GL5□□72 Series

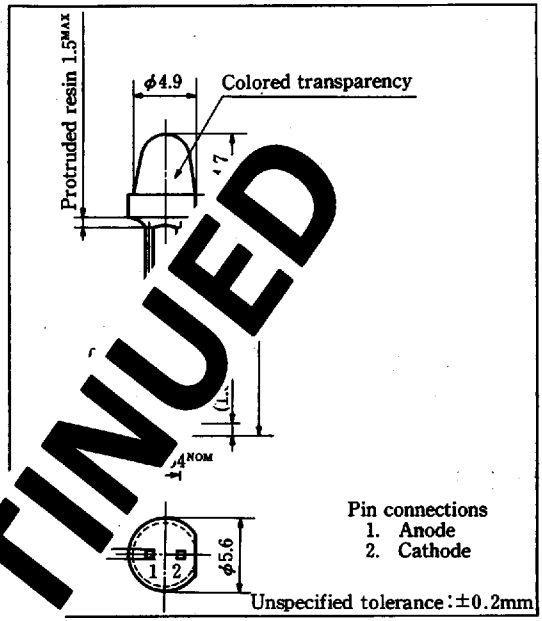
φ5mm(T-1¾) Cylinder Type LED Lamps

T-41-21

■ Model No.

GL5TR72	Red (High-luminosity)	GaAlAs/GaAs
GL5PR72	Red	GaP
GL5HD72	Red	GaAsP/GaP
GL5HS72	Sunset orange	GaAsP/GaP
GL5HY72	Yellow	GaAsP/GaP
GL5EG72	Yellow-green	GaP
GL5KG72	Green	GaP

■ Outline Dimensions (Unit: mm)



■ Features

1. φ5mm(T-1¾) all resin mold
2. Colored transparency lens type
3. Low dome type

■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	GL5TR72	GL5PR72	GL5HD72 GL5HS72 GL5HY72	GL5EG72 GL5KG72		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/℃
Reverse voltage		V_R	5	5	5	5		V
Operating temperature		T_{opr}	−25 to +85					℃
Storage temperature		T_{stg}	−25 to +100					℃
※2 Soldering temperature		T_{sol}	260(within 5 seconds)					℃

※1 Duty ratio = 1/10 , Pulse width = 0.1ms
Duty ratio = 1/16 , Pulse width ≤ 1ms for GL5TR72
※2 At the position of 1.6mm from the bottom face of resin package

GL5TR72 (Red)

■ Electro-optical Characteristics

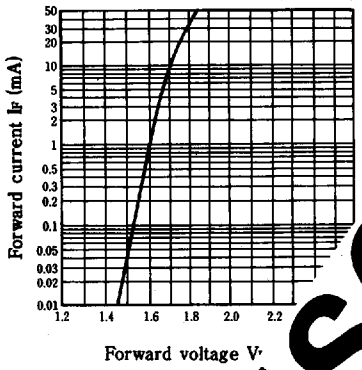
(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5TR72	I_F=20mA	–	1.75	2.2	V
※3 Luminous intensity	I_V	GL5TR72	I_F=20mA	50	110	–	mcd
Peak emission wavelength	λ_p	GL5TR72	I_F=20mA	–	660	–	nm
Spectrum radiation bandwidth	$\Delta\lambda$	GL5TR72	I_F=20mA		20	–	nm
Reverse current	I_R	GL5TR72	V_R=4V		–	10	μA
Terminal capacitance	C_t	GL5TR72	V=0V	–	30	–	pF
Response frequency	f_c	GL5TR72	–	–	8	–	MHz

