

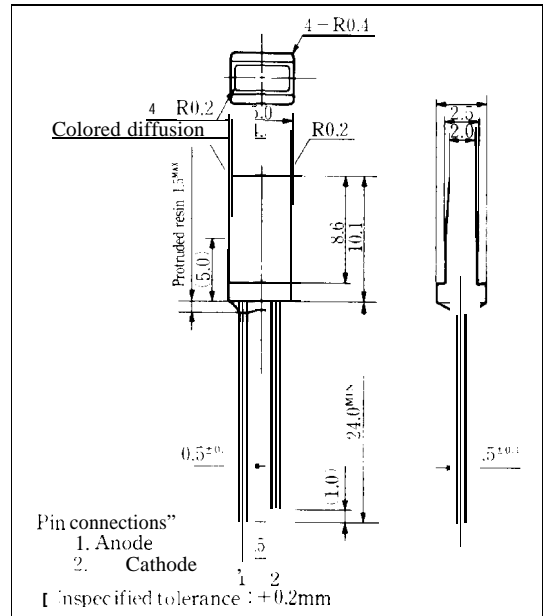
GL8□□23 Series Rectangle “□□”ED ‘amps

Model No.

GL8LR23 Red (High-luminosity)	GaAlAs/GaAs
GL8TR23 Red (High-luminosity)	GaAlAs/GaAs
GL8HD23 Red	GaAsP/GaP
GL8HY23 Yellow	GaAsP/GaP
GL8EG23 Yellow-green	GaP

Outline Dimensions

(Unit: mm)



Features

- 2.0mm × 4.5mm rectangle type all resin mold
- Colored diffusion lens type

Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	GL8LR23 GL8HD23 GL8EG23				Unit
		GL8TR23	GL8HY23			
Power dissipation	P	110	84	84		mW
Continuous forward current	I _F	50	30	30		mA
*1 Peak forward current	I _{FM}	300	50	50		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 _{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 GL8LR23 and GL8TR23

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

SHARP

GL8LR23 (Red) / GL8TR23 (Red)

Electro-optical Characteristics

(Ta = 25°C)

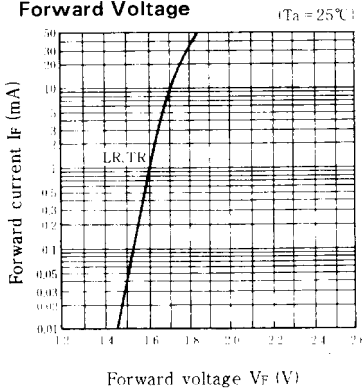
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V _F	GL8LR23	I _F = 20mA		1.75	2.2	V
		GL8TR23	I _F = 20mA		1.75	2.2	
*3 Luminous intensity	I _v	GL8LR23	I _F = 20mA	3.5	10	-	mcd
		GL8TR23	I _F = 20mA	2.0	5.0	-	
Peak emission wavelength	λ _p	GL8LR23	I _F = 20mA	-	660	-	'm
		GL8TR23	I _F = 20mA	-	660	-	
Spectrum radiation bandwidth	Δλ	GL8LR23	I _F = 20mA	-	20	-	nm
		GL8TR23	I _F = 20mA	-	20	-	
Reverse current	I _R	GL8LR23	V _R = 4V	-	-	10	μA
		GL8TR23	V _R = 4V	-	-	10	
Terminal capacitance	c	GL8LR23	V = 0V f = 1MHz	-	30	-	pF
		GL8TR23	V = 0V f = 1MHz	-	30	-	
Response frequency	f _c	GL8LR23	-	-	8	-	MHz
		GL8TR23	-	-	8	-	

