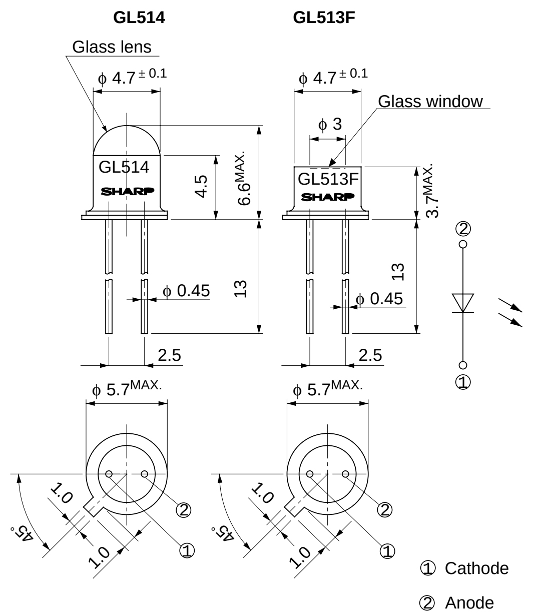
1. Output : **GL514** Φ_e MIN. 3.31mW at
   I_F = 100mA
   GL513F Φ_e MIN. 1.44mW at
   I_F = 100mA
2. Beam angle : **GL514** $\Delta\theta$: TYP. ± 7˚
   GL513F $\Delta\theta$: TYP. ± 50˚
3. To- 18 type standard package
4. High reliability, long operation life

■ Applications

1. Optoelectronic switches
2. Smoke detectors
3. Infrared applied systems

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings

(Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Power dissipation	P	250	mW
Forward current	I_F	150	mA
*1Peak forward current	I_{FM}	2	A
Reverse voltage	V_R	6	V
Operating temperature	T_{opr}	- 40 to + 125	˚C
Storage temperature	T_{stg}	- 55 to + 125	˚C
*2Soldering temperature	T_{sol}	260	˚C

*1 Pulse width<= 200 µs
Duty ratio = 0.01
*2 For 10 seconds at the position of 1.3mm from the bottom face of can package.

■ Electro-optical Characteristics

(Ta = 25˚C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage		V_F	I_F = 100mA	-	1.35	1.6	V
Peak forward voltage		V_{FM}	I_{FM} = 1.5A	-	2.75	4.0	V
Reverse current		I_R	V_R = 5V	-	-	100	µ A
Terminal capacitance		C_t	V = 0, f = 1MHz	-	70	-	pF
*3Radiant flux	**GL514**	Φ_e	I_F = 100mA	3.31	5.35	10.0	mW
	GL513F			1.44	2.88	-	mW
Peak emission wavelength		λ_p	I_F = 100mA	-	950	-	nm
Half intensity wavelength		$\Delta\lambda$	I_F = 100mA	-	45	-	nm

