GL3□□44 Series ϕ3mm(T-1) Cylinder Type LED Lamps

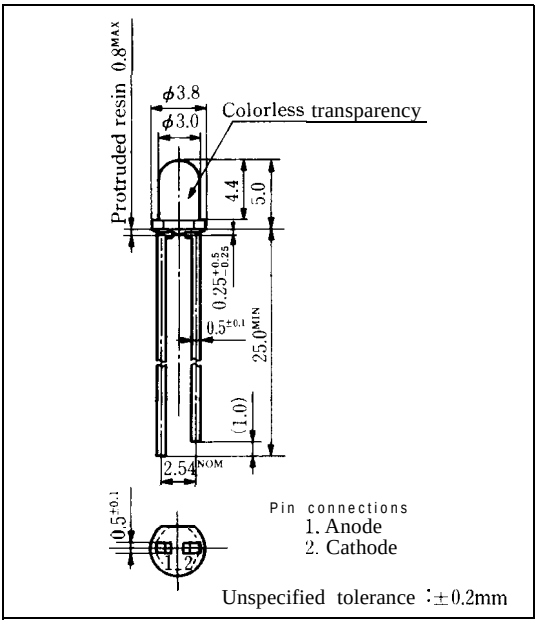
■ Model No.

GL3LR44	Red (High-luminosity)	GaAlAs/GaAs
GL3TR44	Red (High-luminosity)	GaAlAs/GaAs
GL3PR44	Red	GaP
GL3HD44	Red	GaAsP/GaP
GL3HS44	Sunset orange	GaAsP/GaP
GL3HY44	Yellow	GaAsP/GaP
GL3EG44	Yellow-green	GaP
GL3KG44	Green	GaP

■ Features

1. ϕ3mm(T-1) all resin mold
2. Colorless transparency lens type

■ Outline Dimensions (Unit: mm)



■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	GL3LR44 GL3TR44	GL3PR44	GL3HD44 GL3HS44 GL3HY44	GL3EG44 GL3KG44		Unit
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/℃
	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
※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 ≦ lms for GL3LR44 and GL3TR44
※2 At the position of 1.6mm from the bottom face of resin package

GL3LR44 (Red) / GL3TR44 (Red)

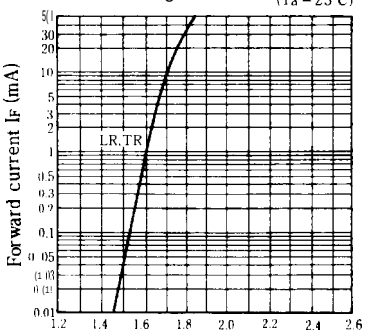
■ Electro-optical Characteristics (Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL3LR44	I_F=20mA	–	1.75	2.2	V
		GL3TR44	I_F=20mA	–	1.75	2.2	
※3 Luminous intensity	I_V	GL3LR44	I_F=20mA	90	160	–	mcd
		GL3TR44	I_F=20mA	45	110	–	
Peak emission wavelength	λ_p	GL3LR44	I_F=20mA	–	660	–	nm
		GL3TR44	I_F=20mA	–	660	–	
Spectrum radiation bandwidth	$\Delta\lambda$	GL3LR44	I_F=20mA	–	20	–	‘m
		GL3TR44	I_F=20mA	–	20	–	
Reverse current	I_R	GL3LR44	V_R=4V	·		10	μA
		GL3TR44	V_R=4V	–	–	10	
Terminal capacitance	C_t	GL3LR44	V=0V f=1 MHz	–	30	–	pF
		GL3TR44	V=OV f=1MHz	–	30	–	
Response frequency	f_c	GL3LR44	–	–	8	–	MHz
		GL3TR44	–	–	8	–	

※3 Tolerance: ±30%

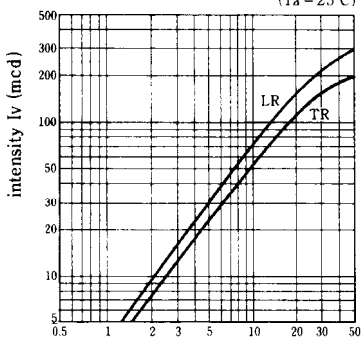
■ Characteristics Diagrams

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



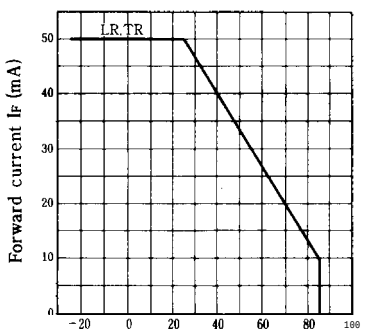
Forward voltage V_F (V)

