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# GL453/GL454

## Bidirectional Emission Type Infrared Emitting Diode

### ■ Features

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

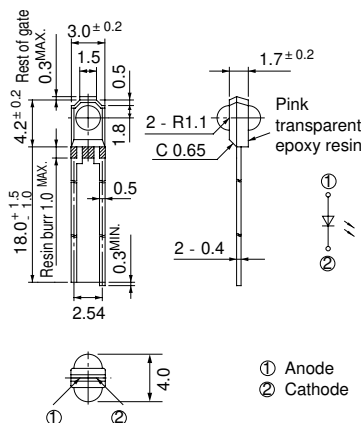
### ■ Applications

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

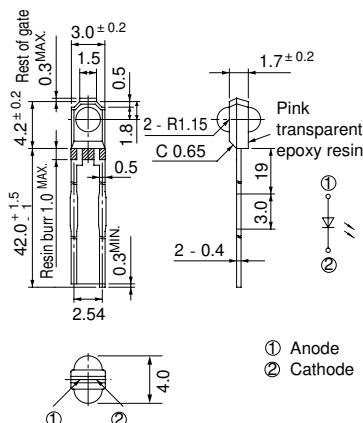
### ■ Outline Dimensions

(Unit : mm)

GL453



GL454



### ■ 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<sub>a</sub>= 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	1.2	1.5	V
Peak forward voltage	V <sub>FM</sub>	I <sub>FM</sub> = 0.5A	-	3.0	4.0	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 3V	-	-	10	μ A
Terminal capacitance	C <sub>t</sub>	V= 0, f= 1MHz	-	30	-	pF
Radiant flux	Φ <sub>e</sub>	I <sub>F</sub> = 20mA	0.85	1.3	1.95	mW
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> = 5mA	-	950	-	nm
Half intensity wavelength	Δλ	I <sub>F</sub> = 5mA	-	45	-	nm