*3 Tolerance: ±30%

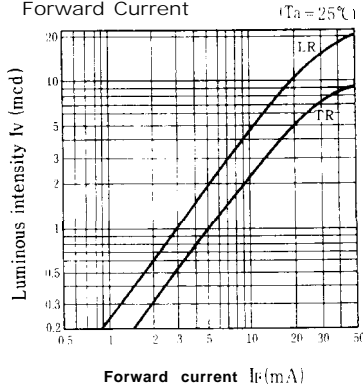
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Characteristics Diagrams

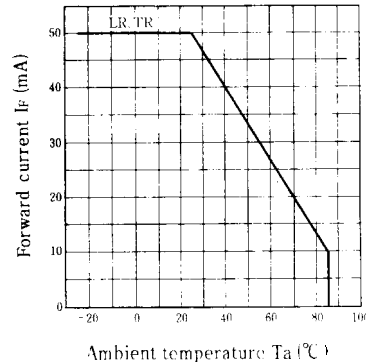
Forward Current vs. Forward Voltage



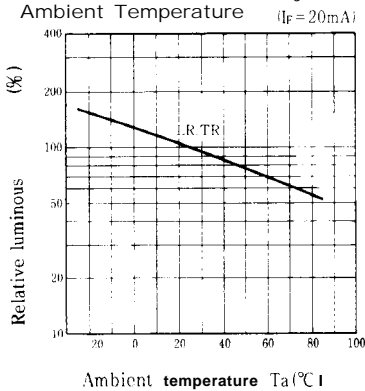
Luminous Intensity vs. Forward Current



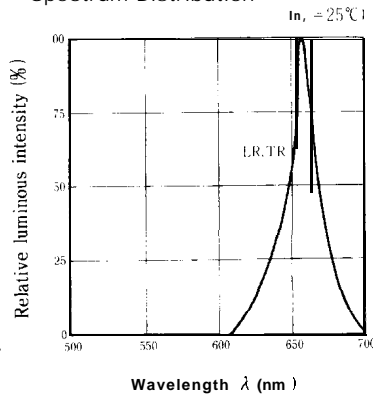
Forward Current Derating Curve



Relative Luminous Intensity vs. Ambient Temperature



Spectrum Distribution



GL8HD23 (Red)

■ Electro-optical Characteristics

(Ta = 25°C)

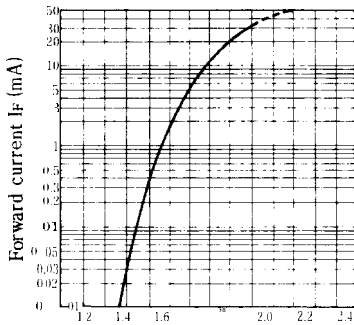
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8HD23	$I_F = 20\text{mA}$		2.0	2.8	V
*3 Luminous intensity	I_V	GL8HD23	$I_F = 20\text{mA}$	2.0	8.0	—	mcd
Peak emission wavelength	λ_p	GL8HD23	$I_F = 20\text{mA}$		635	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL8HD23	$I_F = 20\text{mA}$	—	35	—	nm
Reverse current	I_R	GL8HD23	$V_R = 4\text{V}$		—	10	μA
Terminal capacitance	C_t	GL8HD23	$V = 0\text{V}$ $f = 1\text{MHz}$	—	20	—	pF
Response frequency	f_c	GL8HD23	—	—	4	—	MHz

*3 Tolerance: $\pm 30\%$

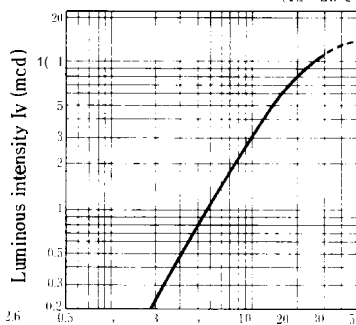
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

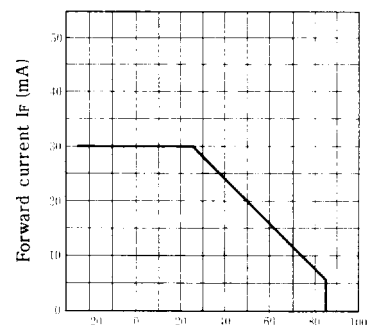
(Ta = 25°C)

