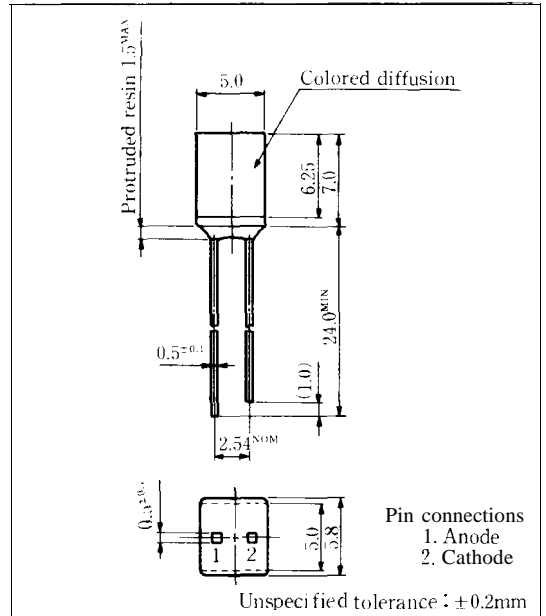


GL8□□22 Series 'qua" "p'ED 'amps

Model No.

GL8LR22	Red (High-luminosity)	GaAlAs/GaAs
GL8TR22	Red (High-luminosity)	GaAlAs/GaAs
GL8PR22	Red	GaP
GL8HD22	Red	GaAsP/GaP
GL8HS22	Sunset orange	GaAsP/GaP
GL8HY22	Yellow	GaAsP/GaP
GL8EG22	Yellow-green	GaP
GL8KG22	Green	GaP

Outline Dimensions (Unit: mm)



Features

1. 5.0mm X 5.0mm square type all resin mold
2. Colored diffusion lens type

Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	GL8LR22 GL8PR22 GL8HD22 GL8EG22				Unit
		GL8TR22		GL8HS22 GL8KG22		
				GL8HY22		
Power dissipation	P	110	23	84	84	mW
Continuous forward current	I _F	50	10	30	30	mA
*1 Peak forward current	I _{FM}	300	50	50	50	mA
Derating factor	DC	0.67	0.13	0.40	0.40	mA/°C
	Pulse	—	4.00	0.67	0.67	mA/°C
Reverse voltage	V _R	5	5	5	5	V
Operating temperature	T _{opr}	-25 to +85				°C
Storage temperature	T _{stg}	-25 to +100				°C
*2 Soldering temperature	T _{sol}	260(within 5 seconds)				°C

*1 Duty ratio = 1/10, Pulse width = 0.1ms

Duty ratio = 1/16, Pulse width ≤ 1ms for GL8LR22 and GL8TR22

*2 At the position of 1.6mm from the bottom face of resin package

SHARP

GL8LR22 (Red) / GL8TR22 (Red)

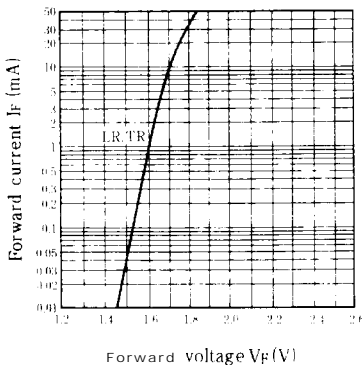
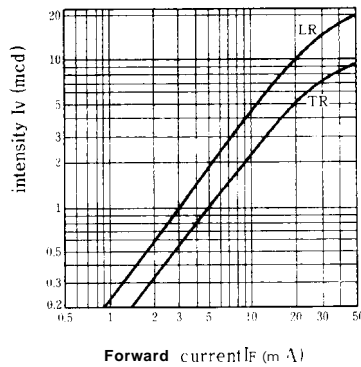
■ Electro-optical Characteristics

(Ta = 25°C)

