

GL450/GL451/GL452 GL453/GL454

Bidirectional Emission Type
Infrared Light Emitting Diode

Features

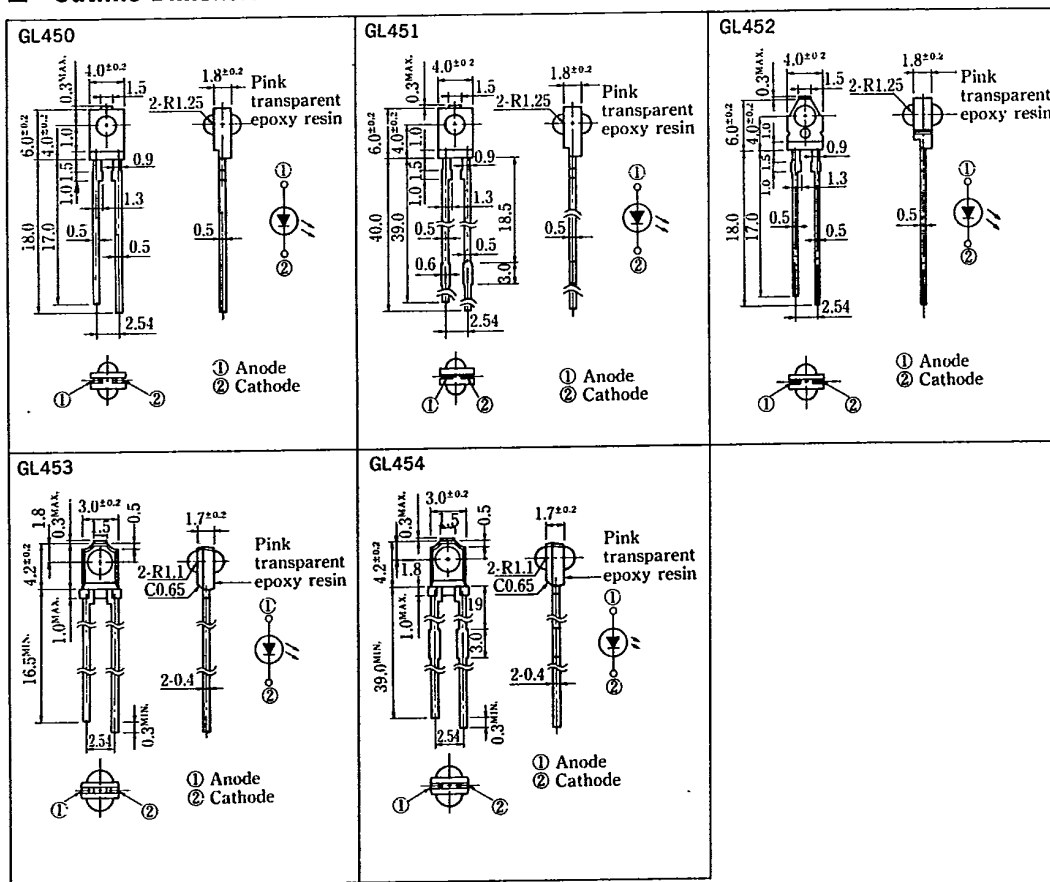
1. Bidirectional light emission type
2. High output (Φ_e : TYP. 1.0mW at $I_F = 20\text{mA}$)
3. Corner-cut type (GL452)
Compact package type (GL453/GL454)
4. Long lead pin type (GL451/GL454)
5. Epoxy resin package

Applications

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

Outline Dimensions

(Unit : mm)



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■ 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~+85	°C
Storage temperature	T _{stg}	-40~+85	°C
*2 Soldering temperature	T _{sol}	260	°C

*1 Pulse width ≤ 100μs, Duty ratio = 0.01

*2 For 3 seconds at the position of 2.5mm from the bottom face of resin package (GL450/GL451/GL452)
For 3 seconds at the position of 1.8mm from the bottom face of resin package (GL453/GL454)

■ Electro-optical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	I _F = 20mA	—	1.2	1.4	V
			—	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	—	50	—	pF
			—	30	—	pF
Radiant flux	Φ _e	I _F = 20mA	0.7	1.0	2.0	mW
			0.7	1.0	1.6	mW
Peak emission wavelength	λ _p	I _F = 5mA	—	950	—	nm
Half intensity wavelength	Δλ	I _F = 5mA	—	45	—	nm

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Fig. 1 Forward Current vs. Ambient Temperature

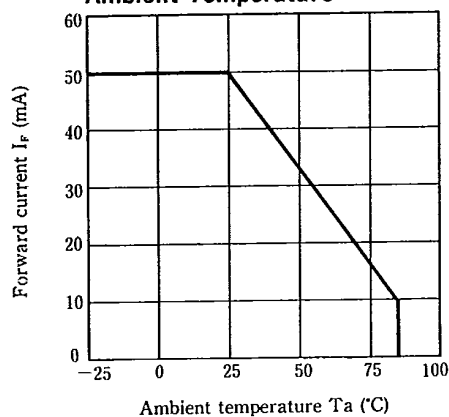
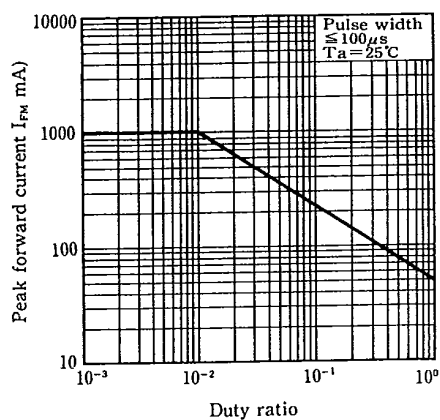