Forward voltage V_F (V)Luminous Intensity vs.
Forward Current

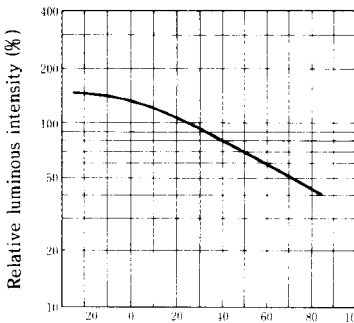
(Ta = 25°C)

Forward current I (mA)

Forward Current Derating Curve

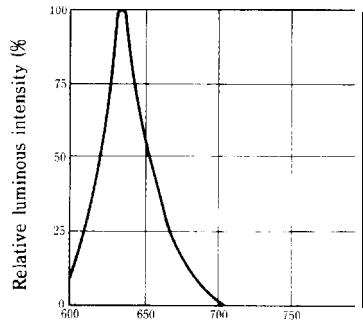
Ambient temperature T_a (°C)Relative Luminous Intensity vs.
Ambient Temperature

(IF = 20mA)

Ambient temperature T_a (°C)

Spectrum Distribution

(Ta = 25°C)

Wavelength λ (nm)

SHARP

GL8HY23 (Yellow)

■ Electro-optical Characteristics

(Ta = 25°C)

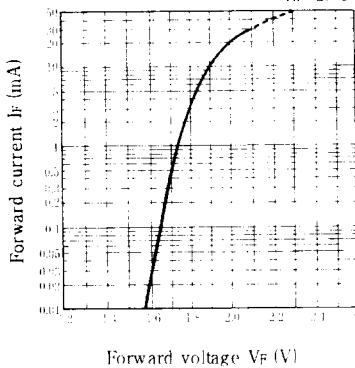
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8HY23	$I_F = 20\text{mA}$		2.0	2.8	V
※3 Luminous intensity	I_v	GL8HY23	$I_F = 20\text{mA}$	1.5	8.0	—	mcd
Peak emission wavelength	λ_p	GL8HY23	$I_F = 20\text{mA}$		585	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL8HY23	$I_F = 20\text{mA}$		30	—	nm
Reverse current	I_R	GL8HY23	$V_R = 4\text{V}$		—	10	μA
Terminal capacitance	C_t	GL8HY23	$V = 0\text{V}$ $f = 1\text{MHz}$	—	35	—	pF
Response frequency	f_c	GL8HY23	—		4	—	MHz

※3 Tolerance: ±30%

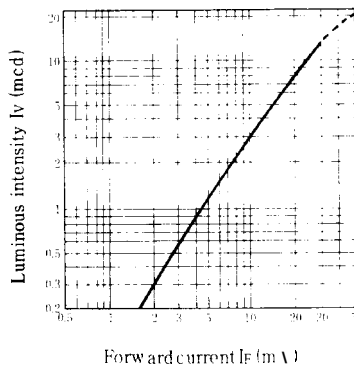
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■ Characteristics Diagrams

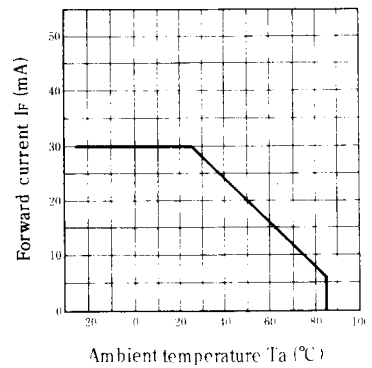
Forward Current vs. Forward Voltage (Ta = 25°C)



