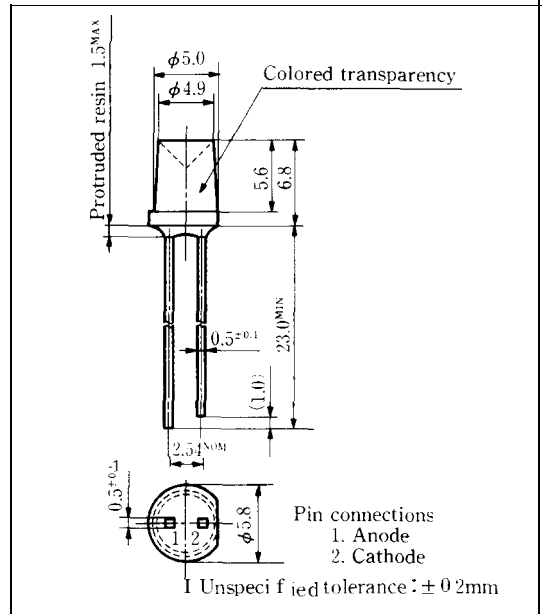


GL5□□47 Series ϕ 5mm(T-1 $\frac{3}{4}$) Cylinder Type (Inverted Cone) LED Lamps

Model No.

GL5LR47 Red (High-luminosity)	GaAlAs/GaAs
GL5HD47 Red	GaAsP/GaP
GL5HS47 Sunset orange	GaAsP/GaP
GL5HY47 Yellow	GaAsP/GaP
GL5EG47 Yellow-green	GaP
GL5KG47 Green	GaP

Outline Dimensions (Unit: mm)



Features

- ϕ 5mm(T-1 $\frac{3}{4}$) inverted cone type all resin mold
- Colored transparency lens type
- Wide viewing angle
- For backlighting

Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	GL5LR47 GL5HD47 GL5EG47				Unit
		GL5HS47	GL5KG47			
Power dissipation	P	110	84	84		mW
Continuous forward current	I _F	150	130	130	1	mA
*1 Peak forward current	I _{FM}	1300	150	150	1	mA
Derating factor	DC	0.67	0.40	0.40		mA/°C
	Pulse	4.00	0.67	0.67		mA/°C
Reverse voltage	V _R	5	5	5		V
Operating temperature	T _{opr}	-25 to +85				°C
Storage temperature	T _{sig}	-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 GL5LR47

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

SHARP

GL5LR47 (Red)

Electro-optical Characteristics

(Ta = 25°C)

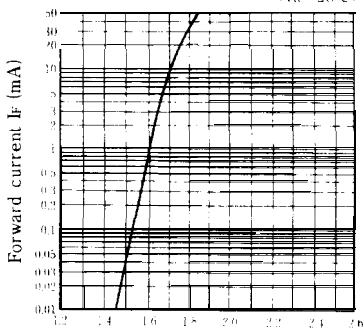
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5LR47	I _F = 20mA	—	1.75	2.2	V
※3 Luminous intensity	I _v	GL5LR47	I _F = 20mA	5.0	12	—	mcd
Peak emission wavelength	λ _p	GL5LR47	I _F = 20mA	—	660	—	nm
Spectrum radiation bandwidth	Δλ	GL5LR47	I _F = 20mA	—	20	—	*m
Reverse current	I _R	GL5LR47	V _R = 4V	—	—	10	μA
Terminal capacitance	C ₁	GL5LR47	V = 0 f = 1MHz	—	30	—	pF
Response frequency	f _c	GL5LR47	—	—	8	—	MHz

※3 Tolerance: ±30%

3

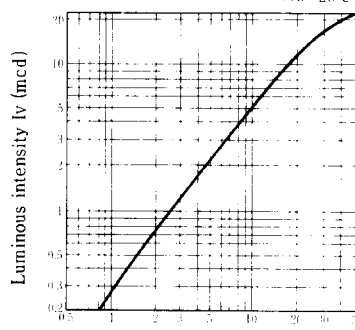
Characteristics Diagrams

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



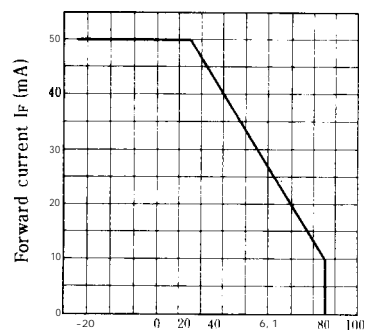
Forward voltage V_F (V)

