

51E D ■ 8180798 0007038 78T ■ SRPJ

GL8□□31 Series

Rectangle Type LED Lamps

T-41-23

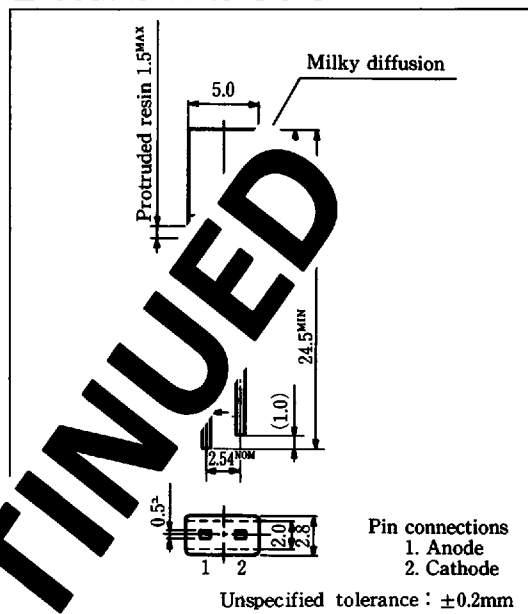
■ Model No.

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

GaP
 GaAsP/GaP
 GaAsP/GaP
 GaAsP/GaP
 GaP
 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	Model					Unit
		GL8PR31	GL8HD31	GL8EG31			
			GL8HS31	GL8KG31			
			GL8HY31				
Power dissipation	P	23	84	84			mW
Continuous forward current	I _F	10	30	30			mA
※1 Peak forward current	I _{FM}	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 _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

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

51E D ■ 8180798 0007039 616 ■ SRPJ

GL8PR31 (Red) / GL8HD31 (Red)

T-41-23

■ Electro-optical Characteristics

(Ta = 25°C)

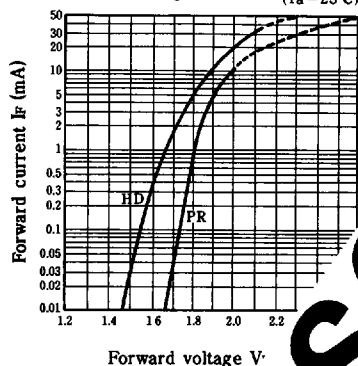
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8PR31	$I_F = 5\text{mA}$	—	1.9	2.3	V
		GL8HD31	$I_F = 20\text{mA}$	—	2.0	2.8	
※3 Luminous intensity	I_V	GL8PR31	$I_F = 5\text{mA}$	0.30	0.70	—	mcd
		GL8HD31	$I_F = 20\text{mA}$	3.0	8.0	—	
Peak emission wavelength	λ_p	GL8PR31	$I_F = 5\text{mA}$	—	695	—	nm
		GL8HD31	$I_F = 20\text{mA}$	—	635	—	
Spectrum radiation bandwidth	$\Delta\lambda$	GL8PR31	$I_F = 5\text{mA}$	—	100	—	nm
		GL8HD31	$I_F = 20\text{mA}$	—	35	—	
Reverse current	I_R	GL8PR31	$V_R = 4\text{V}$	—	—	10	μA
		GL8HD31	$V_R = 4\text{V}$	—	—	10	
Terminal capacitance	C_t	GL8PR31	$V = 0\text{V}$	—	55	—	pF
		GL8HD31	$V = 0\text{V}$	—	20	—	
Response frequency	f_c	GL8PR31	—	—	4	—	MHz
		GL8HD31	—	—	4	—	

※3 Tolerance: $\pm 30\%$

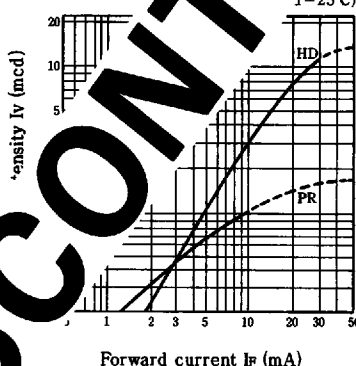
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

