

51E D ■ 8180798 0007038 78T ■ SRPJ

## GL8□□31 Series

Rectangle Type LED Lamps

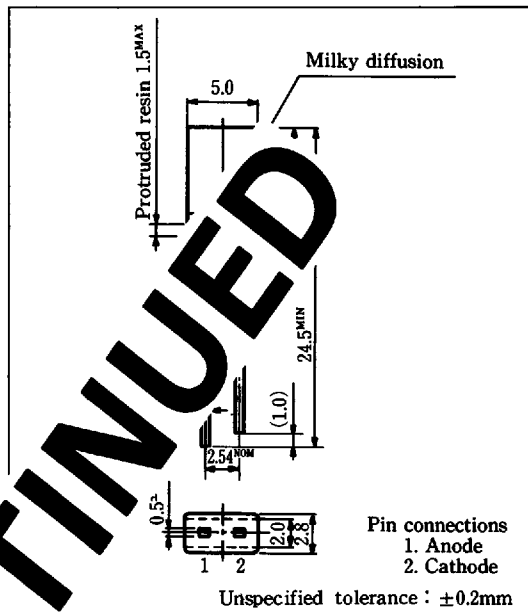
T-41-23

## ■ Model No.

GL8PR31	Red	GaP
GL8HD31	Red	GaAsP/GaP
GL8HS31	Sunset orange	GaAsP/GaP
GL8HY31	Yellow	GaAsP/GaP
GL8EG31	Yellow-green	GaP
GL8KG31	Green	GaP

## ■ Outline Dimensions

(Unit: mm)



## ■ Features

1. 2.0mm × 5.0mm rectangle type all resin mold
2. Milky diffusion lens type

## ■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	GL8PR31	GL8HD31	GL8EG31			Unit
			GL8HS31	GL8KG31			
Power dissipation	P	23	84	84			mW
Continuous forward current	I <sub>F</sub>	10	30	30			mA
※1 Peak forward current	I <sub>FM</sub>	50	50	50			mA
Derating factor	DC	—	0.13	0.40	0.40		mA/°C
	Pulse	—	0.67	0.67	0.67		mA/°C
Reverse voltage	V <sub>R</sub>	5	5	5			V
Operating temperature	T <sub>opr</sub>	-25 to +85					°C
Storage temperature	T <sub>stg</sub>	-25 to +100					°C
※2 Soldering temperature	T <sub>sol</sub>	260(within 5 seconds)					°C

※1 Duty ratio = 1/10, Pulse width = 0.1ms

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

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GL8PR31 (Red) / GL8HD31 (Red)

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## ■ Electro-optical Characteristics

(Ta=25°C)

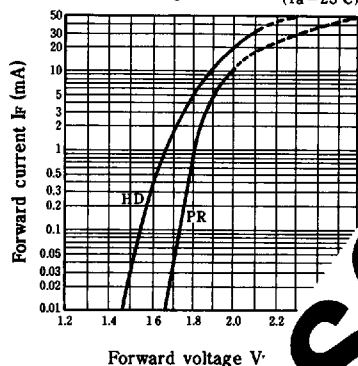
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL8PR31	I <sub>F</sub> =5mA	—	1.9	2.3	V
		GL8HD31	I <sub>F</sub> =20mA	—	2.0	2.8	
※3 Luminous intensity	I <sub>v</sub>	GL8PR31	I <sub>F</sub> =5mA	0.30	0.70	—	mcd
		GL8HD31	I <sub>F</sub> =20mA	3.0	8.0	—	
Peak emission wavelength	λ <sub>p</sub>	GL8PR31	I <sub>F</sub> =5mA	—	695	—	nm
		GL8HD31	I <sub>F</sub> =20mA	—	635	—	
Spectrum radiation bandwidth	Δλ	GL8PR31	I <sub>F</sub> =5mA	—	100	—	nm
		GL8HD31	I <sub>F</sub> =20mA	—	35	—	
Reverse current	I <sub>R</sub>	GL8PR31	V <sub>R</sub> =4V	—	—	10	μA
		GL8HD31	V <sub>R</sub> =4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL8PR31	V=0V	—	55	—	pF
		GL8HD31	V=0V	—	20	—	
Response frequency	f <sub>c</sub>	GL8PR31	—	—	4	—	MHz
		GL8HD31	—	—	4	—	

