

GL5□□8 Series

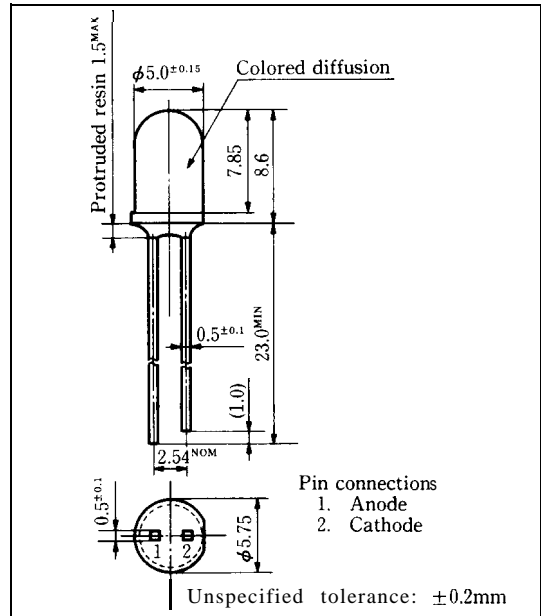
φ5mm(T-1%) Cylinder Type LED Lamps

Model No.

GL5LR8	Red (High-luminosity)	GaAlAs/GaAs
GL5TR8	Red (High-luminosity)	GaAlAs/GaAs
GL5PR8	Red	GaP
GL5HD8	Red	GaAsP/GaP
GL5HS8	Sunset orange	GaAsP/GaP
GL5HY8	Yellow	GaAsP/GaP
GL5EG8	Yellow-green	GaP
GL5KG8	Green	GaP

Outline Dimensions

(Unit: mm)



Features

- # 5mm(T-1 $\frac{3}{4}$) all resin mold
- Colored diffusion lens type
- Wide viewing angle

Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	GL5LR8	GL5PR8	GL5HD8	GL5EG8	Unit	
		GL5TR8		GL5HS8	GL5KG8		
		GL5HY8					
Power dissipation	P	110	23	84	84	mW	
Continuous forward current	I _F	50	10	30	30	mA	
*1Peak 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	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	
*2Soldering 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 GL5LR8 and GL5TR8

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

SHARP

GL5LR8 (Red) / GL5TR8 (Red)

■ Electro-optical Characteristics

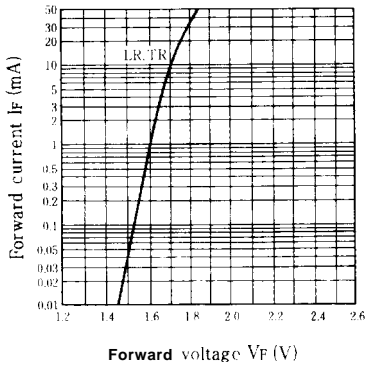
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5LR8	I _F = 20mA	—	1.75	2.2	V
		GL5TR8	I _F = 20mA	—	1.75	2.2	
※3 Luminous intensity	I _v	GL5LR8	I _F = 20mA	100	200	—	mcd
		GL5TR8	I _F = 20mA	40	80	—	
Peak emission wavelength	λ _p	GL5LR8	I _F = 20mA	—	660	—	‘m
		GL5TR8	I _F = 20mA	—	660	—	
Spectrum radiation bandwidth	Δλ	GL5LR8	I _F = 20mA	—	20	—	‘m
		GL5TR8	I _F = 20mA	—	20	—	
Reverse current	I _R	GL5LR8	V _R = 4V	—	—	10	μA
		GL5TR8	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL5LR8	V = 0V f = 1 MHz	—	30	—	pF
		GL5TR8	V = 0V f = 1 MHz	—	30	—	
Response frequency	f _c	GL5LR8	—	—	8	—	‘Hz
		GL5TR8	—	—	8	—	

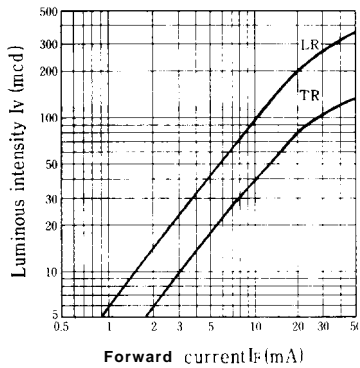
※3 Tolerance: ±30%

■ Characteristics Diagrams

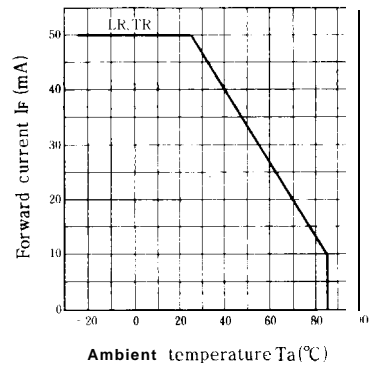
Forward Current vs. Forward Voltage (Ta = 25°C)