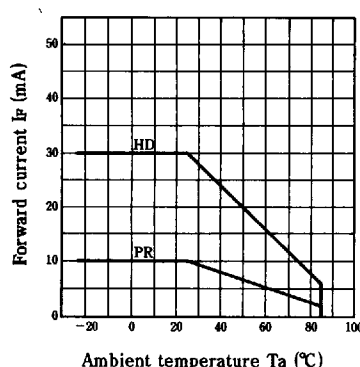
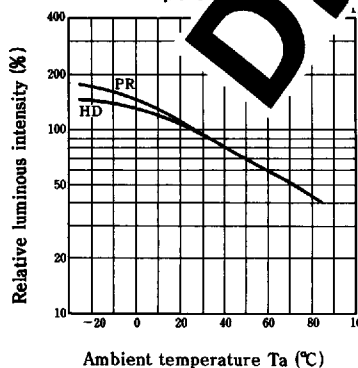
(Ta = 25°C)

Luminous Intensity
vs. Forward Current

(Ta = 25°C)

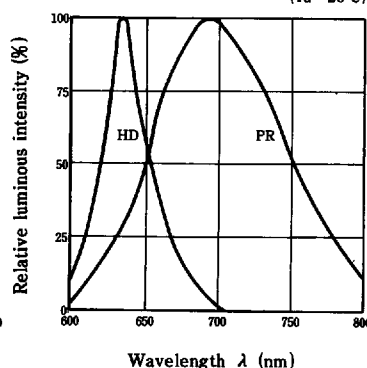


Forward Current Derating Curve

Relative Luminous
Intensity vs. Ambient Temperature

Spectrum Distribution

(Ta = 25°C)



SHARP

51E D ■ 8180798 0007040 338 ■ SRPJ

GL8HS31 (Sunset orange) / GL8HY31 (Yellow)

T-41-23

■ Electro-optical Characteristics

(Ta = 25°C)

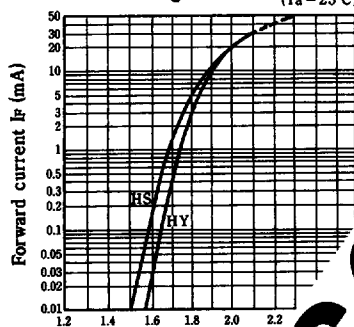
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8HS31	$I_F = 20\text{mA}$	—	2.0	2.8	V
		GL8HY31	$I_F = 20\text{mA}$	—	2.0	2.8	
※3 Luminous intensity	I_v	GL8HS31	$I_F = 20\text{mA}$	3.0	8.0	—	mcd
		GL8HY31	$I_F = 20\text{mA}$	3.0	8.0	—	
Peak emission wavelength	λ_p	GL8HS31	$I_F = 20\text{mA}$	—	610	—	nm
		GL8HY31	$I_F = 20\text{mA}$	—	585	—	
Spectrum radiation bandwidth	$\Delta\lambda$	GL8HS31	$I_F = 20\text{mA}$	—	35	—	nm
		GL8HY31	$I_F = 20\text{mA}$	—	30	—	
Reverse current	I_R	GL8HS31	$V_R = 4\text{V}$	—	—	10	μA
		GL8HY31	$V_R = 4\text{V}$	—	—	10	
Terminal capacitance	C_t	GL8HS31	$V = 0\text{V}$	—	15	—	pF
		GL8HY31	$V = 0\text{V}$	—	35	—	
Response frequency	f_c	GL8HS31	—	—	4	—	MHz
		GL8HY31	—	—	4	—	