※3 Tolerance: ±30%

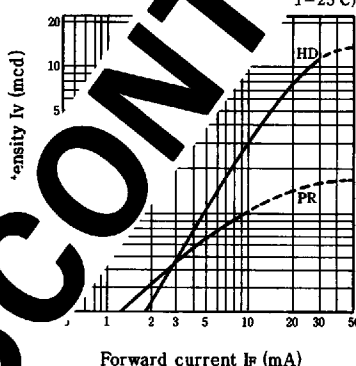
## ■ Characteristics Diagrams

Forward Current vs.  
Forward Voltage

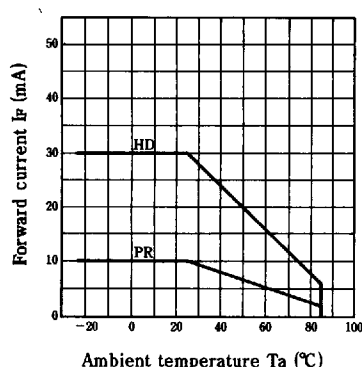
(Ta = 25°C)

Luminous Intensity vs.  
Forward Current

(Ta = 25°C)

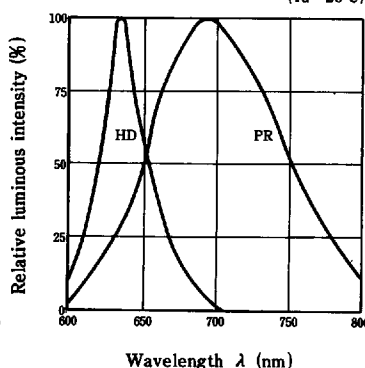
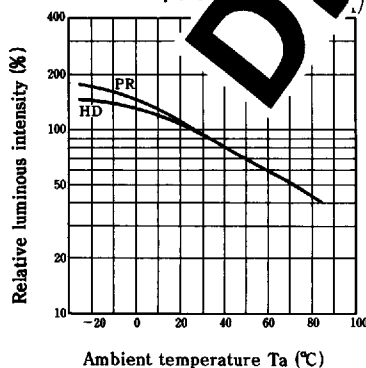


Forward Current Derating Curve

Relative Luminous Intensity vs.  
Ambient Temperature

Spectrum Distribution

(Ta = 25°C)



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 GL8HS31 (Sunset orange) / GL8HY31 (Yellow)

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### ■ Electro-optical Characteristics

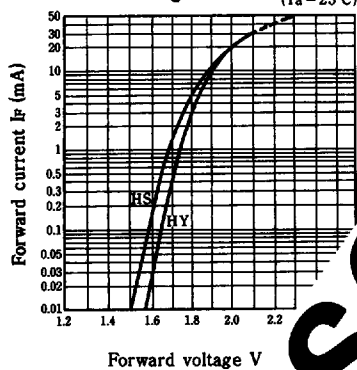
(Ta=25°C)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL8HS31	I <sub>F</sub> =20mA	—	2.0	2.8	V
		GL8HY31	I <sub>F</sub> =20mA	—	2.0	2.8	
*3 Luminous intensity	I <sub>v</sub>	GL8HS31	I <sub>F</sub> =20mA	3.0	8.0	—	mcd
		GL8HY31	I <sub>F</sub> =20mA	3.0	8.0	—	
Peak emission wavelength	λ <sub>p</sub>	GL8HS31	I <sub>F</sub> =20mA	—	610	—	nm
		GL8HY31	I <sub>F</sub> =20mA	—	585	—	
Spectrum radiation bandwidth	Δλ	GL8HS31	I <sub>F</sub> =20mA	—	35	—	nm
		GL8HY31	I <sub>F</sub> =20mA	—	30	—	
Reverse current	I <sub>R</sub>	GL8HS31	V <sub>R</sub> =4V	—	—	10	μA
		GL8HY31	V <sub>R</sub> =4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL8HS31	V=0V	—	15	—	pF
		GL8HY31	V=0V	—	35	—	
Response frequency	f <sub>c</sub>	GL8HS31	—	—	4	—	MHz
		GL8HY31	—	—	4	—	