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



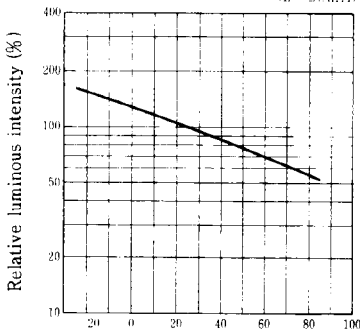
Forward current I_F (mA)

Forward Current Derating Curve



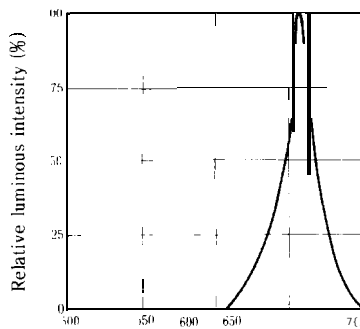
Ambient temperature Ta (°C)

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



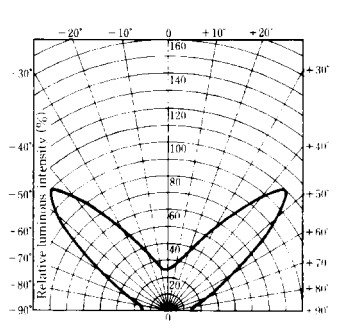
Ambient temperature Ta (°C)

Spectrum Distribution (Ta = 25°C)



Wavelength λ (nm)

Radiation Diagram (Ta = 25°C)



GL5HD47 (Red)

■ **Electro-optical** Characteristics

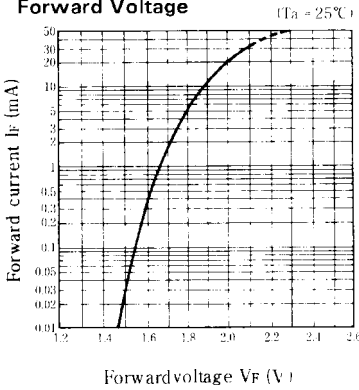
(Ta = 25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5HD47	$I_F = 20\text{mA}$	—	2.0	2.8	V
※3 Luminous intensity	I_v	GL5HD47	$I_F = 20\text{mA}$	2.5	8.0	—	mcd
Peak emission wavelength	λ_p	GL5HD47	$I_F = 20\text{mA}$		635	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL5HD47	$I_F = 20\text{mA}$		35	—	nm
Reverse current	I_R	GL5HD47	$V_R = 4\text{V}$		—	1.0	μA
Terminal capacitance	C_t	GL5HD47	$V = 0\text{V}$ $f = 1\text{MHz}$	—	20	—	pF
Response frequency	f_c	GL5HD47	—	—	4	—	MHz

