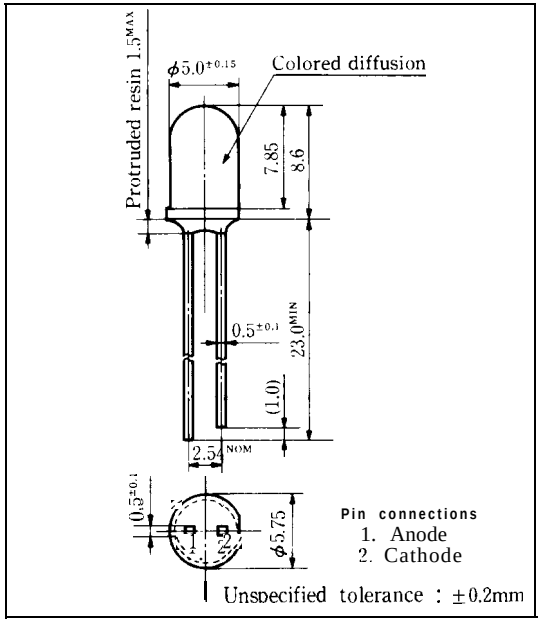
GL5□□4 Series

φ5mm(T-1¾) Cylinder Type LED Lamps

■ Model No.

GL5LR4 Red (High-luminosity)	GaAlAs/GaAs
GL5TR4 Red (High-luminosity)	GaAlAs/GaAs
GL5PR4 Red	GaP
GL5HD4 Red	GaAsP/GaP
GL5HY4 Yellow	GaAsP/GaP
GL5EG4 Yellow-green	GaP

■ Outline Dimensions (Unit: mm)



■ Features

1. 45mm(T-1¾) all resin mold
2. Colored diffusion lens type
3. Wide viewing angle

■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	GL5LR4 / GL5TR4	GL5PR4	GL5HD4 / GL5HY4 / GL5EG4			Unit
Power dissipation		P	110	23	84			mW
Continuous forward current		I_F	50	10	30			mA
※1 Peak forward current		I_{FM}	300	50	50			mA
Derating factor	DC	−	0.67	0.13	0.40			mA/℃
	Pulse	−	4.00	0.67	0.67			mA/℃
Reverse voltage		V_R	5	5	5			v
Operating temperature		T_{opr}	−25 to +85					℃
Storage temperature		T_{stg}	−25 to +100					℃
※2 Soldering temperature		T_{sol}	260(within 5 seconds)					℃

※1 Duty ratio = 1/10 , Pulse width = 0.1ms
Duty ratio = 1/16 , Pulse width ≦ lms for GL5LR4 and GL5TR4
※2 At the position of 1.6mm from the bottom face of resin package

GL5LR4 (Red) / GL5TR4 (Red)

■ Electro-optical Characteristics

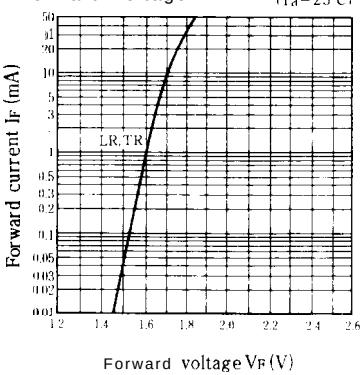
(Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5LR4	I_F=20mA		1.75	2,2	V
		GL5TR4	I_F=20mA	–	1.75	2.2	
※3 Luminous intensity	I_V	GL5LR4	I_F=20mA	10	25	–	mcd
		GL5TR4	I_F=20mA	6.0	14	–	
Peak emission wavelength	λ_p	GL5LR4	I_F=20mA		660	–	‘m
		GL5TR4	I_F=20mA	–	660	–	
Spectrum radiation bandwidth	$\Delta\lambda$	GL5LR4	I_F=20mA		20	–	‘m
		GL5TR4	I_F=20mA		20	–	
Reverse current	I_R	GL5LR4	V_R=4V	–	–	10	μA
		GL5TR4	V_R=4V			10	
Terminal capacitance	C_t	GL5LR4	V=OV f=1 MHz	–	30	–	pF
		GL5TR4	V=OV f=1 MHz	–	30	–	
Response frequency	f_c	GL5LR4	–		8	–	‘Hz
		GL5TR4	–	–	8	–	