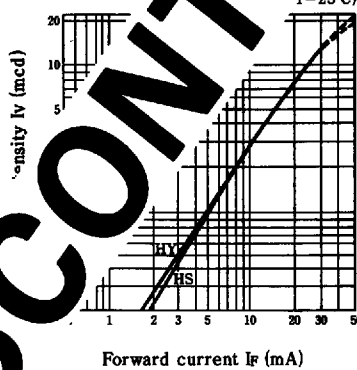
\*3 Tolerance: ±30%

### ■ Characteristics Diagrams

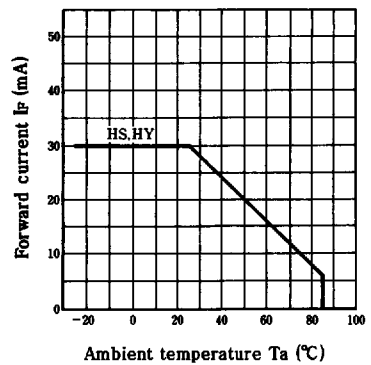
Forward Current vs.  
Forward Voltage



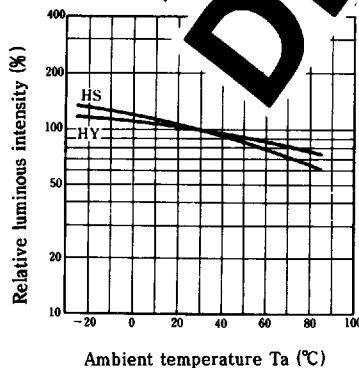
Luminous Intensity vs.  
Forward Current



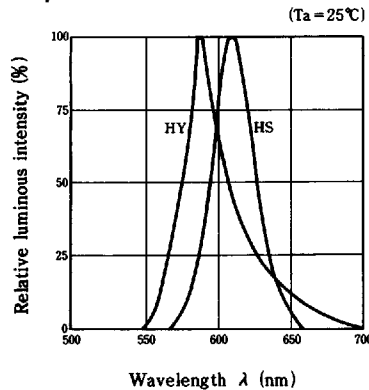
Forward Current Derating Curve



Relative Luminous Intensity vs.  
Ambient Temperature



Spectrum Distribution



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GL8EG31 (Yellow-green) / GL8KG31 (Green)

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### ■ Electro-optical Characteristics

(Ta=25°C)

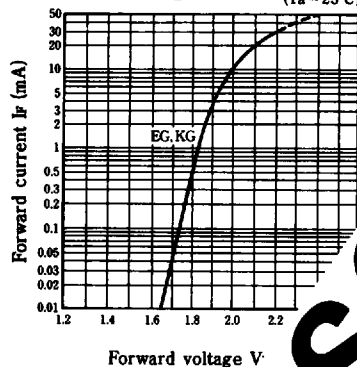
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V <sub>F</sub>	GL8EG31	I <sub>F</sub> =20mA	—	2.1	2.8	V
		GL8KG31	I <sub>F</sub> =20mA	—	2.1	2.8	
*3 Luminous intensity	I <sub>v</sub>	GL8EG31	I <sub>F</sub> =20mA	4.0	8.0	—	mcd
		GL8KG31	I <sub>F</sub> =20mA	1.6	4.0	—	
Peak emission wavelength	λ <sub>p</sub>	GL8EG31	I <sub>F</sub> =20mA	—	565	—	nm
		GL8KG31	I <sub>F</sub> =20mA	—	555	—	
Spectrum radiation bandwidth	Δλ	GL8EG31	I <sub>F</sub> =20mA	—	30	—	nm
		GL8KG31	I <sub>F</sub> =20mA	—	25	—	
Reverse current	I <sub>R</sub>	GL8EG31	V <sub>R</sub> =4V	—	—	10	μA
		GL8KG31	V <sub>R</sub> =4V	—	—	10	
Terminal capacitance	C <sub>t</sub>	GL8EG31	V=0V	—	35	—	pF
		GL8KG31	V=0V	—	40	—	
Response frequency	f <sub>c</sub>	GL8EG31	—	—	4	—	MHz
		GL8KG31	—	—	4	—	

\*3 Tolerance: ±30%

### ■ Characteristics Diagrams

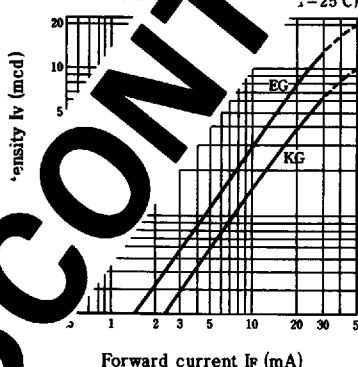
Forward Current vs.  
Forward Voltage

(Ta=25°C)