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



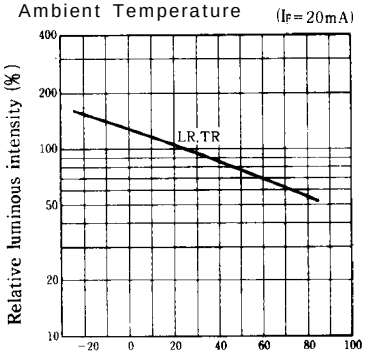
Forward current I_F (mA)

Forward Current Derating Curve



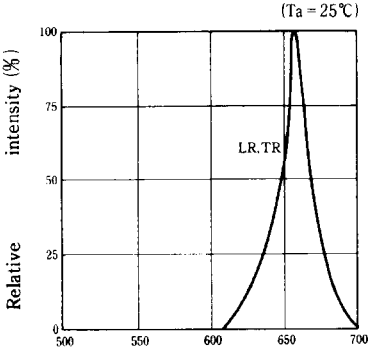
Ambient temperature Ta (℃)

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



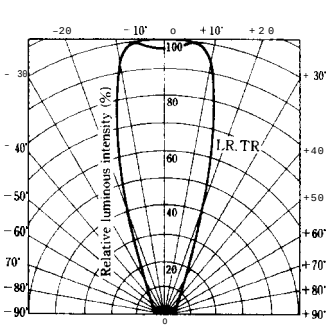
Ambient temperature Ta (℃)

Spectrum Distribution (Ta = 25℃)



Wavelength λ (rim)

Radiation Diagram (Ta = 25℃)



GL3PR44 (Red) / GL3HD44 (Red)

■ Electro-optical Characteristics

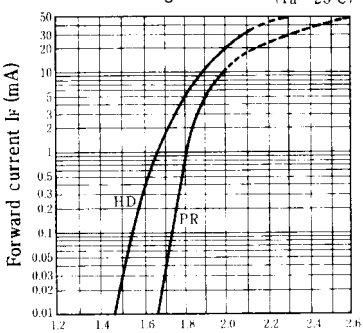
(Ta = 25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL3PR44	I_F = 5mA		1.9	2,3	V
		GL3HD44	I_F = 20mA	–	2.0	2.8	
※3 Luminous intensity	I_V	GL3PR44	I_F = 5mA	6.0	12	–	mcd
		GL3HD44	I_F = 20mA	45	110	–	
Peak emission wavelength	λ_p	GL3PR44	I_F = 5mA	–	695	–	‘m
		GL3HD44	I_F = 20mA		635	–	
Spectrum radiation bandwidth	AA	GL3PR44	I_F = 5mA	–	100	–	‘m
		GL3HD44	I_F = 20mA	–	35	–	
Reverse current	I_R	GL3PR44	V_R = 4V		–	10	μA
		GL3HD44	V_R = 4V	–	–	10	
Terminal capacitance	C_t	GL3PR44	V = OV f = 1MHz	–	55	–	pF
		GL3HD44	V = O V f = 1MHz	–	20	–	
Response frequency	f,	GL3PR44	–	–	4	–	MHz
		GL3HD44			4	–	

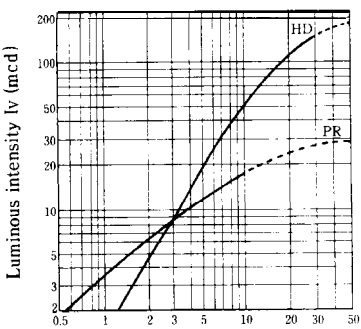
※3 Tolerance: ±30%

■ Characteristics Diagrams

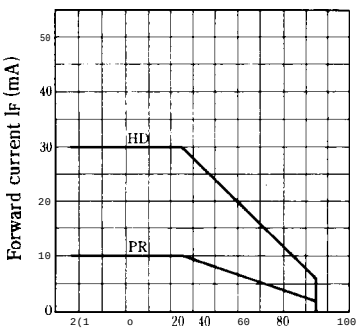
Forward Current vs. Forward Voltage (Ta = 25℃)



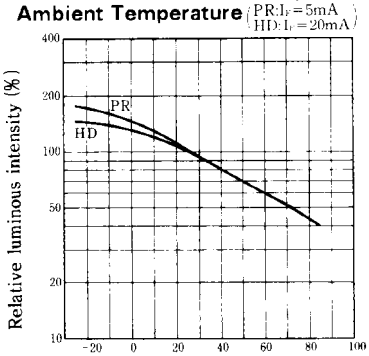
Luminous Intensity vs. Forward Current (Ta = 25℃)