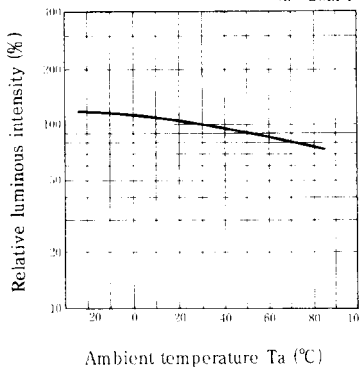
Luminous Intensity vs. Forward Current (Ta = 25°C)



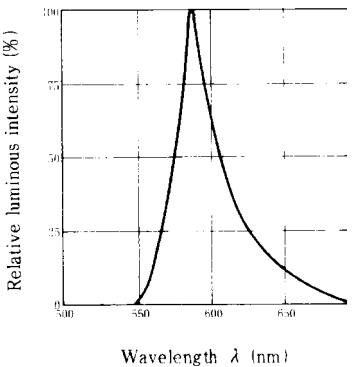
Forward Current Derating Curve



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



Spectrum Distribution (Ta = 25°C)



GL8EG23 (Yellow-green)

■ Electro-optical Characteristics

(Ta=25°C)

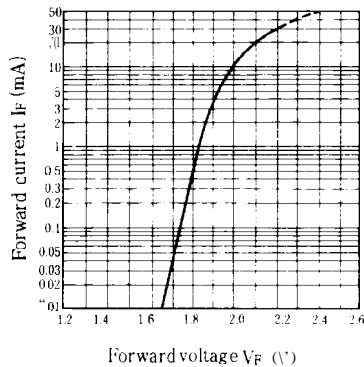
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8EG23	$I_F = 20\text{mA}$		2.1	2.8	V
*3 Luminous intensity	I_V	GL8EG23	$I_F = 20\text{mA}$	2.0	6.0	—	mcd
Peak emission wavelength	λ_p	GL8EG23	$I_F = 20\text{mA}$	—	565	—	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL8EG23	$I_F = 20\text{mA}$	—	30	—	nm
Reverse current	I_R	GL8EG23	$V_R = 4\text{V}$	—		10	μA
Terminal capacitance	C_t	GL8EG23	$V = 0\text{V}, f = 1\text{MHz}$	—	35	—	pF
Response frequency	f_c	GL8EG23	—		4	—	MHz

*3 Tolerance: $\pm 30\%$

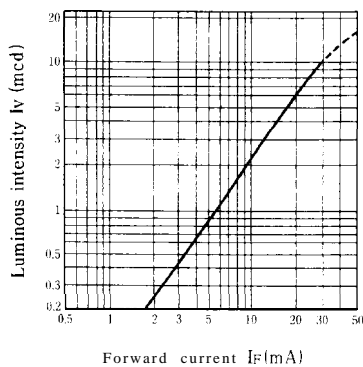
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

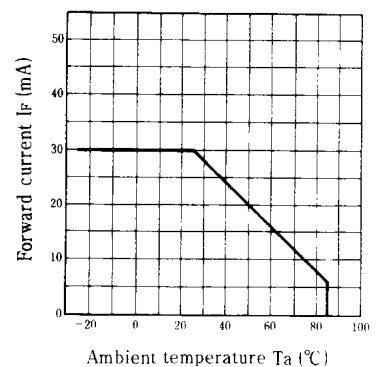
(Ta = 25°C)

Luminous Intensity vs.
Forward Current

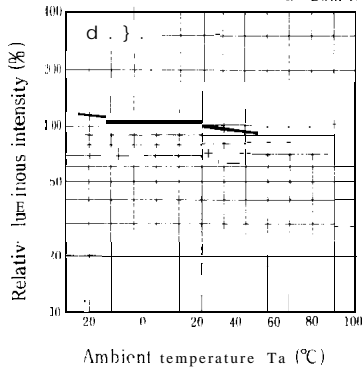
(Ta = 25°C)



Forward Current Derating Curve

Relative Luminous Intensity vs.
Ambient Temperature

(IF = 20mA)



Spectrum Distribution

(Ta = 25°C)