※3 Tolerance: $\pm 30\%$

■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

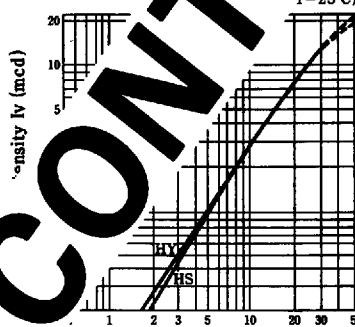
(Ta = 25°C)



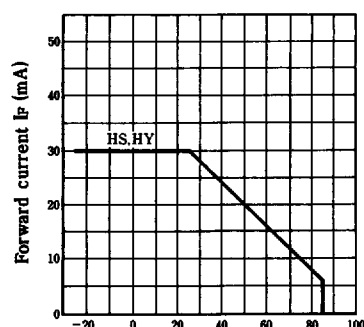
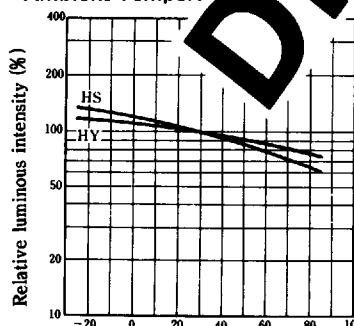
Forward voltage V

Luminous Intensity
vs. Forward Current

(Ta = 25°C)

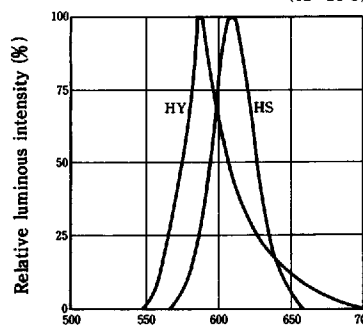
Forward current I_F (mA)

Forward Current Derating Curve

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

Spectrum Distribution

(Ta = 25°C)

Wavelength λ (nm)

SHARP

51E D ■ 8180798 0007041 274 ■ SRPJ

GL8EG31 (Yellow-green) / GL8KG31 (Green)

T-41-23

■ Electro-optical Characteristics

(Ta=25°C)

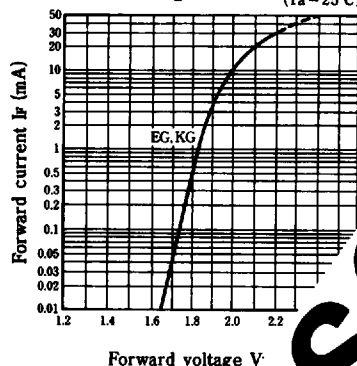
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL8EG31	$I_F=20\text{mA}$	—	2.1	2.8	V
		GL8KG31	$I_F=20\text{mA}$	—	2.1	2.8	
※3 Luminous intensity	I_v	GL8EG31	$I_F=20\text{mA}$	4.0	8.0	—	mcd
		GL8KG31	$I_F=20\text{mA}$	1.6	4.0	—	
Peak emission wavelength	λ_p	GL8EG31	$I_F=20\text{mA}$	—	565	—	nm
		GL8KG31	$I_F=20\text{mA}$	—	555	—	
Spectrum radiation bandwidth	$\Delta\lambda$	GL8EG31	$I_F=20\text{mA}$	—	30	—	nm
		GL8KG31	$I_F=20\text{mA}$	—	25	—	
Reverse current	I_R	GL8EG31	$V_R=4\text{V}$	—	—	10	μA
		GL8KG31	$V_R=4\text{V}$	—	—	10	
Terminal capacitance	C_t	GL8EG31	$V=0\text{V}$	—	35	—	pF
		GL8KG31	$V=0\text{V}$	—	40	—	
Response frequency	f_c	GL8EG31	—	—	4	—	MHz
		GL8KG31	—	—	4	—	