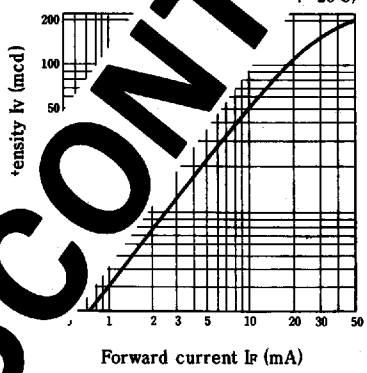
※3 Tolerance: ±30%

■ Characteristics Diagrams

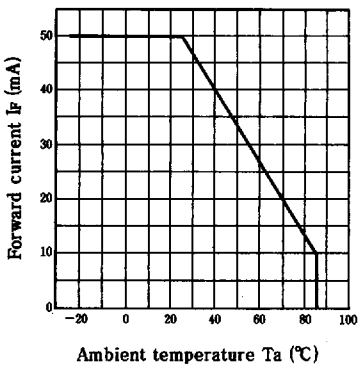
Forward Current vs. Forward Voltage



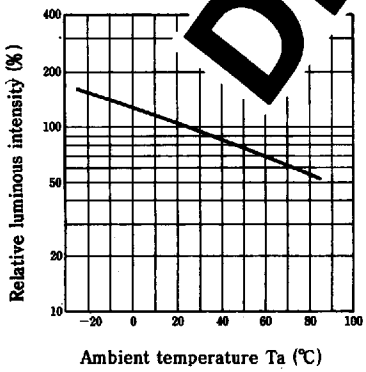
Luminous Inte… Forward Cur…



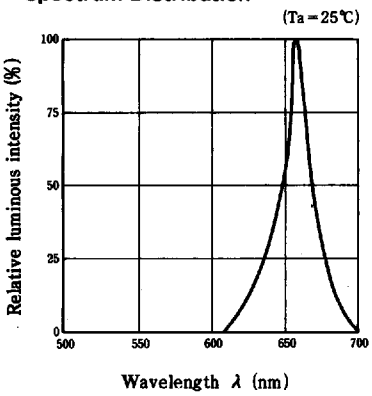
Forward Current Derating Curve



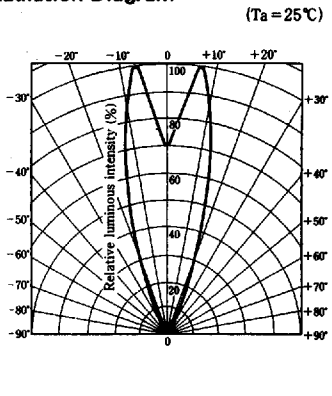
Relative Luminous I… Ambient Tempera…



Spectrum Distribution



Radiation Diagram



3

GL5PR72 (Red) / GL5HD72 (Red)

■ Electro-optical Characteristics

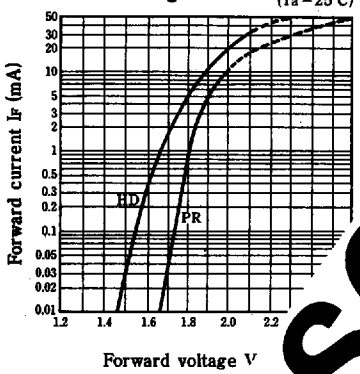
(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5PR72	I_F=5mA	–	1.9	2.3	V
		GL5HD72	I_F=20mA	–	2.0	2.8	
※3 Luminous intensity	I_V	GL5PR72	I_F=5mA	7.0	18	–	mcd
		GL5HD72	I_F=20mA	50	140	–	
Peak emission wavelength	λ_p	GL5PR72	I_F=5mA	–	695	–	nm
		GL5HD72	I_F=20mA	–	635	–	
Spectrum radiation bandwidth	$\Delta\lambda$	GL5PR72	I_F=5mA		100	–	nm
		GL5HD72	I_F=20mA		35	–	
Reverse current	I_R	GL5PR72	V_R=4V		–	10	μA
		GL5HD72	V_R=4V		–	10	
Terminal capacitance	C_t	GL5PR72	V=0V	–	55	–	pF
		GL5HD72	V=0	–	20	–	
Response frequency	f_c	GL5PR72	–	–	4	–	MHz
		GL5HD72		–	4	–	