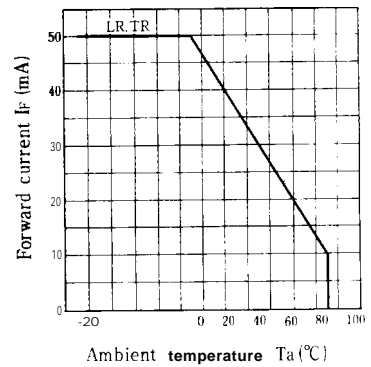
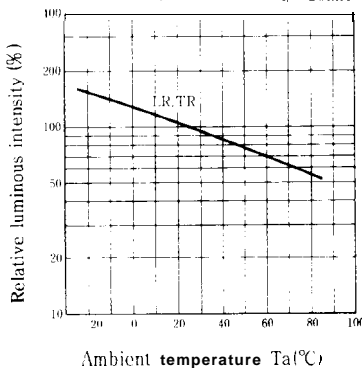
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL8LR22	I _F = 20mA	—	1.75	2.2	V
		GL8TR22	I _F = 20mA	—	1.75	2.2	
※3 Luminous intensity	I _v	GL8LR22	I _F = 20mA	3.5	10	—	mcd
		GL8TR22	I _F = 20mA	2.0	5.0	—	
Peak emission wavelength	λ _p	GL8LR22	I _F = 20mA	—	660	—	'm
		GL8TR22	I _F = 20mA	—	660	—	
Spectrum radiation bandwidth	Δλ	GL8LR22	I _F = 20mA	—	20	—	'm
		GL8TR22	I _F = 20mA	—	20	—	
Reverse current	I _R	GL8LR22	V _R = 4V	—	—	10	μA
		GL8TR22	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL8LR22	V = 0V f = 1MHz	—	30	—	pF
		GL8TR22	V = 0V f = 1 MHz	—	30	—	
Response frequency	f _c	GL8LR22	—	—	8	—	MHz
		GL8TR22	—	—	8	—	

※3 Tolerance: ±30%

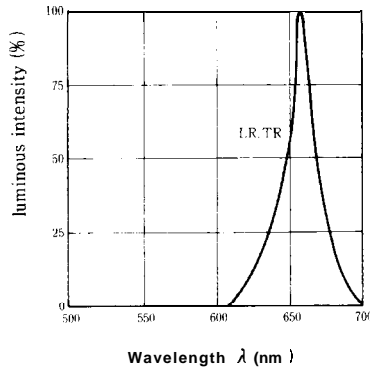
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage (Ta = 25°C)Luminous Intensity vs.
Forward Current (Ta = 25°C)

Forward Current Derating Curve

Relative Luminous Intensity vs.
Ambient Temperature (I_F = 20mA)

Spectrum Distribution (Ta = 25°C)



SHARP

GL8PR22 (Red) / GL8HD22 (Red)

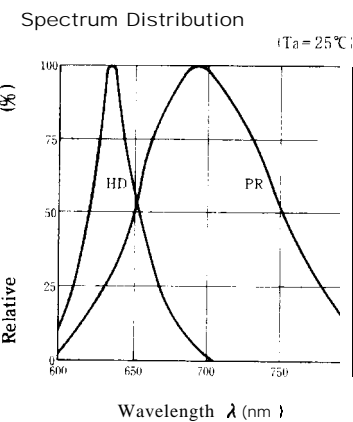
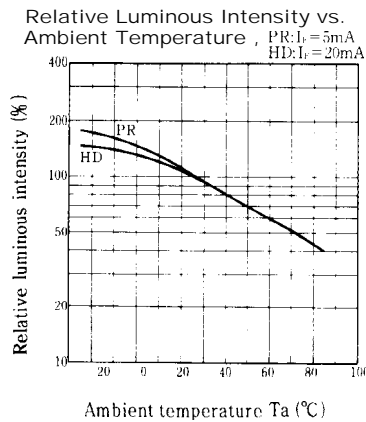
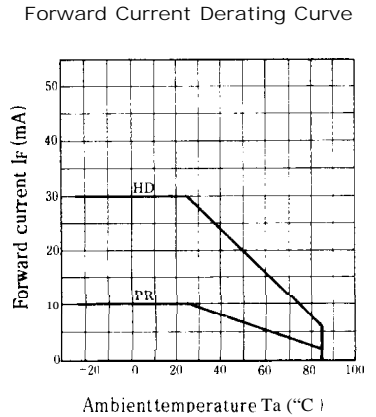
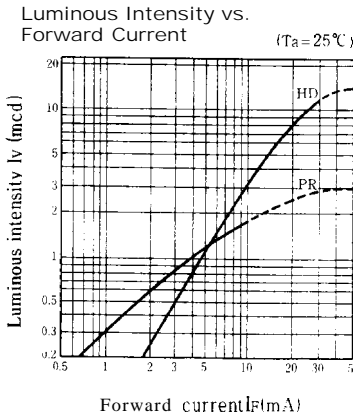
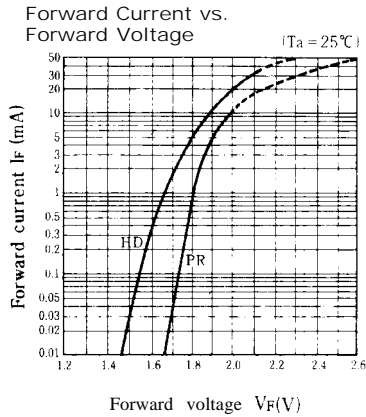
■ Electro-optical Characteristics