Fig. 1 Forward Current vs. Ambient Temperature

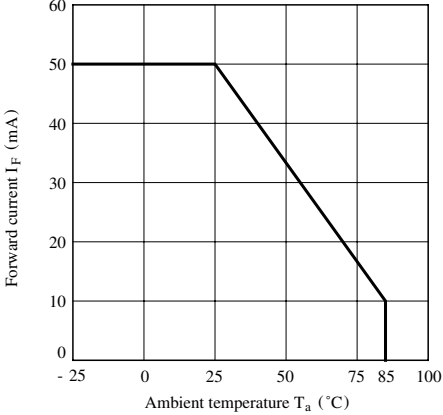


Fig. 2 Peak Forward Current vs. Duty Ratio

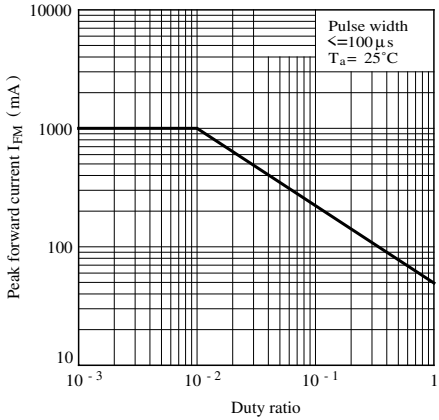


Fig. 3 Spectral Distribution

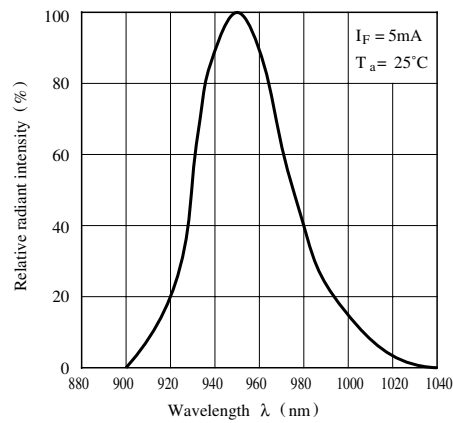


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

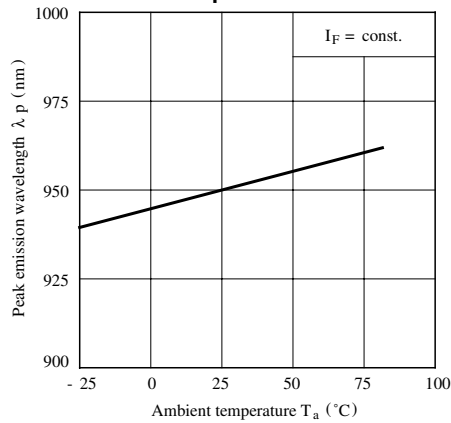


Fig. 5 Forward Current vs. Forward Voltage

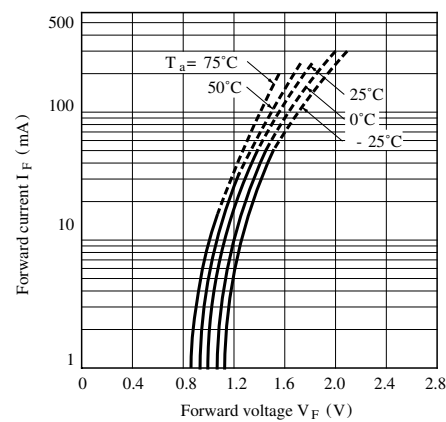


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

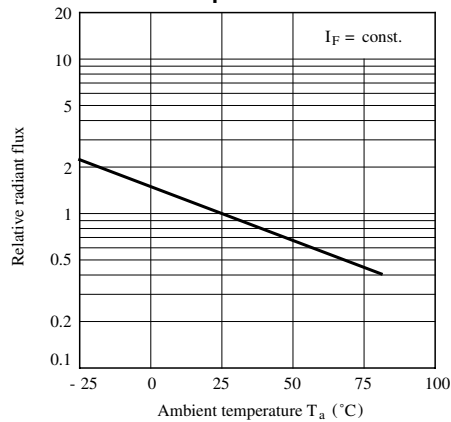


Fig. 7 Relative Radiant Flux vs. Peak Forward Current

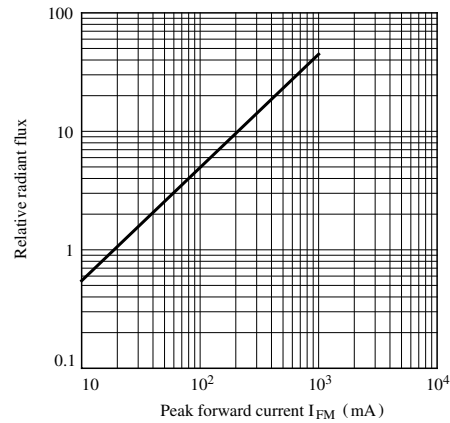


Fig. 8 Relative Radiant Intensity vs. Distance

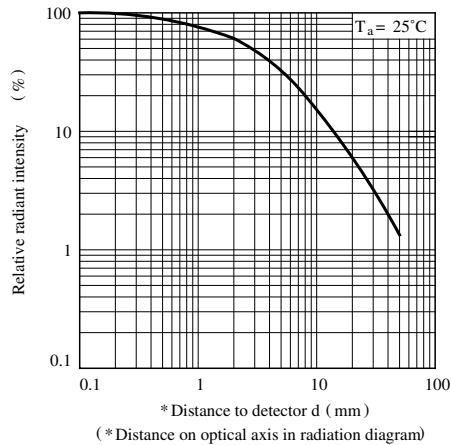
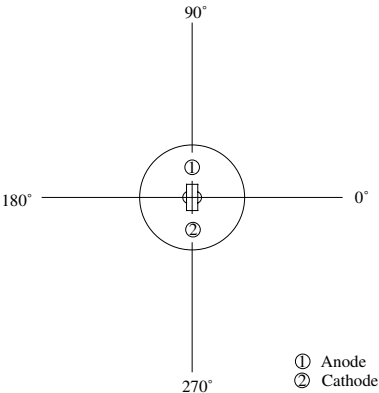
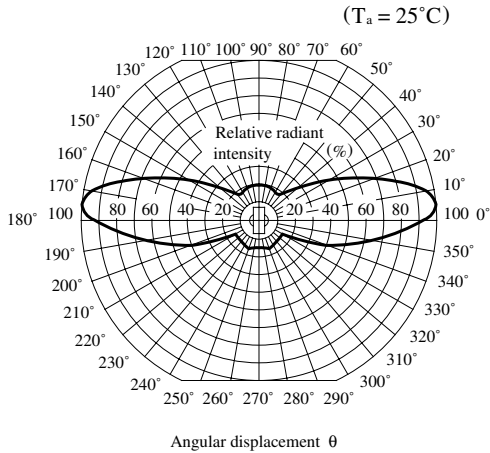


Fig. 9 Radiation Diagram



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

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    - Alarm equipment
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