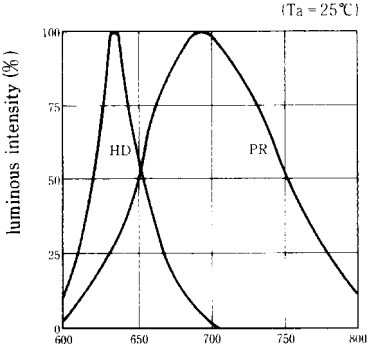
Forward Current **Derating** Curve



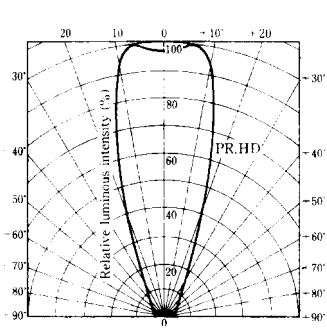
Relative Luminous Intensity vs. Ambient Temperature (PR: I_F = 5mA, HD: I_F = 20mA)



Spectrum Distribution (Ta = 25℃)



Radiation Diagram (Ta = 25℃)



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GL3HS44 {Sunset orange) / GL3HY44 (Yellow)

■ Electro-optical Characteristics

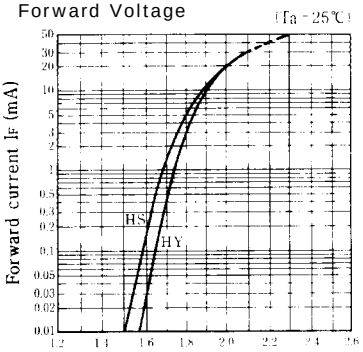
(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX	Unit
Forward voltage	V_F	GL3HS44	I_F=20mA		2.0	2.8	V
		GL3HY44	I_F=20mA		2.0	2.8	
※3 Luminous intensity	I_V	GL3HS44	I_F=20mA	40	100	–	mcd
		GL3HY44	I_F=20mA	40	100	–	
Peak emission wavelength	λ_p	GL3HS44	I_F=20mA		610	–	‘m
		GL3HY44	I_F=20mA	–	585	-	
Spectrum radiation bandwidth	$\Delta\lambda$	GL3HS44	I_F=20mA	–	35	–	‘m
		GL3HY44	I_F=20mA		30	–	
Reverse current	I_R	GL3HS44	V_R=4V	–	–	10	μA
		GL3HY44	V_R=4V			10	
Terminal capacitance	C_t	GL3HS44	V=0V f=1 MHz	–	15	–	pF
		GL3HY44	V=0V f=1 MHz	–	35		
Response frequency	f_c	GL3HS44	–	–	4		MHz
		GL3HY44	–		4	–	

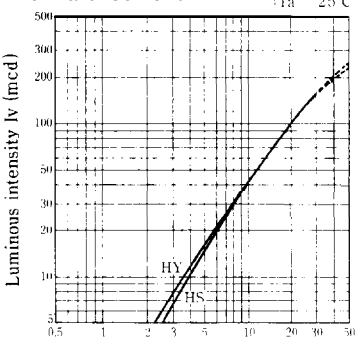
※3 Tolerance: ±30%

■ Characteristics Diagrams

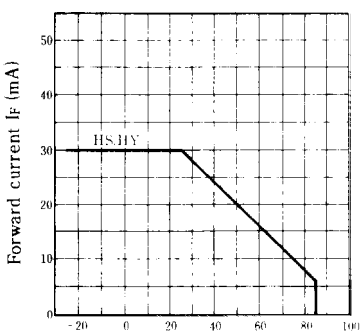
Forward Current vs. Forward Voltage (Ta=25℃)



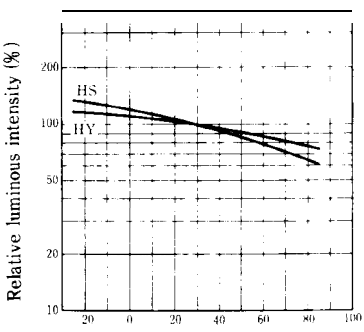
Luminous Intensity vs. Forward Current (Ta=25℃)



