

# GL453/GL454

## Bidirectional Emission Type Infrared Emitting Diode

### Features

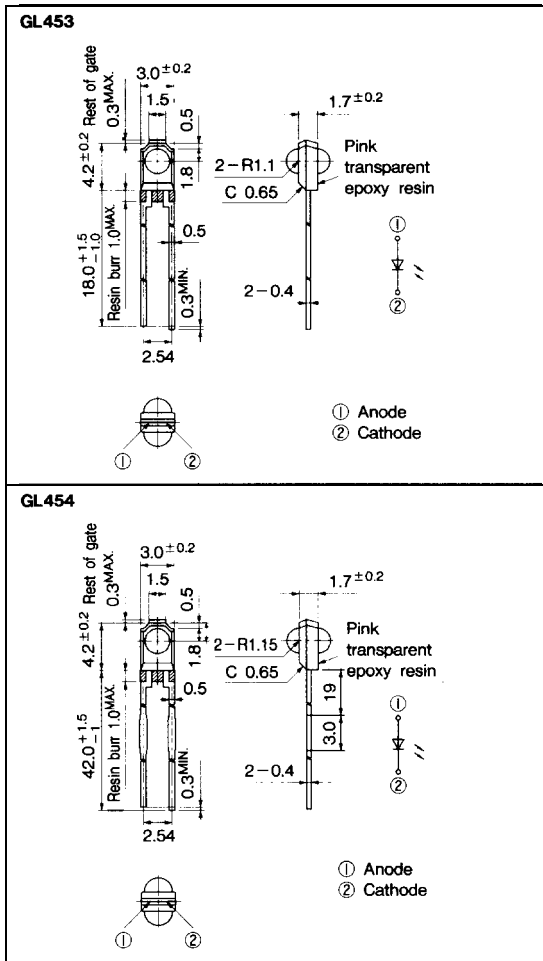
1. Bidirectional light emission type
2. High output (0, : TYP. 1.3mW at  $I_F=20\text{mA}$ )
3. Compact package type
4. Long lead pin type (GL454)
5. Epoxy resin package

### Applications

1. Light source for tape-end detectors of VHS type VCRs

### Outline Dimensions

(Unit : mm)



3  
Infrared Emitting Diodes

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

Parameter	Symbol	Rating	Unit
Power dissipation	P	75	mW
Forward current	$I_F$	50	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  $\leq 100 \mu\text{s}$ , Duty ratio = 0.01

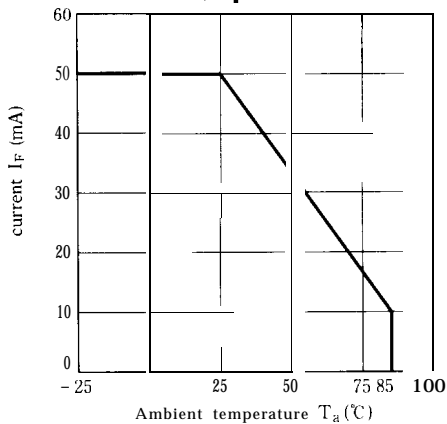
\*2 For 3 seconds at the position of 1.8mm from the bottom face of resin package

■ **Electro-optical Characteristics**

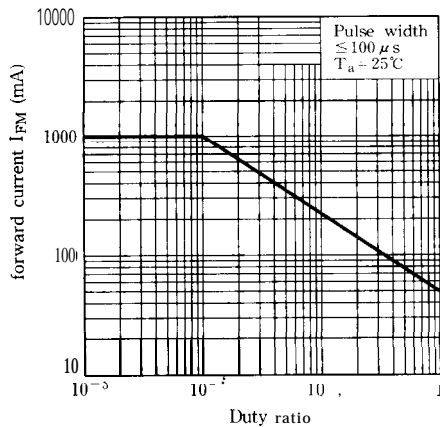
( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	$V_F$	$I_F = 20\text{mA}$	—	1.2	1.5	V
Peak forward voltage	$V_{FM}$	$I_{FM} = 0.5\text{A}$		3.0	4.0	V
Reverse current	$I_R$	$V_R = 3\text{V}$	—		10	$\mu\text{A}$
Terminal capacitance	$C_t$	$V = 0, f = 1\text{MHz}$		30		pF
Radiant flux	$\Phi_e$	$I_F = 20\text{mA}$	0.85	1.3	1.95	mW
Peak emission wavelength	$\lambda_p$	$I_F = 5\text{mA}$	—	950	—	nm
Half intensity wavelength	$\Delta\lambda$	$I_F = 5\text{mA}$		45		nm

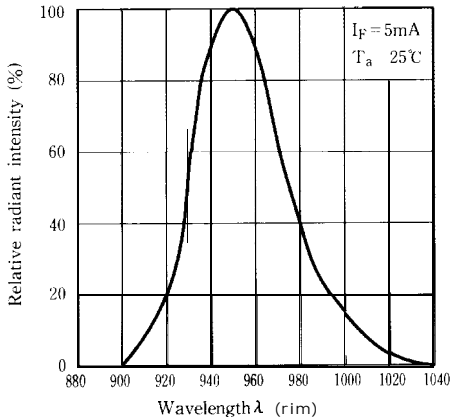
**Fig. 1 Forward Current vs. Ambient Temperature**