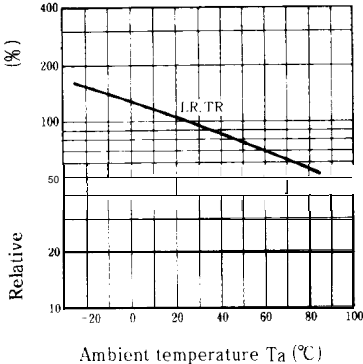
Luminous Intensity vs. Forward Current (Ta = 25°C)



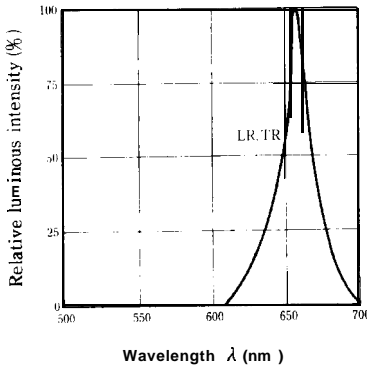
Forward Current Derating Curve



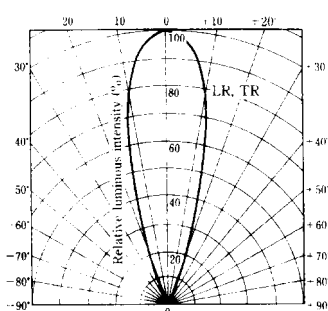
Relative Luminous Intensity vs. Ambient Temperature (If = 20, 41)



Spectrum Distribution (Ta = 25°C)



Radiation Diagram (Ta = 25°C)



GL5PR8 (Red) / GL5HD8 (Red)

■ Electro-optical Characteristics

(Ta=25°C)

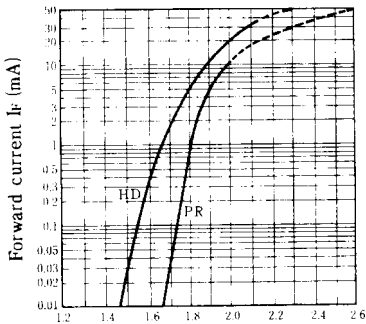
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5PR8	I _F = 5mA		1.9	2.3	V
		GL5HD8	I _F = 20mA	-	2.0	2.8	
※3 Luminous intensity	I _V	GL5PR8	I _F = 5mA	4.5	15	-	mcd
		GL5HD8	I _F = 20mA	30	80	-	
Peak emission wavelength	λ _p	GL5PR8	I _F = 5mA	-	695	-	'm
		GL5HD8	I _F = 20mA	-	635	-	
Spectrum radiation bandwidth	Δλ	GL5PR8	I _F = 5mA	-	100	-	'm
		GL5HD8	I _F = 20mA	-	35	-	
Reverse current	I _R	GL5PR8	V _R = 4V	-	-	10	μA
		GL5HD8	V _R = 4V	-	-	10	
Terminal capacitance	C _t	GL5PR8	V = 0V f = 1 MHz	-	55	-	pF
		GL5HD8	V = 0V f = 1MHz	-	20	-	
Response frequency	f _c	GL5PR8	-	-	4	-	MHz
		GL5HD8	-	-	4	-	

※3 Tolerance: ±30%

■ Characteristics Diagrams

Forward Current vs. Forward Voltage

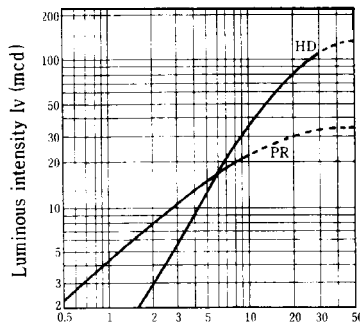
(Ta = 25°C)



Forward voltage V_F (V)

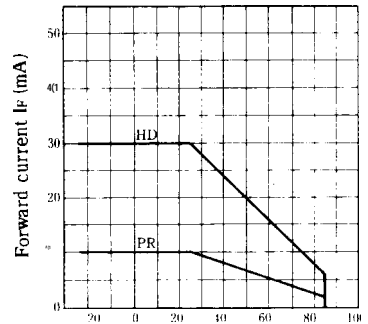
Luminous Intensity vs. Forward Current

(Ta = 25°C)



Forward current I_F (mA)

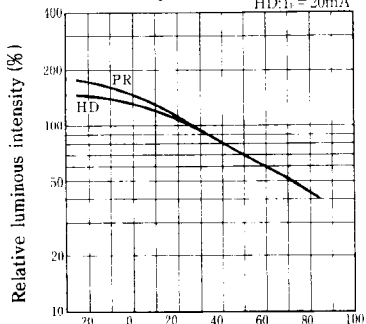
Forward Current Derating Curve



Ambient temperature T_a (°C)