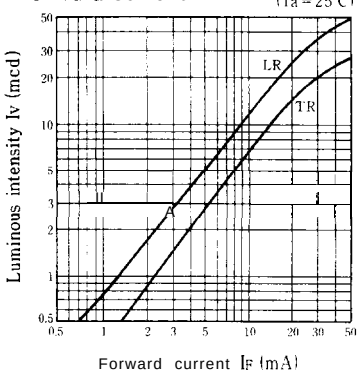
※3 Tolerance: ±30%

■ Characteristics Diagrams

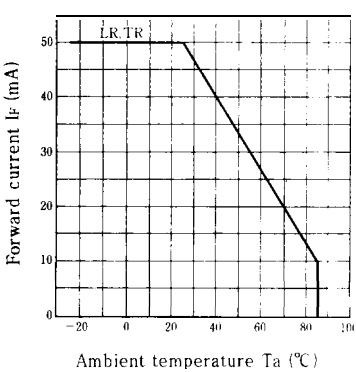
Forward Current vs. Forward Voltage (Ta=25°C)



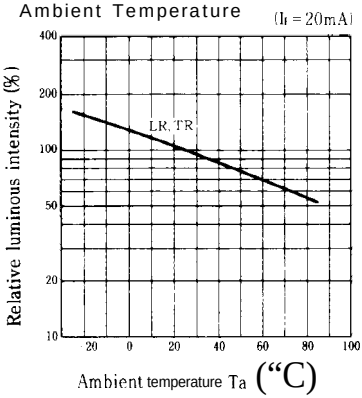
Luminous Intensity vs. Forward Current (Ta=25°C)



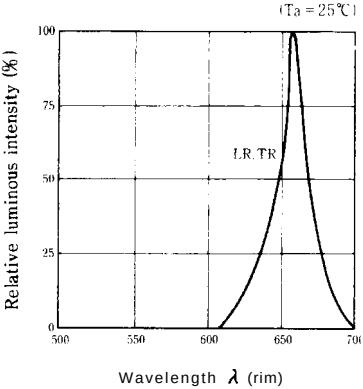
Forward Current Derating Curve



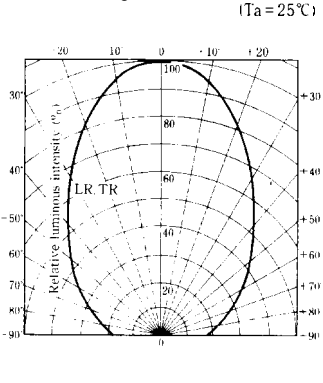
Relative Luminous Intensity vs. Ambient Temperature (IF=20mA)



Spectrum Distribution (Ta=25°C)



Radiation Diagram (Ta=25°C)



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GL5PR4 (Red) / GL5HD4 (Red)

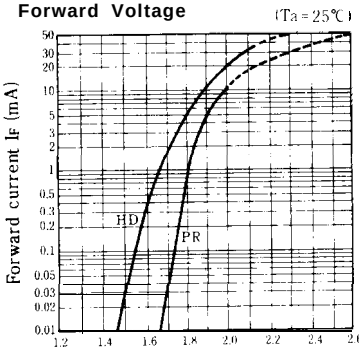
■ Electro-optical Characteristics (Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5PR4	I_F=5mA	–	1.9	2.3	V
		GL5HD4	I_F=20mA		2.0	2.8	
※3 Luminous intensity	I_V	GL5PR4	I_F=5mA	1.0	3.0	–	mcd
		GL5HD4	I_F=20mA	10	25	–	
Peak emission wavelength	λ_p	GL5PR4	I_F=5mA		695	–	
		GL5HD4	I_F=20mA	–	635	–	‘m
Spectrum radiation bandwidth	$\Delta\lambda$	GL5PR4	I_F=5mA		100	--	
		GL5HD4	I_F=20mA		35	–	‘m
Reverse current	I_R	GL5PR4	V_R=4V	–		10	μA
		GL5HD4	V_R=4V			10	
Terminal capacitance	C_t	GL5PR4	V=0V f=1 MHz	–	55	–	pF
		GL5HD4	V=0V f=1 MHz	–	20	–	
Response frequency	f_c	GL5PR4	–		4	-	
		GL5HD4	–	–	4	–	‘Hz

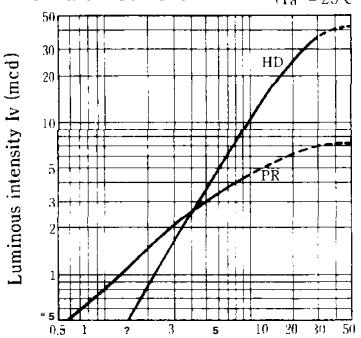
※3 Tolerance: ±30%

■ Characteristics Diagrams

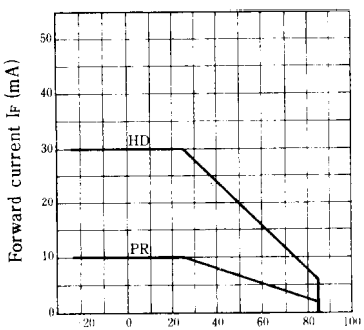
Forward Current vs. Forward Voltage (Ta=25℃)



