GL7☐ 220/ GL6☐ 220 Series

14.1 2mm Character Height Numeric LEDs

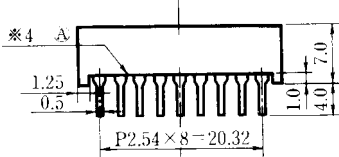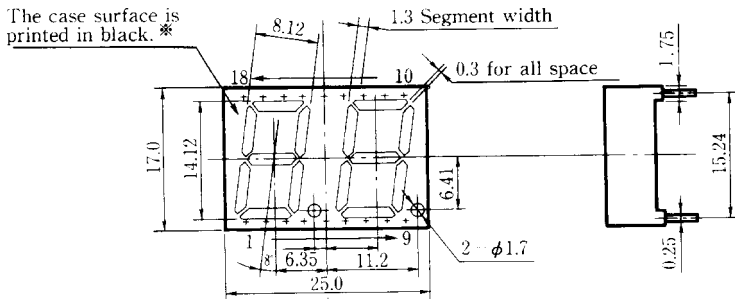### ■ Model No.

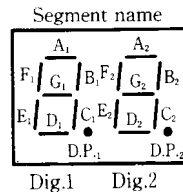|		
GL7P220/GL6P220	Red	GaP
GL7D220/GL6D220	Red	GaAsP/GaP
GL7H220/GL6H220	Yellow	GaAsP/GaP
GL7E220/GL6E220	Yellow-green	GaP

■ Features

1. Character height : 14.12mm
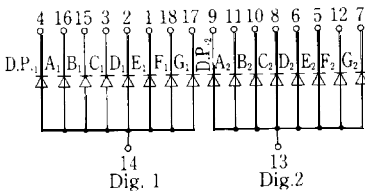2. 2 digits
3. Case mold type
4. Diamond cut type segments

■ Outline Dimensions

(Unit: mm)

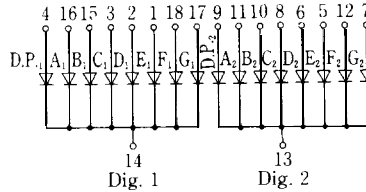The case surface is printed in black. ※

8.12   1.3 Segment width   1.75

18   10   0.3 for all space

17.0   14.12   6.41   15.24

1   9

8   6.35   11.2   0.25

25.0   2 φ1.7

※GL7D220 GL6D220 : gray

※4   A

1.25   0.5   7.0   1.0   4.0

P2.54×8=20.32

Segment name

	A₁		A₂	
F₁	G₁	B₁ F₂	G₂	B₂
E₁	D₁	C₁ E₂	D₂	C₂
	D.P.₁		D.P.₂	

Dig.1   Dig.2

Internal connection diagram

GL7☐220

4 1615 3   2   1 1817 9 911 10 8   6   5 12 7

D.P.₁ A₁ B₁ C₁ D₁ E₁ F₁ G₁ D.P.₂ A₂ B₂ C₂ D₂ E₂ F₂ G₂

14   13
Dig. 1   Dig.2

GL6☐220

4 1615 3   2   1 1817 9 911 10 8   6   5 12 7

D.P.₁ A₁ B₁ C₁ D₁ E₁ F₁ G₁ D.P.₂ A₂ B₂ C₂ D₂ E₂ F₂ G₂

14   13
Dig. 1   Dig. 2

Unspecified tolerance :±0.38mm

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SHARP

GL7□220 / GL6□220

■ Absolute Maximum Ratings

(Ta=25°C)