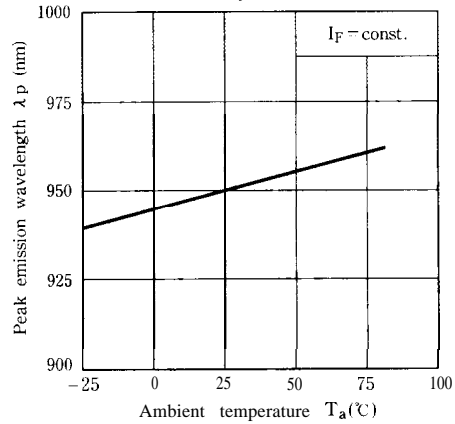
**Fig. 2 Peak Forward Current vs. Duty Ratio**



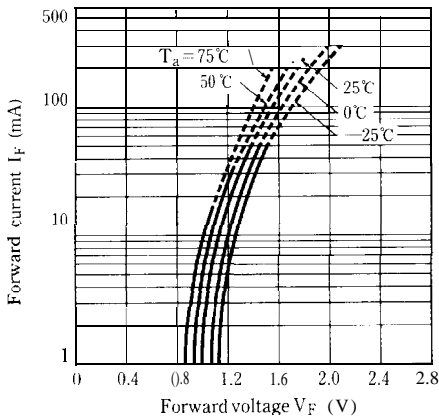
**Fig. 3 Spectral Distribution**



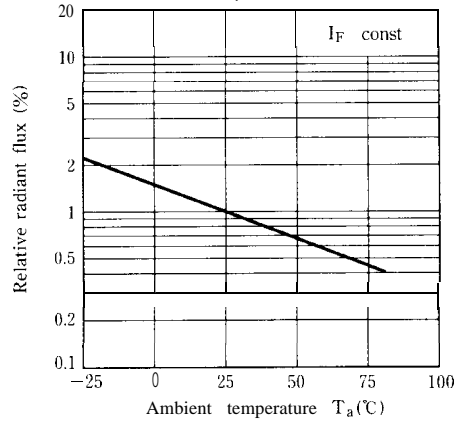
**Fig. 4 Peak Emission Wavelength vs. Ambient Temperature**



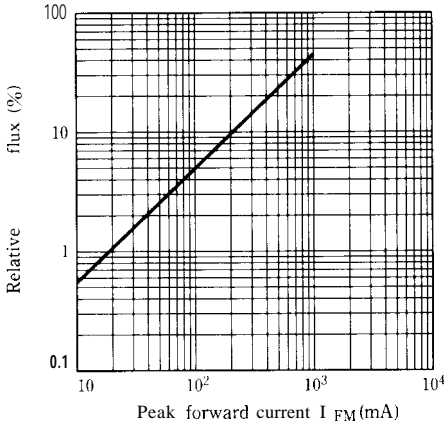
**Fig. 5 Forward Current vs. Forward Voltage**



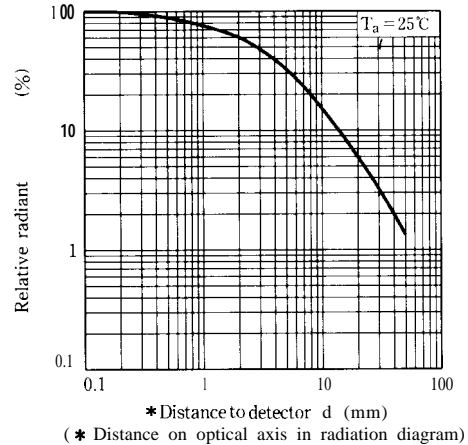
**Fig. 6 Relative Radiant Flux vs. Ambient Temperature**



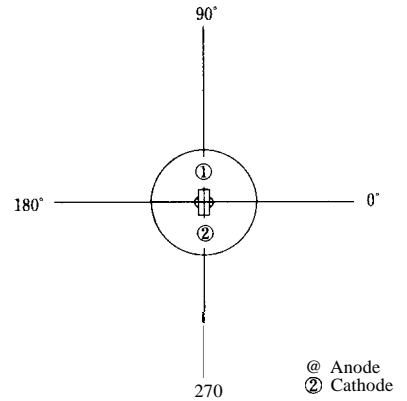
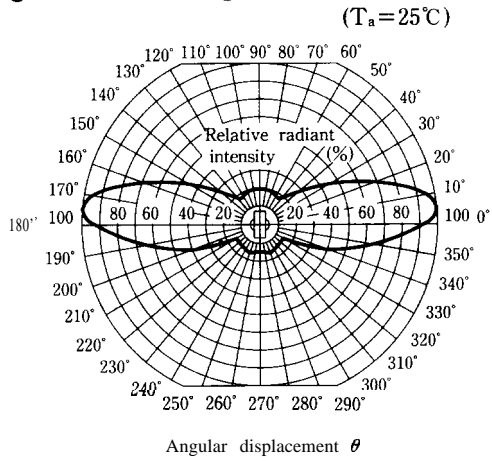
**Fig. 7 Relative Radiant Flux vs. Peak Forward Current**



**Fig. 8 Relative Radiant Intensity vs. Distance**



**Fig. 9 Radiation Diagram**



● Please refer to the chapter “Precautions for Use.” (Page 78 to 93)