(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL8PR22	I _F = 5mA	—	1.9	2.3	V
		GL8HD22	I _F = 20mA	—	2.0	2.8	
※3 Luminous intensity	I _V	GL8PR22	I _F = 5mA	0.60	1.2	—	mcd
		GL8HD22	I _F = 20mA	2.0	8.0	—	
Peak emission wavelength	λ _p	GL8PR22	I _F = 5mA	—	695	—	‘m
		GL8HD22	I _F = 20mA	—	635	—	
Spectrum radiation bandwidth	Δλ	GL8PR22	I _F = 5mA	—	100	—	‘m
		GL8HD22	I _F = 20mA	—	35	—	
Reverse current	I _R	GL8PR22	V _R = 4V	—	—	10	μA
		GL8HD22	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL8PR22	V = 0V f = 1 MHz	—	55	—	pF
		GL8HD22	V = 0V f = 1 MHz	—	20	—	
Response frequency	f _c	GL8PR22	—	—	4	—	‘Hz
		GL8HD22	—	—	4	—	

※3 Tolerance: ±30%

■ Characteristics Diagrams



GL8HS22 (Sunset orange) / GL8HY22 (Yellow)

Electro-optical Characteristics

(Ta = 25°C)

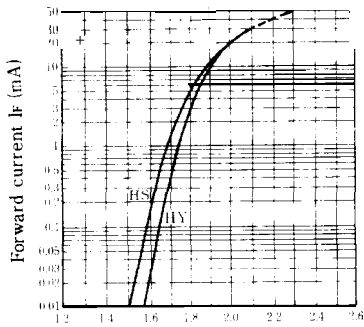
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL8HS22	I _F = 20mA	—	2.0	2.8	V
		GL8HY22	I _F = 20mA	—	2.0	2.8	
※3 Luminous intensity	I _v	GL8HS22	I _F = 20mA	1.5	5.0	—	mcd
		GL8HY22	I _F = 20mA	1.5	5.0	—	
Peak emission wavelength	λ _p	GL8HS22	I _F = 20mA	—	610	—	'm
		GL8HY22	I _F = 20mA	—	585	—	
Spectrum radiation bandwidth	Δλ	GL8HS22	I _F = 20mA	—	35	—	'm
		GL8HY22	I _F = 20mA	—	30	—	
Reverse current	I _R	GL8HS22	V _R = 4V	—	—	10	μA
		GL8HY22	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL8HS22	V = 0V f = 1MHz	—	15	—	pF
		GL8HY22	V = 0V f = 1 MHz	—	35	—	
Response frequency	f _c	GL8HS22	—	—	4	—	MHz
		GL8HY22	—	—	4	—	

※3 Tolerance: ±30%

3

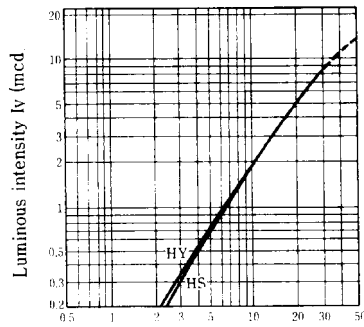
Characteristics Diagrams

Forward Current vs. Forward Voltage (Ta = 25°C)



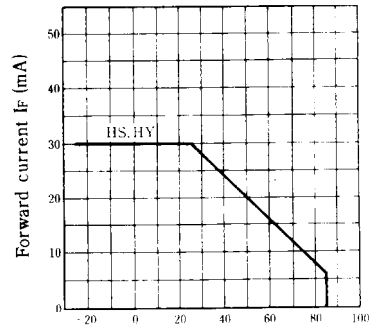
Forward voltage V_F (V)

Luminous Intensity vs. Forward Current (Ta = 25°C)