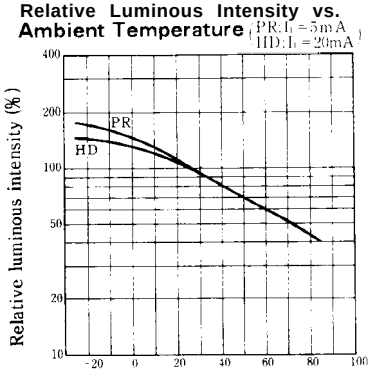
Luminous Intensity vs. Forward Current (Ta=25℃)



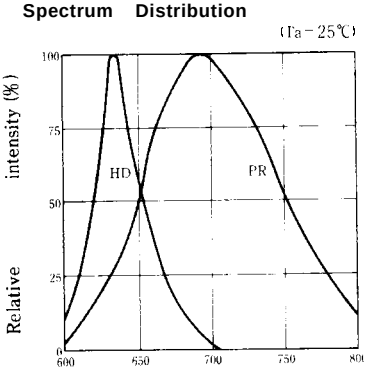
Forward Current Derating Curve



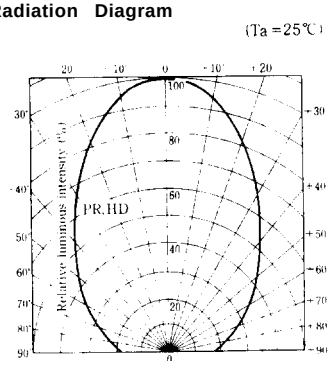
Relative Luminous Intensity vs. Ambient Temperature (PR: I_F=5mA, HD: I_F=20mA)



Spectrum Distribution (Ta=25℃)



Radiation Diagram (Ta=25℃)



GL5HY4 (Yellow)

■ Electro-optical Characteristics

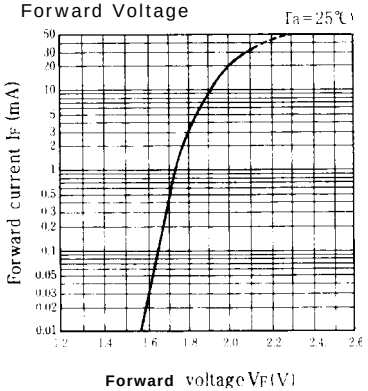
(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5HY4	I_F=20mA	–	2.0	2.8	V
※3 Luminous intensity	I_V	GL5HY4	I_F=20mA	8.0	20	–	mcd
Peak emission wavelength	λ_p	GL5HY4	I_F=20mA	–	585	–	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL5HY4	I_F=20mA	–	30	–	nm
Reverse current	I_R	GL5HY4	V_R=4V	–	–	10	μA
Terminal capacitance	C_t	GL5HY4	V=OV f=1 MHz	–	35	–	pF
Response frequency	f_c	GL5HY4	–		4	–	MHz

