GL453/GL454

Bidirectional Emission Type Infrared Emitting Diode

■ Features

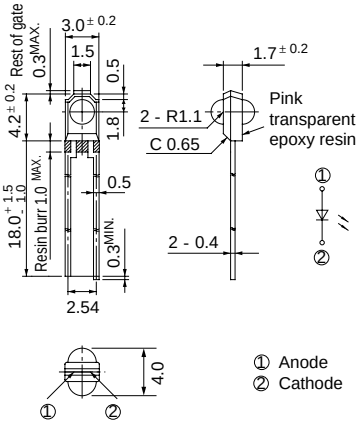
1. Bidirectional light emission type
2. High output (Φe: TYP. 1.3mW at IF = 20mA)
3. Compact package type
4. Long lead pin type (**GL454**)
5. Epoxy resin package

■ Applications

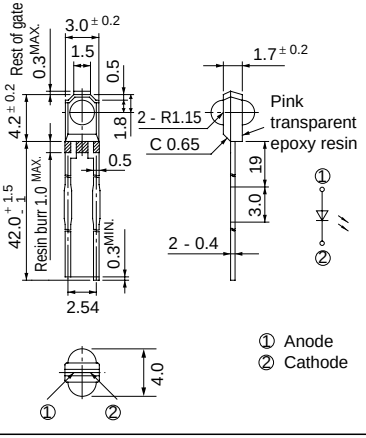
1. Light source for tape-end detectors of VHS type VCRs

■ Outline Dimensions (Unit: mm)

GL453



GL454



■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Power dissipation	P	75	mW
Forward current	I_F	50	mA
*1Peak 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
*2Soldering temperature	T_{sol}	260	°C

*1 Pulse width <=100μs, Duty ratio = 0.01
*2 For 3 seconds at the position of 1.8mm 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= 20mA	-	1.2	1.5	V
Peak forward voltage	V_{FM}	I_{FM}= 0.5A	-	3.0	4.0	V
Reverse current	I_R	V_R= 3V	-	-	10	μA
Terminal capacitance	C_t	V= 0, f= 1MHz	-	30	-	pF
Radiant flux	Φ_e	I_F= 20mA	0.85	1.3	1.95	mW
Peak emission wavelength	λ_p	I_F= 5mA	-	950	-	nm
Half intensity wavelength	$\Delta\lambda$	I_F= 5mA	-	45	-	nm