※3 Tolerance: $\pm 30\%$

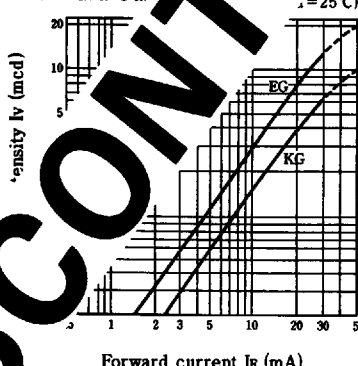
■ Characteristics Diagrams

Forward Current vs.
Forward Voltage

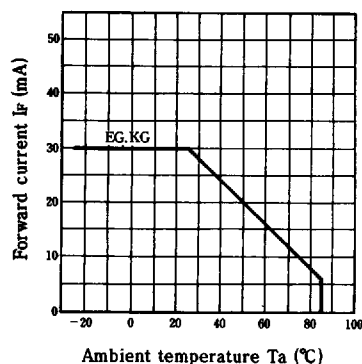
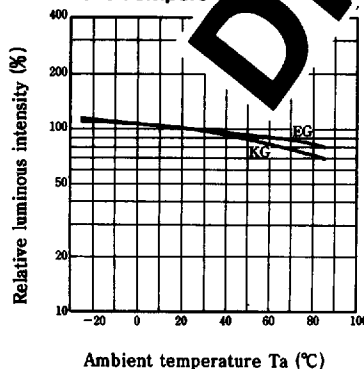
(Ta=25°C)

Luminous Intensity
vs. Forward Current

(Ta=25°C)

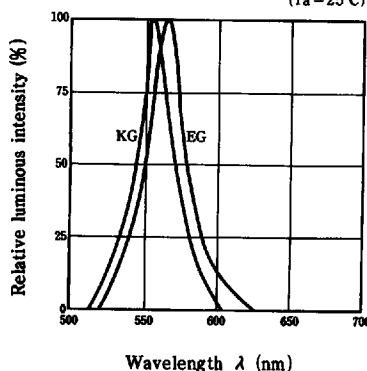


Forward Current Derating Curve

Relative Luminous
Intensity vs.
Ambient Temperature

Spectrum Distribution

(Ta=25°C)

Wavelength λ (nm)

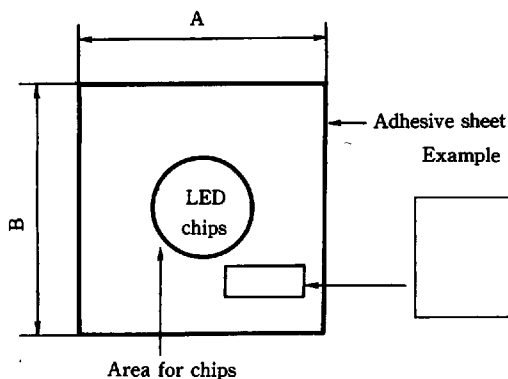
SHARP

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.



Example

Model No. chip packing classification No.

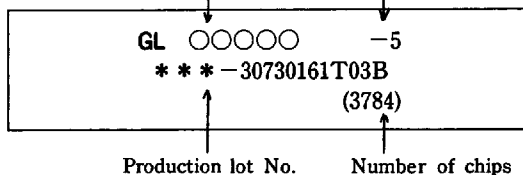


Fig. 1

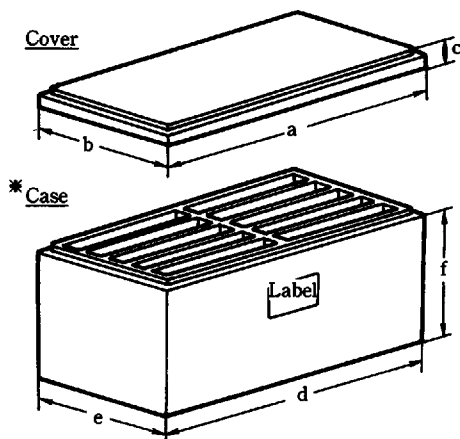
2. Sheet Packing

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

SHARP CORP

Packing Specifications

51E D ■ 8180798 0007557 146 ■ SRPJ

(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.