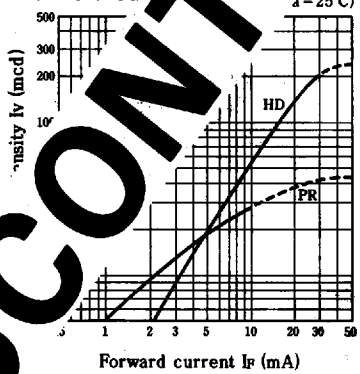
※3 Tolerance: ±30%

■ Characteristics Diagrams

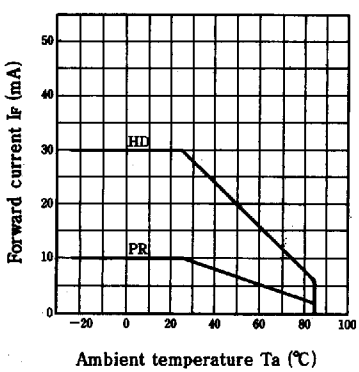
Forward Current vs. Forward Voltage



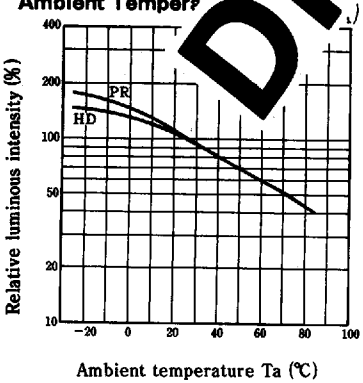
Luminous Int… Forward Cu…



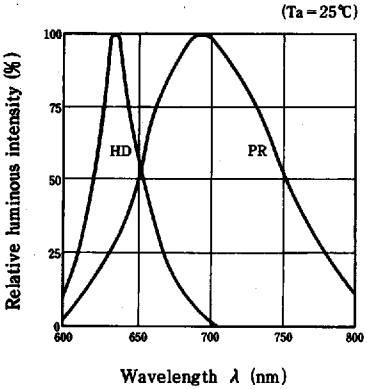
Forward Current Derating Curve



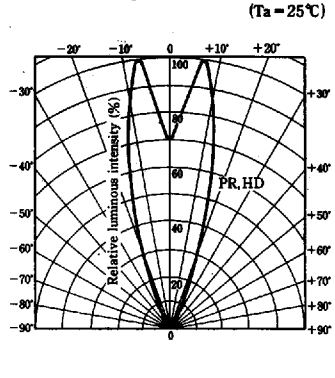
Relative Luminous … Ambient Temper…



Spectrum Distribution



Radiation Diagram



GL5HS72 (Sunset orange) / GL5HY72 (Yellow)

■ Electro-optical Characteristics

(Ta=25℃)

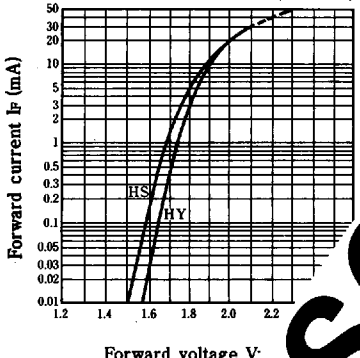
Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5HS72	I_F=20mA	–	2.0	2.8	V
		GL5HY72	I_F=20mA	–	2.0	2.8	
※3 Luminous intensity	I_V	GL5HS72	I_F=20mA	50	100	–	mcd
		GL5HY72	I_F=20mA	50	100	–	
Peak emission wavelength	λ_p	GL5HS72	I_F=20mA	–	610	–	nm
		GL5HY72	I_F=20mA	–	585	–	
Spectrum radiation bandwidth	$\Delta\lambda$	GL5HS72	I_F=20mA		35	–	nm
		GL5HY72	I_F=20mA		30	–	
Reverse current	I_R	GL5HS72	V_R=4V		–	10	μA
		GL5HY72	V_R=4V		–	10	
Terminal capacitance	C_t	GL5HS72	V=0V	–	15	–	pF
		GL5HY72	V=0V	–	35	–	
Response frequency	f_c	GL5HS72	–	–	4	–	MHz
		GL5HY72	–	–	4	–	