*3 Classification Table of Radiant Flux

Model No.	Rank Mark	Φ_e (mW)
GL514A	A	5.35 to 10.0
GL514	-	3.31 to 10.0

at I_F = 100mA, Ta = 25˚C

Fig. 1 Forward Current vs. Ambient Temperature

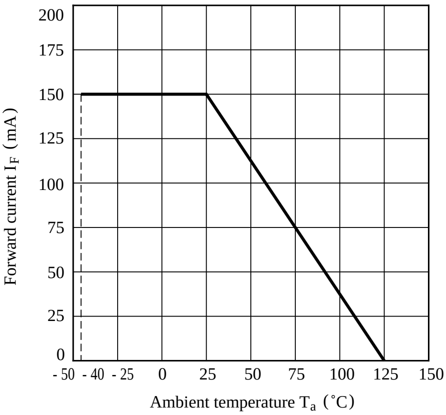


Fig. 2 Peak Forward Current vs. Duty Ratio

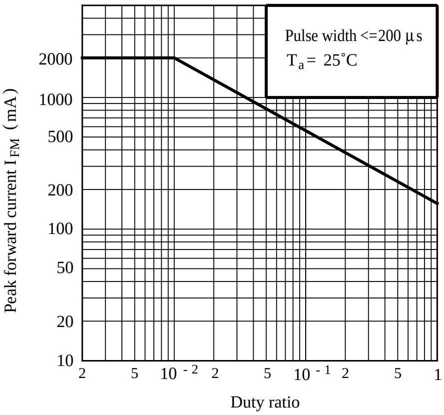


Fig. 3 Spectral Distribution

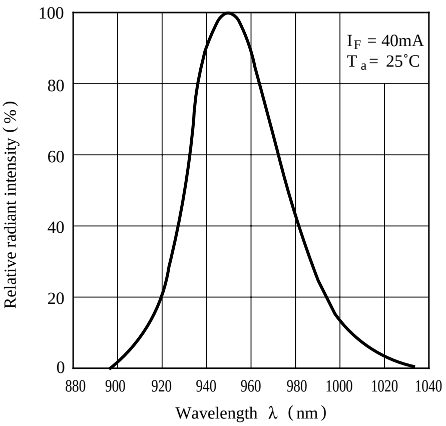


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

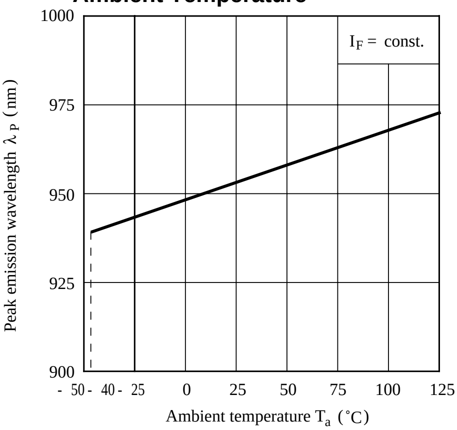


Fig. 5 Forward Current vs. Forward Voltage

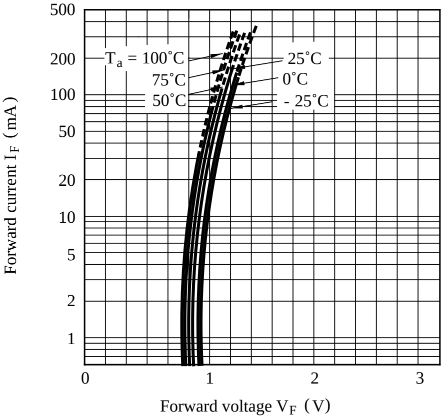


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

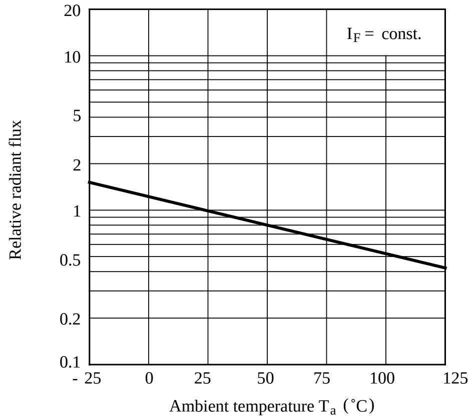


Fig. 7 Radiant Flux vs. Forward Current (GL514)

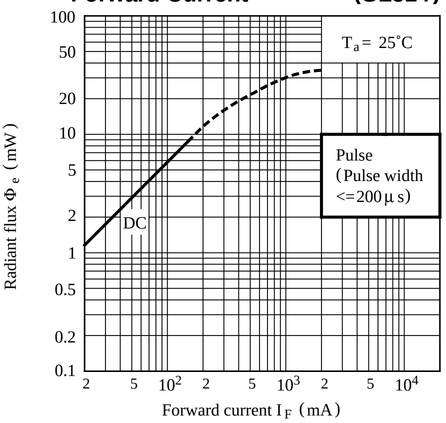


Fig. 8 Radiant Flux vs. Forward Current (GL513F)