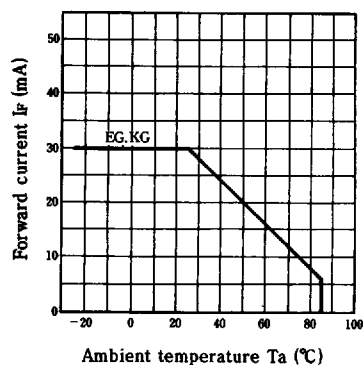


Luminous Intensity vs.  
Forward Current

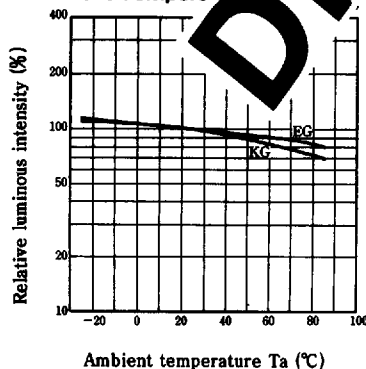
(Ta=25°C)



Forward Current Derating Curve

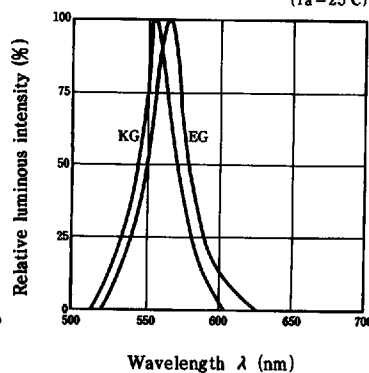


Relative Luminous Intensity vs.  
Ambient Temperature



Spectrum Distribution

(Ta=25°C)



Wavelength λ (nm)

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**Packing Specifications for LED Chips**

T-90-20

1. Chip Packing

The chips are pasted up on the center of an adhesive sheet, then covered with a protective sheet.

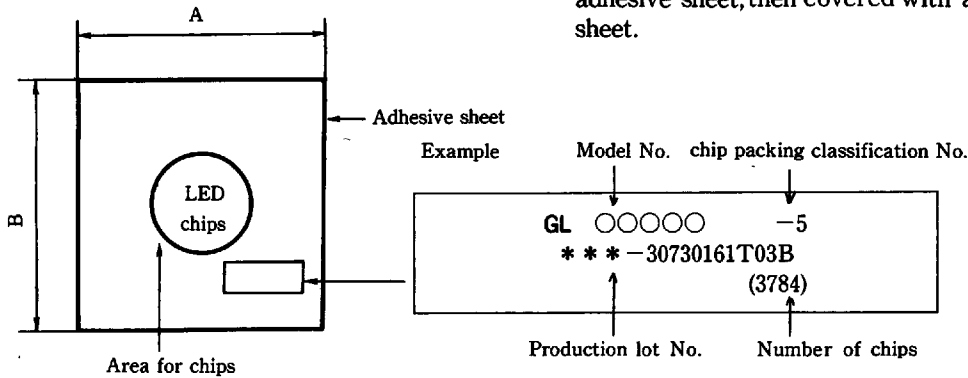


Fig. 1

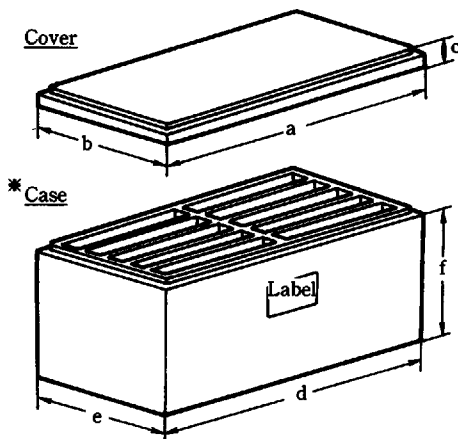
2. Sheet Packing

PART No.	
QUANTITY	00 pcs. ( UNITS)
ID No.	
SHARP CORPORATION	

Put the chip-pasted sheet into a dedicated styrol case, then paste up a label shown in Fig. 2 on its side.

Fig. 2

3. Styrol Case



\*Divided into 10 divisions

Fig. 3

**LED Chips**

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**Packing Specifications**

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(Unit : mm)

T-90-20

Adhesive sheet size A × B	Cover			Case			1 division		
	a	b	c	d	e	f	Length	Width	Depth
110×110	265	170	22.5	265	170	125	115	22.5	115
150×150	350	170	22.5	350	170	165	155	22.5	155
180×180	465	200	22.5	465	200	220	205	25	205
200×200	465	200	22.5	465	200	220	205	25	205

As to details such as materials, colors and paste intensity of chip-pasted sheets, etc., please contact our sales department.