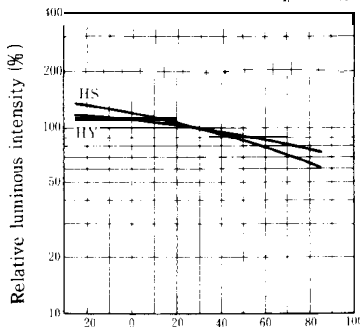
Forward current I_F (mA)

Forward Current Derating Curve



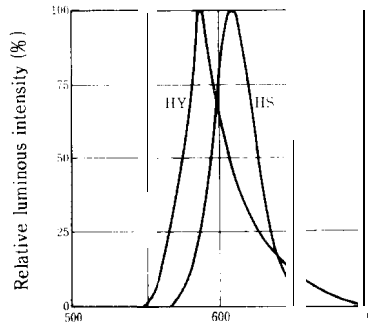
Ambient temperature T_a (°C)

Relative Luminous Intensity vs. Ambient Temperature (I_F = 20mA)



Ambient temperature T_a (°C)

Spectrum Distribution (Ta = 25°C)



Wavelength λ (nm)

GL8EG22 (Yellow-green) / GL8KG22 (Green)

■ Electro-optical Characteristics

(Ta = 25°C)

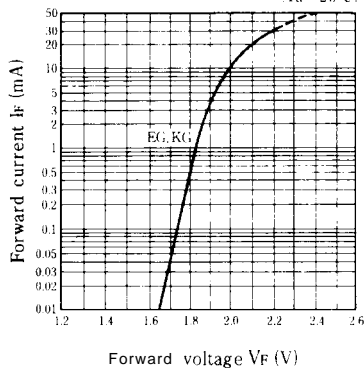
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL8EG22	I _F = 20mA	—	2.1	2.8	V
		GL8KG22	I _F = 20mA		2.1	2.8	
*3 Luminous intensity	I _v	GL8EG22	I _F = 20mA	2.0	6.0	—	mcd
		GL8KG22	I _F = 20mA	1.5	3.5	—	
Peak emission wavelength	λ _p	GL8EG22	I _F = 20mA	—	565	—	‘m
		GL8KG22	I _F = 20mA		555	—	
Spectrum radiation bandwidth	Δλ	GL8EG22	I _F = 20mA	—	30	—	‘m
		GL8KG22	I _F = 20mA		25	—	
Reverse current	I _R	GL8EG22	V _R = 4V			10	μA
		GL8KG22	V _R = 4V			10	
Terminal capacitance	C _t	GL8EG22	V = 0V f = 1 MHz	—	35	—	‘F
		GL8KG22	V = 0V f = 1 MHz	—	40	—	
Response frequency	f _c	GL8EG22	—	—	4	—	MHz
		GL8KG22	—	—	4	—	

*3 Tolerance: ±30%

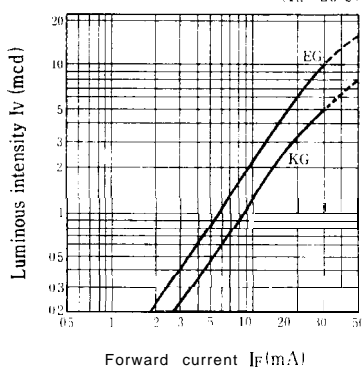
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

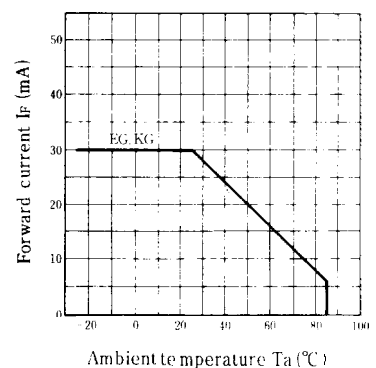
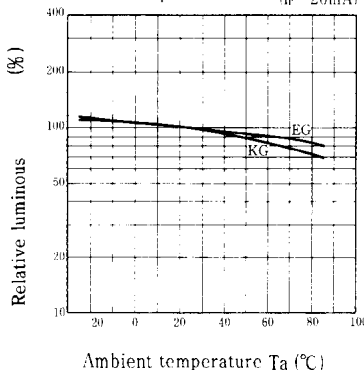
(Ta = 25°C)

Luminous Intensity vs.
Forward Current

(Ta = 25°C)



Forward Current Derating Curve

Relative Luminous Intensity vs.
Ambient Temperature(I_F = 20mA)

Spectrum Distribution

(Ta = 25°C)