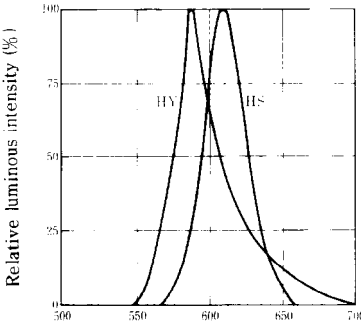
Forward Current Derating Curve



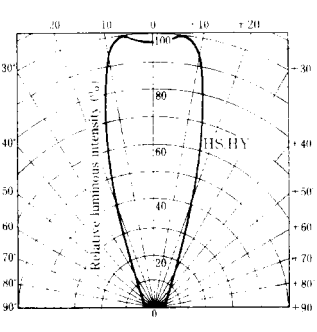
Relative Luminous Intensity vs. Ambient Temperature (IF=20mA)



Spectrum Distribution (Ta=25℃)



Radiation Diagram (Ta=25℃)



GL3EG44 (Yellow-green) / GL3KG44 (Green)

■ Electro-optical Characteristics

(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL3EG44	I_F=20mA		2.1	2.8	V
		GL3KG44	I_F=20mA	—	2.1	2.8	
※3 Luminous intensity	I_V	GL3EG44	I_F=20mA	80	130	—	mcd
		GL3KG44	I_F=20mA	30	60	-	
Peak emission wavelength	λ_p	GL3EG41	I_F=20mA		565	—	‘m
		GL3KG44	I_F=20mA		555	—	
Spectrum radiation bandwidth	$\Delta\lambda$	GL3EG44	I_F=20mA		30	—	‘m
		GL3KG44	I_F=20mA		25	—	
Reverse current	I_R	GL3EG44	V_R=4V	—	—	10	μA
		GL3KG44	V_R=4V			10	
Terminal capacitance	C_t	GL3EG44	V=0V f=1MHz	-	35	—	pF
		GL3KG44	V=0V f=1 MHz	—	40	-	
Response frequency	f_c	GL3EG44	—		4	—	MHz
		GL3KG44	—	—	4	—	

※3 Tolerance: ±30%

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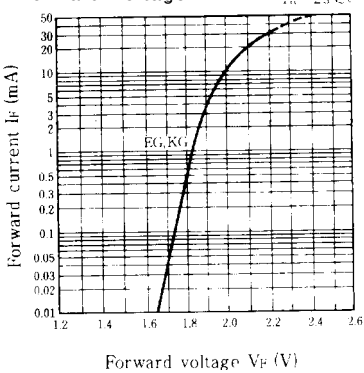
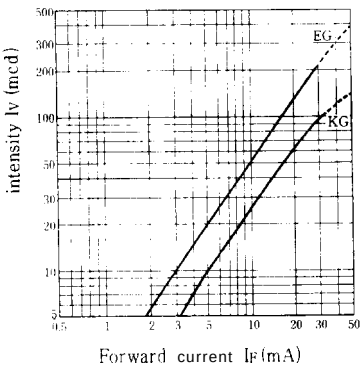
■ Characteristics Diagrams

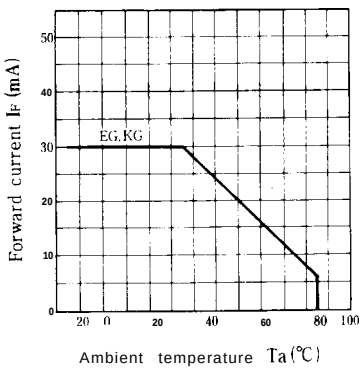
Forward Current vs. Forward Voltage



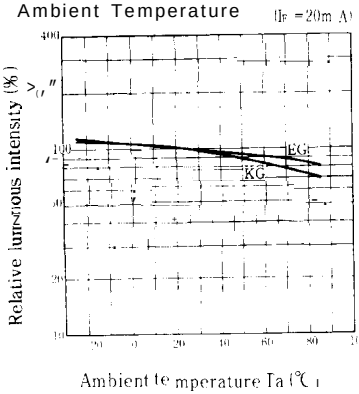
Luminous Intensity vs. Forward Current



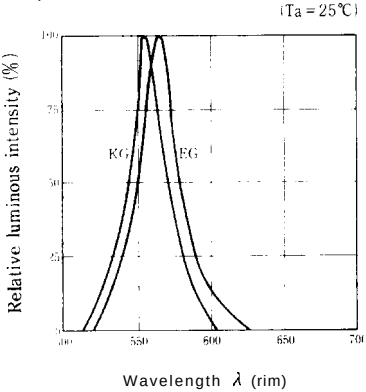
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



Radiation Diagram