Parameter			Symbol	GL7P220 GL6P220 GL7E220 GL6E220	GL7D220 GL6D220	GL7H220 GL6H220			Unit
Power dissipation	※1Per digit		P	263	322	350			mW
Continuous forward current	※1 Per digit		I_F	105	140	140			mA
	※2		I_F	15	20	20			mA
※3 Peak forward current	※2		I_{FM}	50	50	50			mA
Derating factor	※2	DC	—	0.27	0.36	0.36			mA/°C
		Pulse	—	0.91	0.91	0.91			mA/°C
Reverse voltage	Per segment		V_R	5	5	5			v
	Per decimal point		V_R	5	5	5			V
Operating temperature			T_{opr}	–30 to +70					'c
Storage temperature			T_{stg}	–40 to +80					°C
※4 Soldering temperature			T_{sol}	260 (within 5 seconds)					"C

※1 Per digit: 7 segments
※2 Per segment, or per decimal point
※3 Duty ratio $=1/10$, Pulse width $=0.1ms$
※4 At the position of 2.6 mm from Ⓐ level of outline dimensions

GL7P220/GL6P220(Red) ,GL7D220/GL6D220(Red)

■ Electro-optical Characteristics

(Ta=25°C)

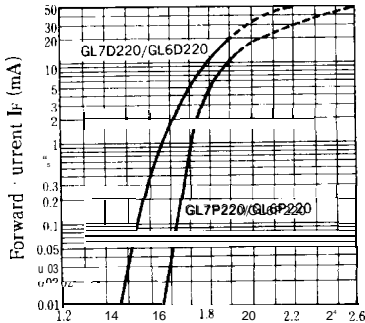| Parameter		Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	Per segment	V_F	GL7P220/GL6P220	$I_F=5mA$	—	1.9	2.5	V
			GL7D220/GL6D220	$I_F=10mA$	—	1.85	2.3	
	Per decimal point		GL7P220/GL6P220	$I_F=5mA$	—	1.9	2.5	V
			GL7D220/GL6D220	$I_F=10mA$	—	1.85	2.3	
※5 Luminous intensity	Per segment	I_V	GL7P220/GL6P220	$I_F=5mA$	0.3	1.0	—	mcd
			GL7D220/GL6D220	$I_F=10mA$	1.0	4.0	—	
	Per decimal point		GL7P220/GL6P220	$I_F=5mA$	0.1	0.3	—	mcd
			GL7D220/GL6D220	$I_F=10mA$	0.3	1.2	—	
※2 Peak emission wavelength		λ_p	GL7P220/GL6P220	$I_F=5mA$	—	695		nm
			GL7D220/GL6D220	$I_F=10mA$	—	635	—	
※2 Spectrum radiation bandwidth		$\Delta\lambda$	GL7P220/GL6P220	$I_F=5mA$	—	100	—	nm
			GL7D220/GL6D220	$I_F=10mA$	—	35	—	
Reverse current	Per segment	I_R	GL7P220/GL6P220	$V_R=4V$	—	—	10	μA
			GL7D220/GL6D220	$V_R=4V$	—		10	
	Per decimal point		GL7P220/GL6P220	$V_R=4V$	—		10	μA
			GL7D220/GL6D220	$V_R=4V$	—		10	
※2 Response frequent y		f_c	GL7P220/GL6P220	—	—	4	—	MHz
			GL7D220/GL6D220			4		

※2 Per segment, or per decimal point
※5 Tolerance: ±30%

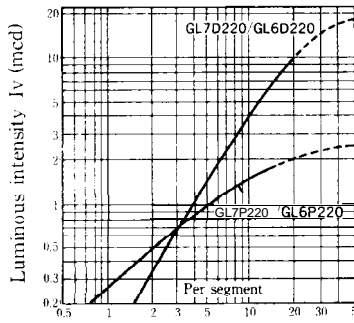# ■ Characteristics Diagrams

Forward Current vs. Forward Voltage (Ta = 25℃)

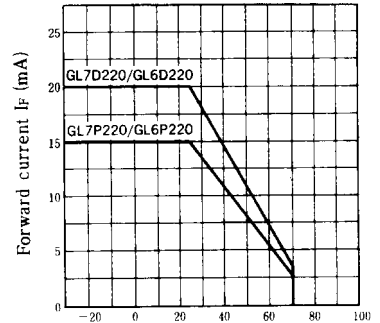**Luminous Intensity vs. Forward Current** (Ta = 25℃)