Relative Luminous Intensity vs. Ambient Temperature

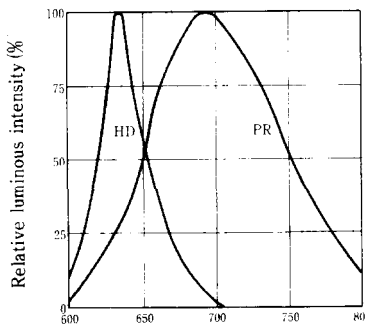
PR: I_F = 5mA
HD: I_F = 20mA



Ambient temperature T_a (°C)

Spectrum Distribution

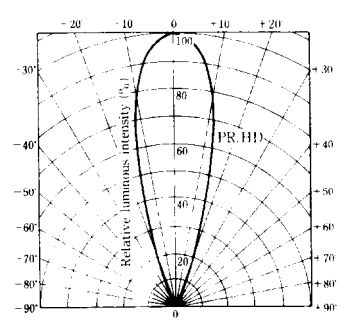
(Ta = 25°C)



Wavelength λ (nm)

Radiation Diagram

(Ta = 25°C)



3

GL5HS8 (Sunset orange) / GL5HY8 (Yellow)

■ **Electro-optical** Characteristics

(Ta=25°C)

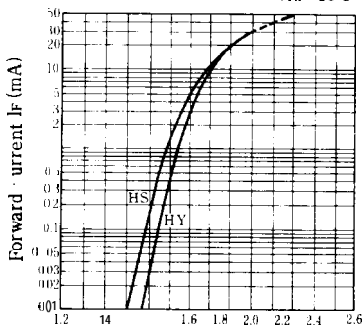
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5HS8	I _F = 20mA	—	2.0	2.8	V
		GL5HY8	I _F = 20mA	—	2.0	2.8	
*3 Luminous intensity	I _V	GL5HS8	I _F = 20mA	30	80	—	'cd
		GL5HY8	I _F = 20mA	50	120	—	
Peak emission wavelength	λ _p	GL5HS8	I _F = 20mA	—	610	—	'm
		GL5HY8	I _F = 20mA	—	585	—	
Spectrum radiation bandwidth	Δλ	GL5HS8	I _F = 20mA	—	35	—	'm
		GL5HY8	I _F = 20mA	—	30	—	
Reverse current	I _R	GL5HS8	V _R = 4V	—	—	10	μA
		GL5HY8	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL5HS8	V = 0V f = 1MHz	—	15	—	pF
		GL5HY8	V = 0V f = 1MHz	—	35	—	
Response frequency	f _c	GL5HS8	—	—	4	—	'Hz
		GL5HY8	—	—	4	—	

*3 Tolerance: ±30%

■ **Characteristics Diagrams**

Forward Current vs. Forward Voltage

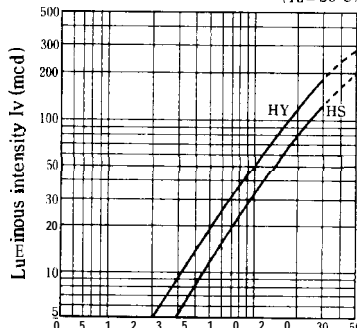
(Ta = 25°C)



Forward voltage V_F(V)

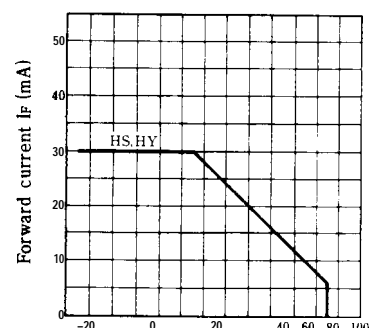
Luminous Intensity vs. Forward Current

(Ta = 25°C)



Forward current I_F (mA)

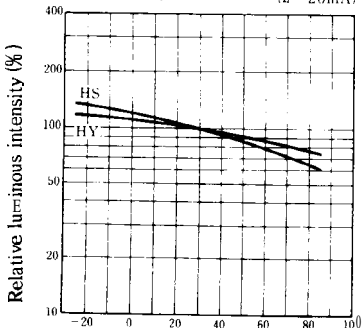
Forward Current **Derating** Curve



Ambient temperature T_a (°C)

Relative Luminous Intensity vs. Ambient Temperature

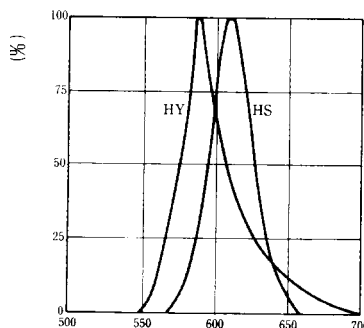
(I_F = 20mA)