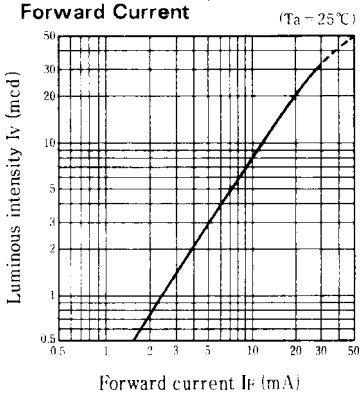
※3 Tolerance: ±30%

■ Characteristics Diagrams

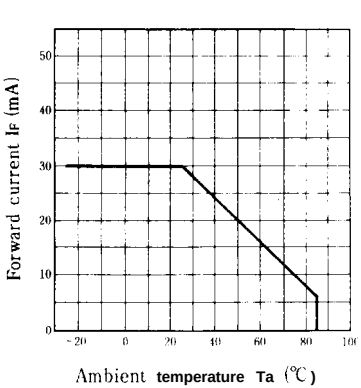
Forward Current va. Forward Voltage



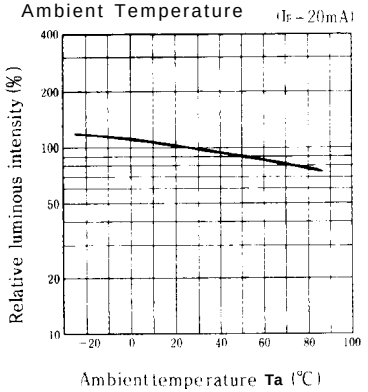
Luminous Intensity vs. Forward Current



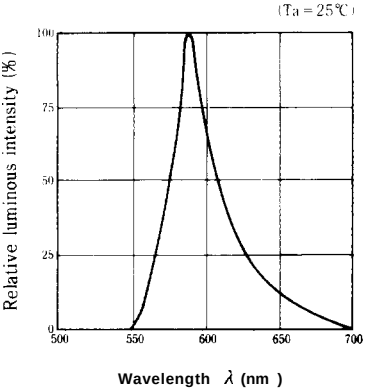
Forward Current Derating Curve



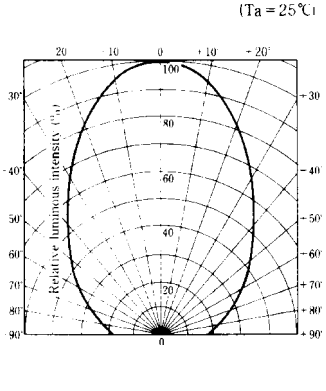
Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



Radiation Diagram



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GL5EG4 (Yellow-green)

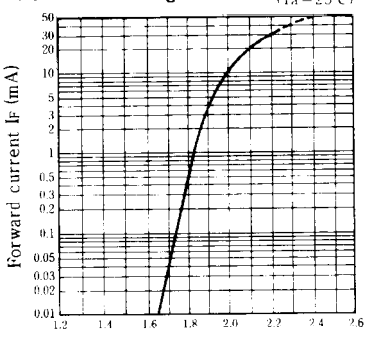
■ Electro-optical Characteristics (Ta=25"C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5EG4	I_F=20mA	—	2.1	2.8	V
※3 Luminous intensity	I_V	GL5EG4	I_F=20mA	10	20	—	mcd
Peak emission wavelength	λ_p	GL5EG4	I_F=20mA	—	565	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL5EG4	I_F=20mA	—	30	—	nm
Reverse current	I_R	GL5EG4	V_R=4V	—	—	10	μA
Terminal capacitance	C_t	GL5EG4	V=0V f=1 MHz	—	35	—	pF
Response frequency	f,	GL5EG4	—	—	4	—	MHz

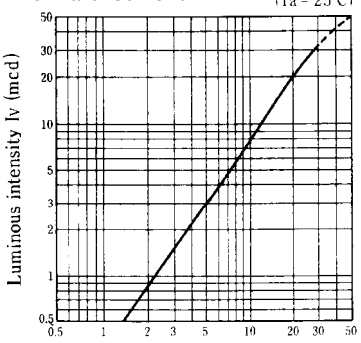
※3 Tolerance: ±30%

■ Characteristics Diagrams

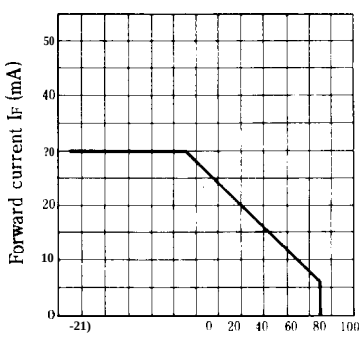
Forward Current vs. Forward Voltage (Ta=25℃)



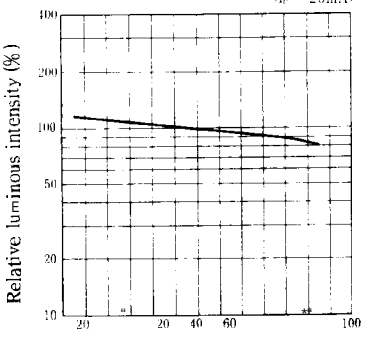
Luminous Intensity vs. Forward Current (Ta=25℃)



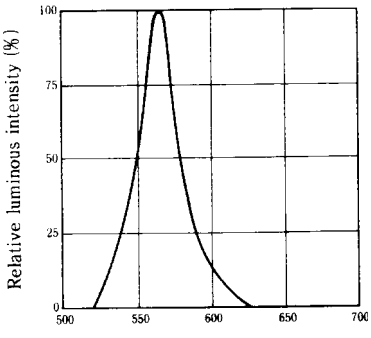
Forward Current Derating Curve



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



Soectrum Distribution (Ta=25℃)



Radiation Diagram (Ta=25℃)