Fig. 2 Peak Forward Current vs. Duty Ratio



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Fig. 3 Spectral Distribution

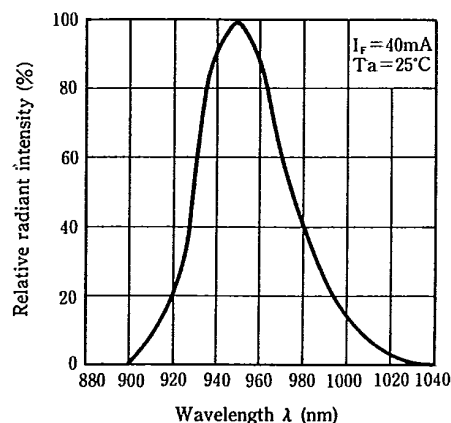


Fig. 4 Peak Emission Wavelength vs. Ambient Temperature

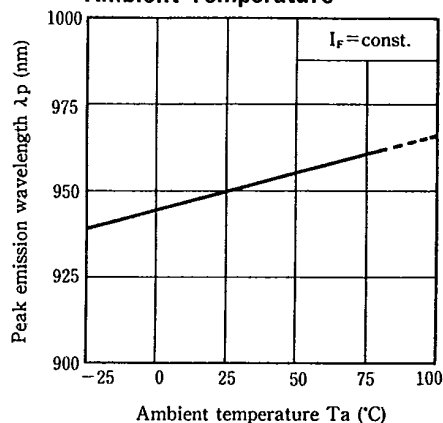


Fig. 5 Forward Current vs. Forward Voltage

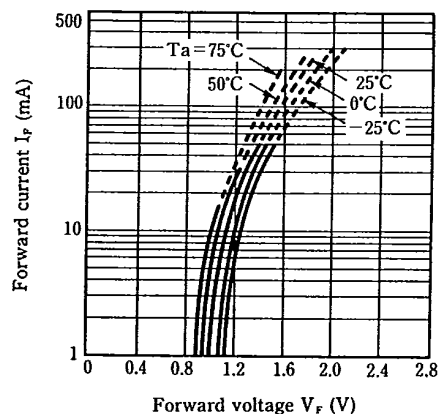


Fig. 6 Relative Radiant Flux vs. Ambient Temperature

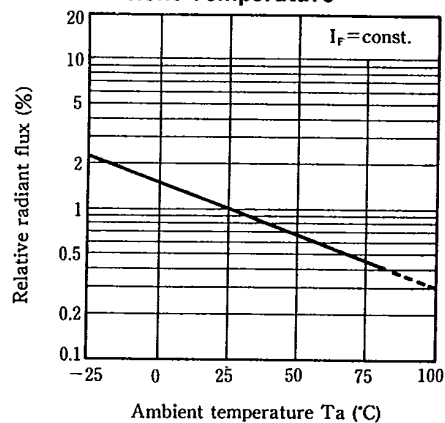


Fig. 7 Relative Radiant Flux vs. Peak Forward Current

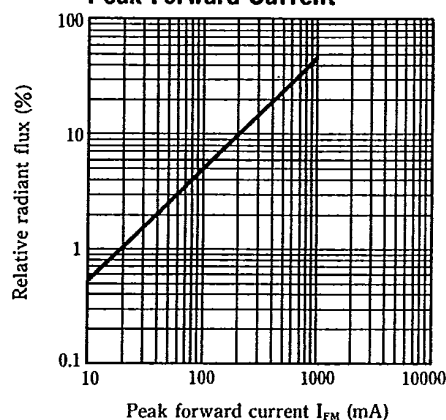


Fig. 8 Relative Radiant Intensity vs. Distance

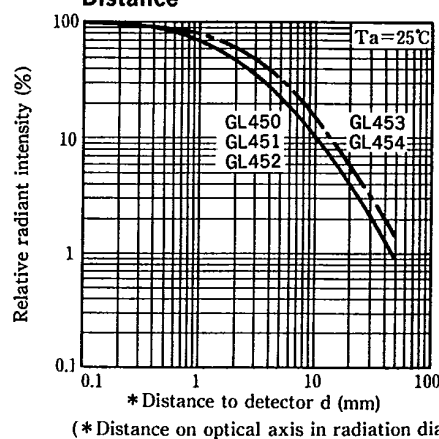
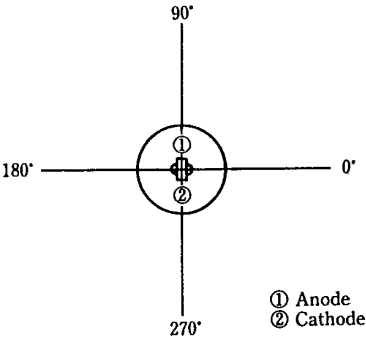
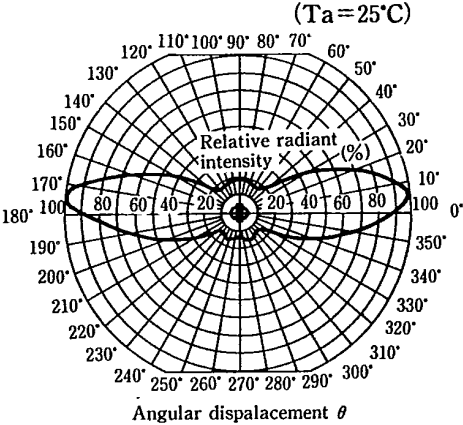


Fig. 9 Radiation Diagram

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