※3 Tolerance: ±30%

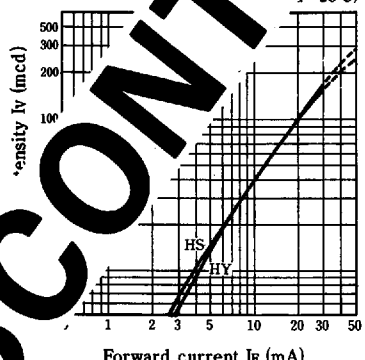
DISCONTINUED

■ Characteristics Diagrams

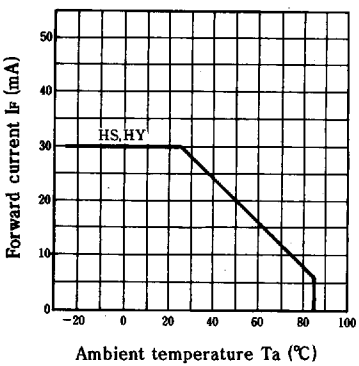
Forward Current vs. Forward Voltage



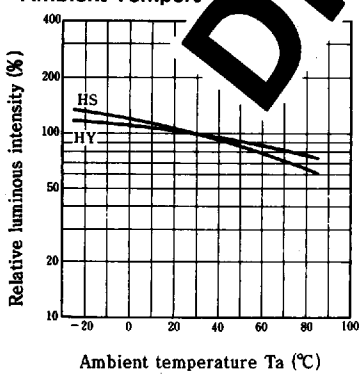
Luminous Inte Forward Cur



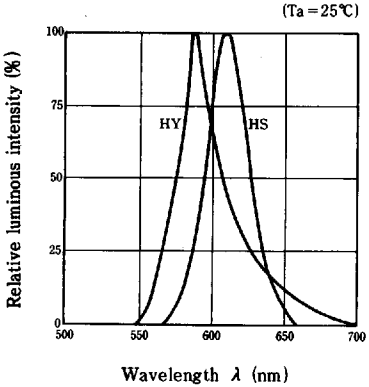
Forward Current Derating Curve



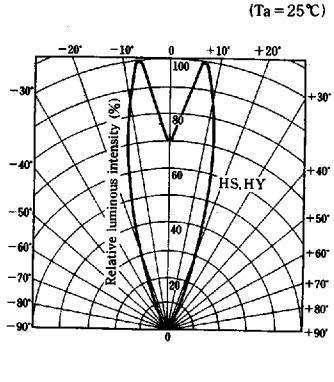
Relative Luminous Ambient Tempera



Spectrum Distribution



Radiation Diagram



GL5EG72 (Yellow-green) / GL5KG72 (Green)

■ Electro-optical Characteristics

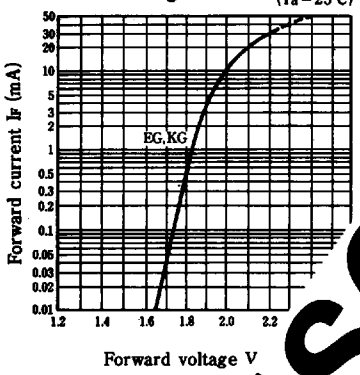
(Ta=25℃)

Parameter	Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	V_F	GL5EG72	I_F=20mA	–	2.1	2.8	V
		GL5KG72	I_F=20mA	–	2.1	2.8	
※3Luminous intensity	I_V	GL5EG72	I_F=20mA	80	180	–	mcd
		GL5KG72	I_F=20mA	20	50	–	
Peak emission wavelength	λ_p	GL5EG72	I_F=20mA	–	565	–	nm
		GL5KG72	I_F=20mA	–	555	–	
Spectrum radiation bandwidth	$\Delta\lambda$	GL5EG72	I_F=20mA		30	–	nm
		GL5KG72	I_F=20mA		25	–	
Reverse current	I_R	GL5EG72	V_R=4V		–	10	μA
		GL5KG72	V_R=4V		–	10	
Terminal capacitance	C_t	GL5EG72	V=0V	–	35	–	pF
		GL5KG72	V=0	–	40	–	
Response frequency	f_c	GL5EG72	–	–	4	–	MHz
		GL5KG72		–	4	–	