Forward Current Derating Curve

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Relative Luminous Intensity vs. Ambient Temperature (PI₁ = 5mA / D.I₁ = 10mA)
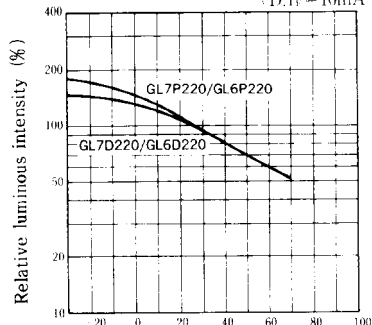
Spectrum Distribution (Ta = 25℃)
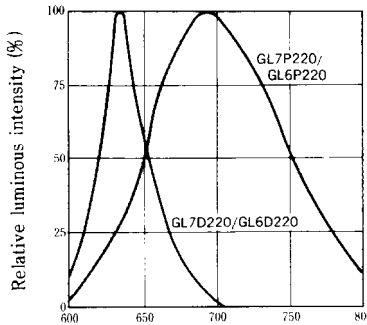
GL7H220/GL6H220(Yellow)

■ Electro-optical Characteristics

(Ta＝25℃)

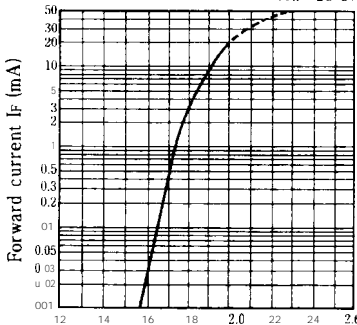| Parameter		Symbol	Model No.	Conditions	MIN.	TYP.	MAX	Unit
Forward voltage	Per segment	V_F	GL7H220/GL6H220	IF＝10mA	—	1.9	2.5	V
	Per decimal point		GL7H220/GL6H220	IF＝10mA	—	1.9	2.5	V
※5 Luminous intensity	Per segment	I_V	GL7H220/GL6H220	IF＝10mA	1.32	4.5	—	mcd
	Per decimal point		GL7H220/GL6H220	IF＝10mA	0,6	1.8	—	mcd
※2 Peak emission wavelength		λ_p	GL7H220/'GL6H220	IF＝10mA	—	585		nm
※2 Spectrum radiation bandwidth		$\Delta\lambda$	GL7H220/'GL6H220	IF＝10mA		30	—	nm
Reverse current	Per segment	I_R	GL7H220/GL6H220	VR＝4V	—	—	10	μA
	Per decimal point		GL7H220/GL6H220	VR＝4V	—		10	μA
※2 Response frequency		f,	GL7H220/GL6H220	—	—	4	—	MHz

※2 Per segment, or per decimal point
※5 Tolerance: ±30%

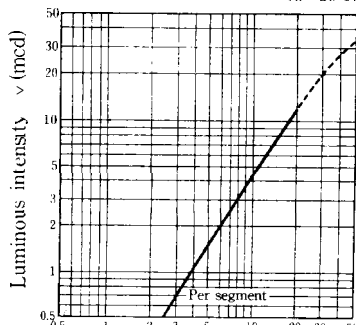## ■ Characteristics Diagrams

Forward Current vs. Forward Voltage
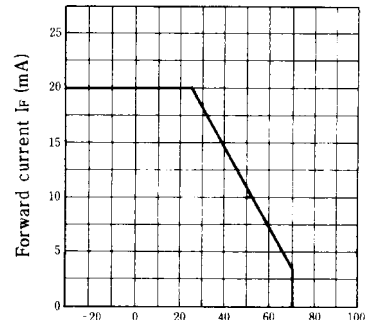(Ta＝25℃)

Forward voltage V_F (V)

Luminous Intensity vs. Forward Current
(Ta＝25℃)