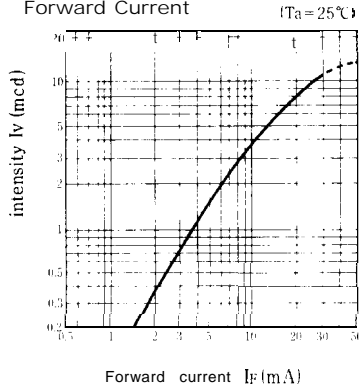
※3 Tolerance: $\pm 30\%$

■ Characteristics Diagrams

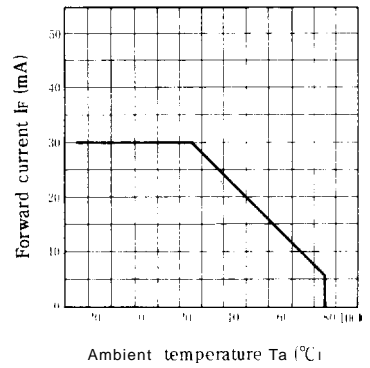
Forward Current vs. Forward Voltage



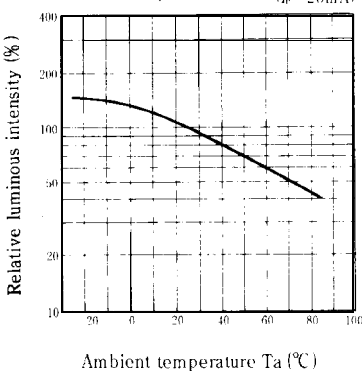
Luminous Intensity vs. Forward Current



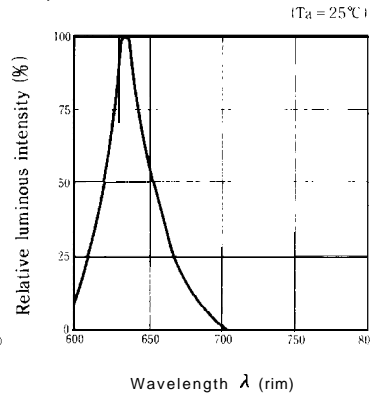
Forward Current Derating Curve



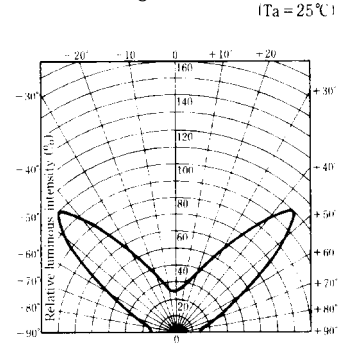
Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



Radiation Diagram



GL5HS47 (Sunset orange) / GL5HY47 (Yellow)

■ Electro-optical Characteristics

(Ta = 25°C)

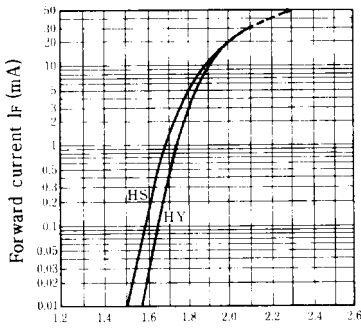
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5HS47	I _F = 20mA		2.0	2.8	V
		GL5HY47	I _F = 20mA		2.0	2.8	
※3 Luminous intensity	I _v	GL5HS47	I _F = 20mA	2.0	6.0	—	mcd
		GL5HY47	I _F = 20mA	3.0	12	—	
Peak emission wavelength	λ _p	GL5HS47	I _F = 20mA		610	—	nm
		GL5HY47	I _F = 20mA		585	—	
Spectrum radiation bandwidth	Δλ	GL5HS47	I _F = 20mA		35	—	nm
		GL5HY47	I _F = 20mA		30	—	
Reverse current	I _R	GL5HS47	V _R = 4V	—		10	μA
		GL5HY47	V _R = 4V			10	
Terminal capacitance	C _t	GL5HS47	V = 0V f = 1 MHz	—	15	—	pF
		GL5HY47	V = 0V f = 1 MHz		35	—	
Response frequency	f _c	GL5HS47	—	—	4	—	MHz
		GL5HY47	—		4	—	

※3 Tolerance: ±30%

■ Characteristics Diagrams

Forward Current vs. Forward Voltage

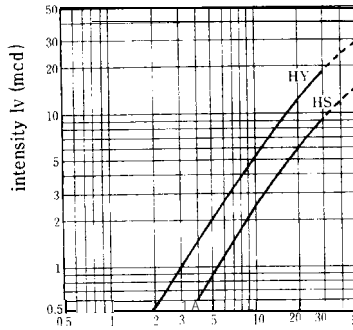
(Ta = 25°C)



Forward voltage V_F(V)

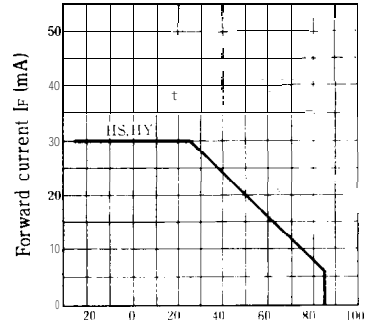
Luminous Intensity vs. Forward Current

(Ta = 25°C)



Forward current I_F (mA)

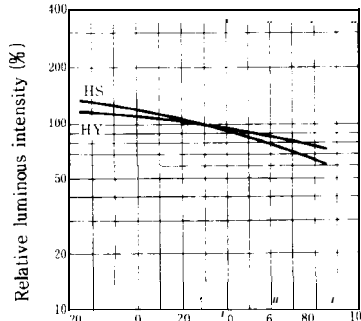
Forward Current Derating Curve



Ambient temperature T_a (°C)

Relative Luminous Intensity vs. Ambient Temperature

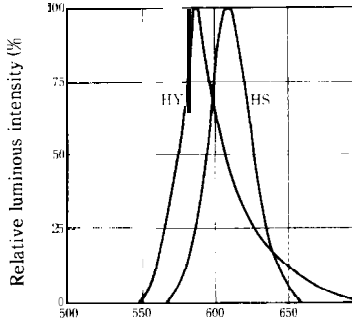
(I_F = 20mA)