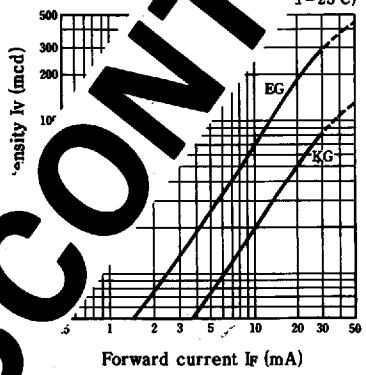
※3 Tolerance: ±30%

■ Characteristics Diagrams

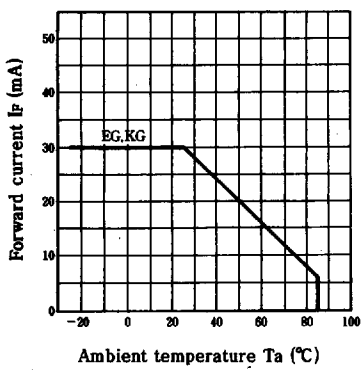
Forward Current vs. Forward Voltage



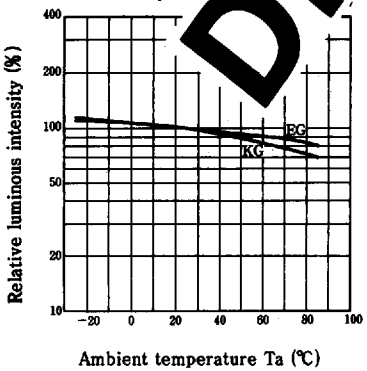
Luminous Int… Forward Cu…



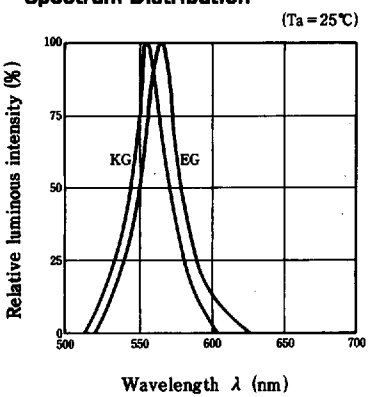
Forward Current Derating Curve



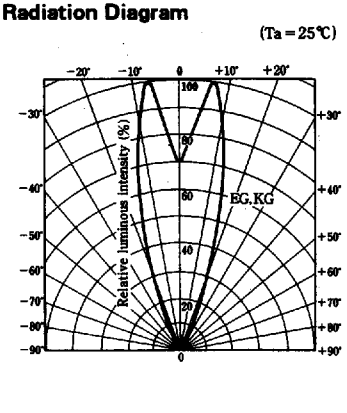
Relative Luminous … Ambient Tempera…



Spectrum Distribution



Radiation Diagram



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.

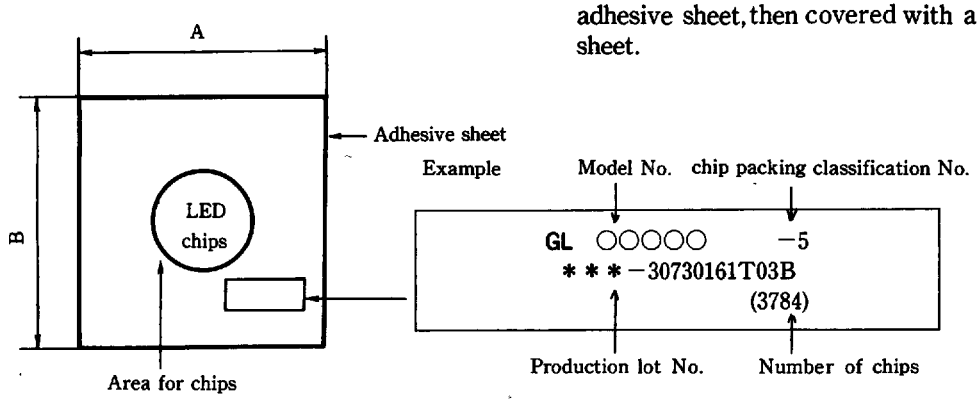


Fig. 1

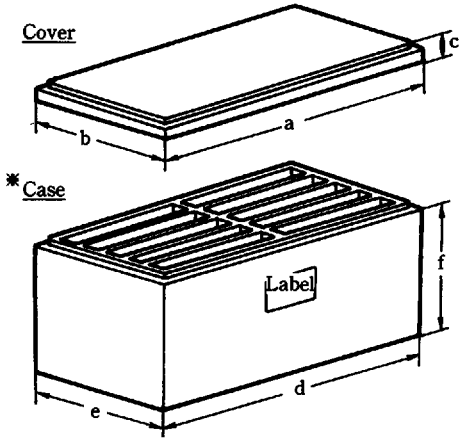
2. Sheet Packing

PART No.	
QUANTITY	0 0 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

(Unit : mm)

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.