Per segment

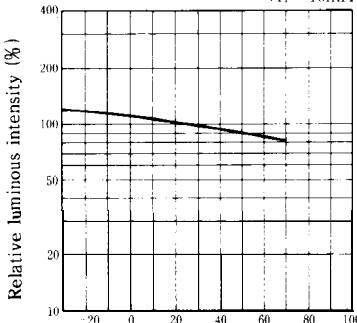Forward current I_F (ml)

Forward Current Derating Curve

Ambient temperature Ta(℃)
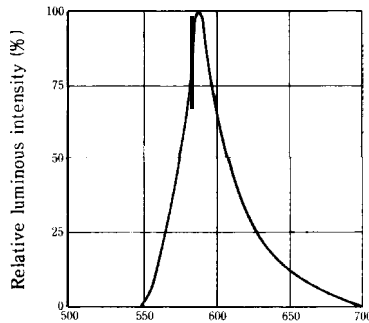
Relative Luminous Intensity vs. Ambient Temperature
(IF＝10mA)

Ambient temperature Ta (℃)

Spectrum Distribution
(Ta＝25℃)

Wavelength λ (nm)

SHARP

GL7E220/GL6E220(Yellow-green)

■ Electro-optical Characteristics

(Ta = 25℃)

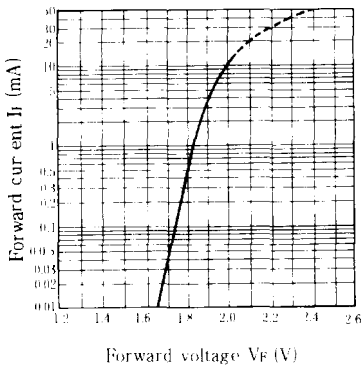| Parameter		Symbol	Model No.	Conditions	MIN.	TYP.	MAX.	Unit
Forward voltage	Per segment	V_F	GL7E220/GL6E220	$I_F = 10mA$	—	2.0	2.5	"
	Per decimal point		GL7E220 GL6E220	$I_F = 10mA$	—	2.0	2.5	V
※5 Luminous intensity	Per segment	I_V	GL7E220 GL6E220	$I_F = 10mA$	1.0	3.0	—	mcd
	Per decimal point		GL7E220 GL6E220	$I_F = 10mA$	0.3	0.9	—	mcd
※2 Peak emission wavelength		λ_p	GL7E220 GL6E220	$I_F = 10mA$	—	565	—	nm
※2 Spectrum radiation bandwidth		$\Delta \lambda$	GL7E220/GL6E220	$I_F = 10mA$		30	—	nm
Reverse current	Per segment	I_R	GL7E220 GL6E220	$V_R = 4V$	—		10	μA
	Per decimal point		GL7E220/GL6E220	$V_R = 4V$	—		10	μA
※2 Response frequency		f_c	GL7E220 GL6E220	—	—	4	—	MHz

※2 Per segment, or per decimal point
※5 Tolerance: ±30%

■ Characteristics Diagrams
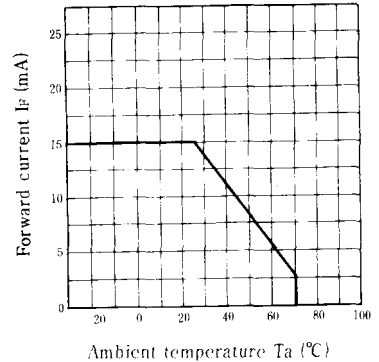
Forward Current vs. Forward Voltage (Ta = 25℃)

Forward voltage V_F (V)

Luminous Intensity vs. Forward Current (Ta = 25℃)

Forward current I_F (mA)

Forward Current Derating Curve

Ambient temperature Ta (℃)

Relative Luminous Intensity vs. Ambient Temperature ($I_F = 10mA$)

Ambient temperature Ta (℃)

Spectrum Distribution (Ta = 25℃)

Wavelength λ(nm)

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SHARP