Ambient temperature T_a(°C)

Spectrum Distribution

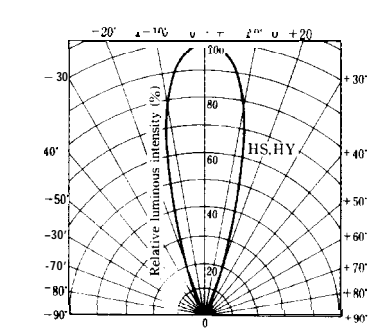
(Ta = 25°C)



Wavelength λ (nm)

Radiation Diagram

(Ta = 25°C)



GL5EG8 (Yellow-green) / **GL5KG8** (Green)

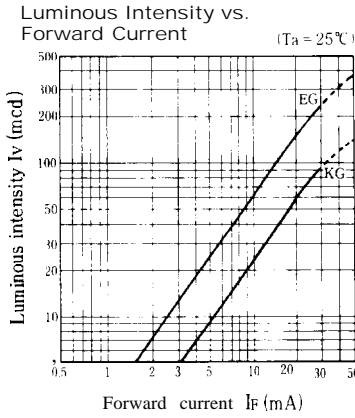
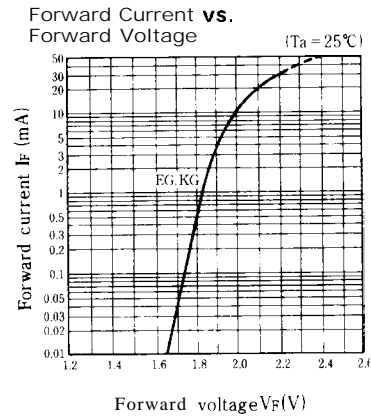
■ **Electro-optical** Characteristics

(Ta=25°C)

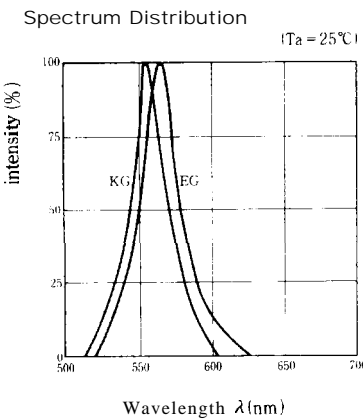
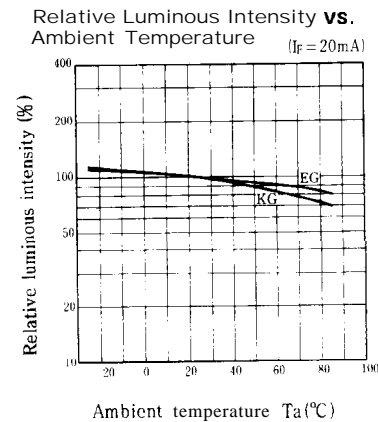
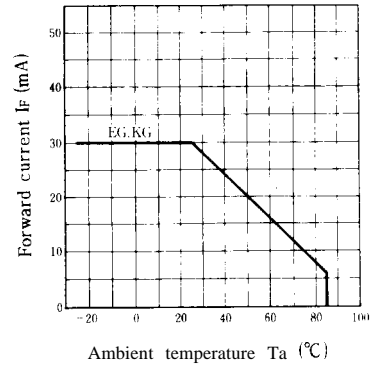
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5EG8	I _F = 20mA		2.1	2.8	V
		GL5KG8	I _F = 20mA	—	2.1	2.8	
※3 Luminous intensity	I _v	GL5EG8	I _F = 20mA	60	150	—	mcd
		GL5KG8	I _F = 20mA	25	60	—	
Peak emission wavelength	λ _p	GL5EG8	I _F = 20mA		565	—	‘m
		GL5KG8	I _F = 20mA		555	—	
Spectrum radiation bandwidth	Δλ	GL5EG8	I _F = 20mA		30	—	‘m
		GL5KG8	I _F = 20mA		25	—	
Reverse current	I _R	GL5EG8	V _R = 4V	—	—	10	μA
		GL5KG8	V _R = 4V	—	—	10	
Terminal capacitance	C _t	GL5EG8	V = 0V f = 1 MHz	—	35	—	pF
		GL5KG8	V = 0V f = 1 MHz	—	40	—	
Response frequency	f _c	GL5EG8	—		4	—	MHz
		GL5KG8	—		4	—	

※3 Tolerance: ±30%

■ **Characteristics Diagrams**



Forward Current Derating Curve



Radiation Diagram (Ta = 25°C)