Fig. 1 Forward Current vs. Ambient Temperature

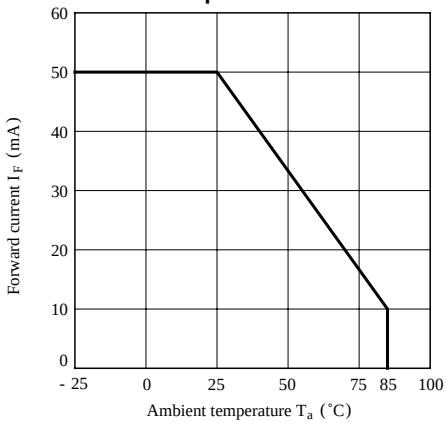


Fig. 2 Peak Forward Current vs. Duty Ratio

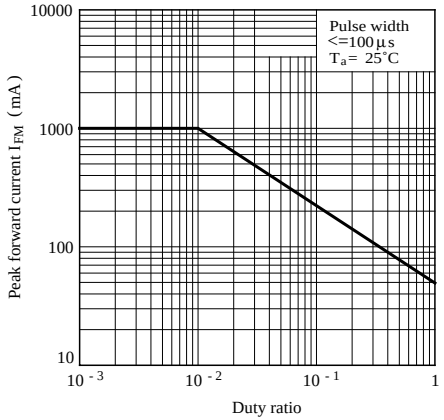


Fig. 3 Spectral Distribution

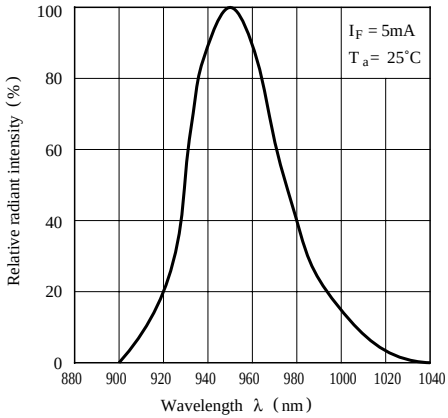


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

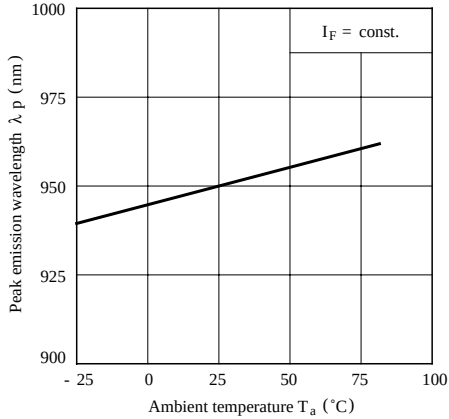


Fig. 5 Forward Current vs. Forward Voltage

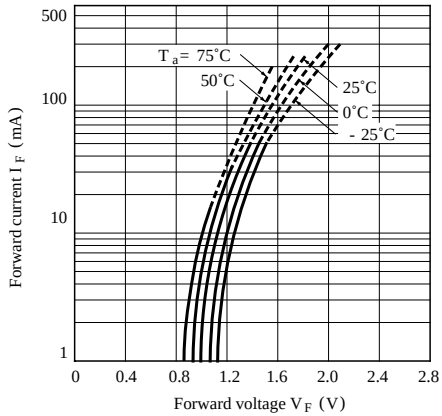


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

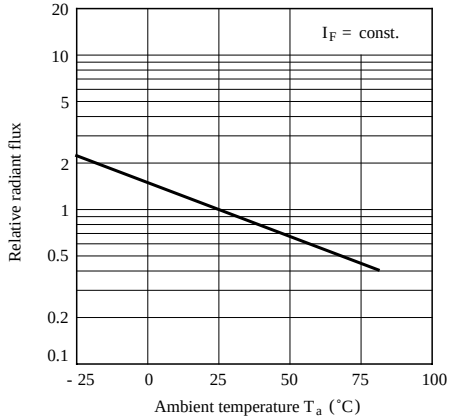


Fig. 7 Relative Radiant Flux vs. Peak Forward Current

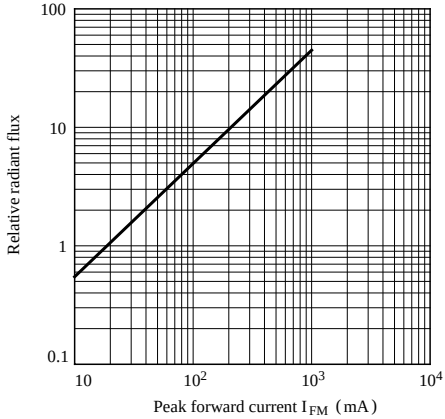
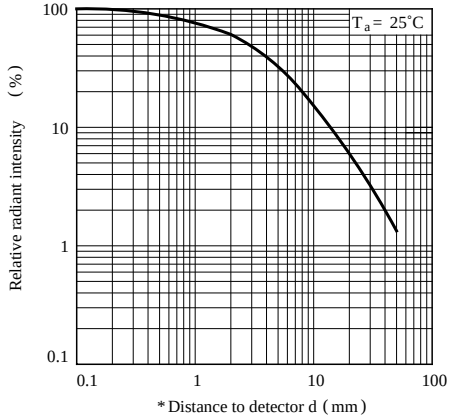


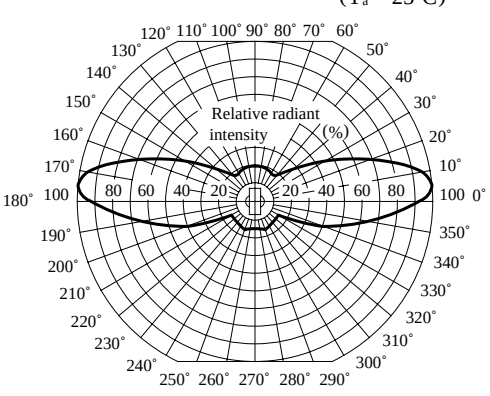
Fig. 8 Relative Radiant Intensity vs. Distance

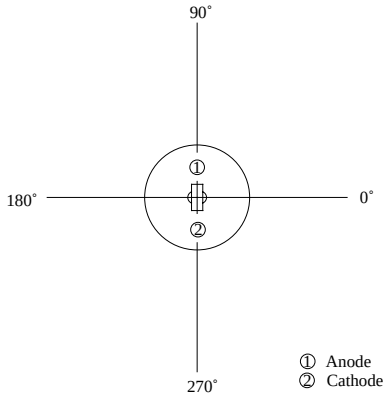


(* Distance on optical axis in radiation diagram)

Fig. 9 Radiation Diagram

(T_a = 25˚C)





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

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