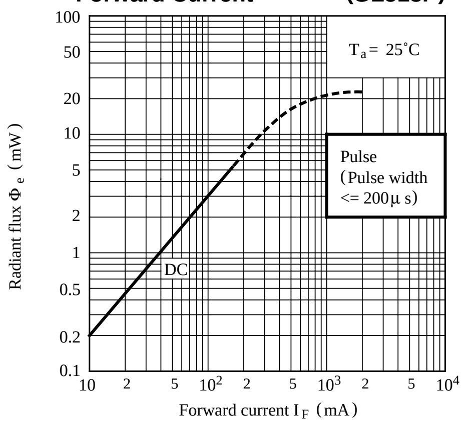


Fig. 9 Relative Radiant Intensity vs. Distance (GL514)

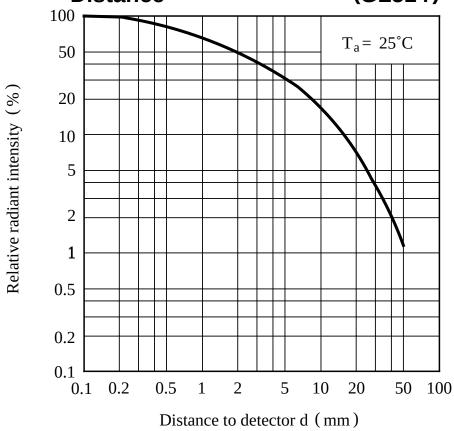


Fig.10 Relative Radiant Intensity vs. Distance (GL513F)

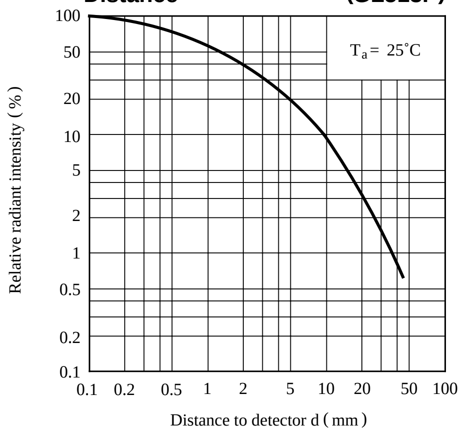


Fig.11 Radiation Diagram (GL514)

(T_a = 25˚C)

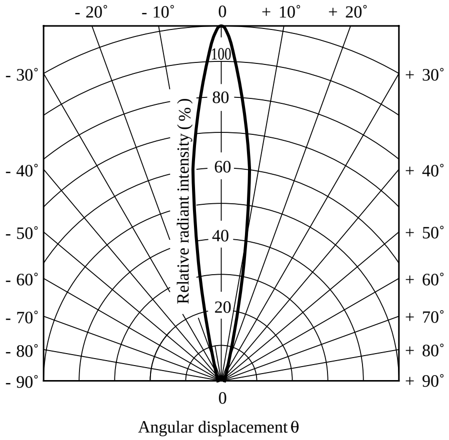
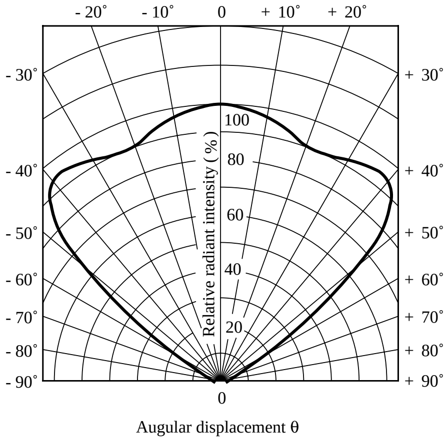


Fig.12 Radiation Diagram (GL513F)

(T_a = 25˚C)



● Please refer to the chapter “ Precautions for Use.”

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