Ambient temperature T_a (°C)

Spectrum Distribution

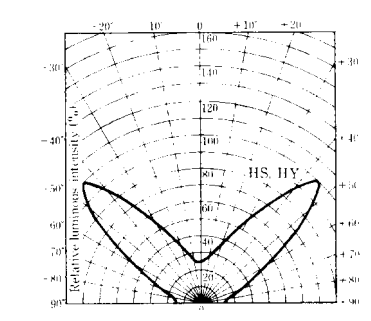
(Ta = 25°C)



Wavelength λ (nm)

Radiation Diagram

(Ta = 25°C)



3

GL5EG47 (Yellow-green) / GL5KG47 (Green)

■ Electro-optical Characteristics

(Ta = 25°C)

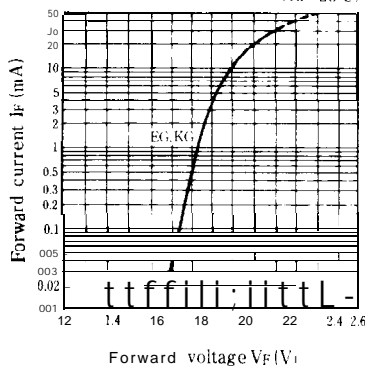
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL5EG47	I _F = 20mA		2.1	2.8	V
		GL5KG47	I _F = 20mA		2.1	2.8	
*3 Luminous intensity	I _v	GL5EG47	I _F = 20mA	4.5	15		' cd
		GL5KG47	I _F = 20mA	3.0	4.0	-	
Peak emission wavelength	λ _p	GL5EG47	I _F = 20mA		565	-	' m
		GL5KG47	I _F = 20mA		555	-	
Spectrum radiation bandwidth	Δλ	GL5EG47	I _F = 20mA		30	-	' m
		GL5KG47	I _F = 20mA		25	-	
Reverse current	I _R	GL5EG47	V _R = 4V			10	μA
		GL5KG47	V _R = 4V			10	
Terminal capacitance	C _t	GL5EG47	V = 0V f = 1 MHz		35	-	pF
		GL5KG47	V = 0V f = 1 MHz		40	-	
Response frequency	f _c	GL5EG47	-		4	-	MHz
		GL5KG47	-		4	-	

*3 Tolerance: ±30%

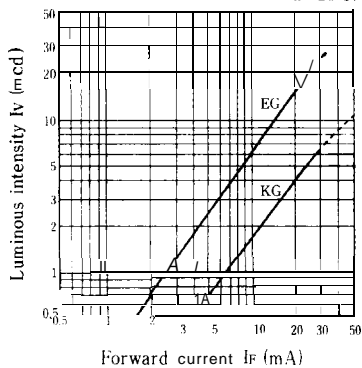
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

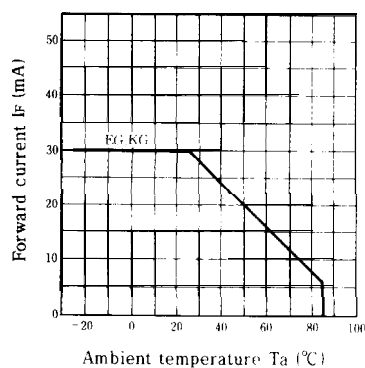
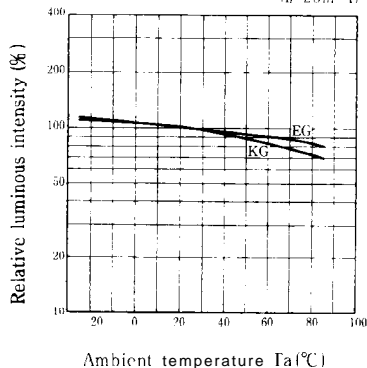
(Ta = 25°C)

Luminous Intensity vs.
Forward Current

(Ta = 25°C)

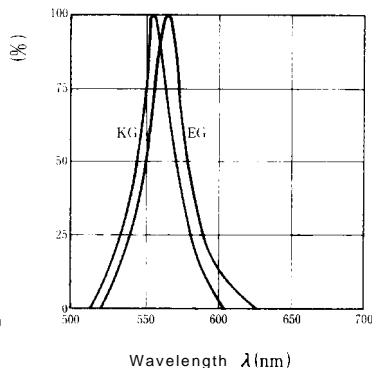


Forward Current Derating Curve

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

Spectrum Distribution

(Ta = 25°C)



Radiation Diagram

(Ta = 25°C)

