

SANKEN

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LIGHT EMITTING DIODES

Square Display (3 × 5) (Diffused)

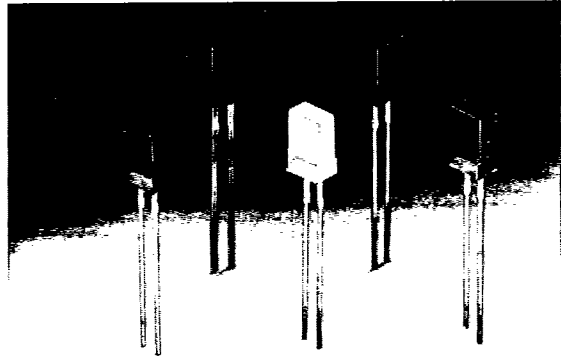
SEL 1121 R SEL 1821 D
SEL 1321 G SEL 1921 D
SEL 1721 Y

FEATURES

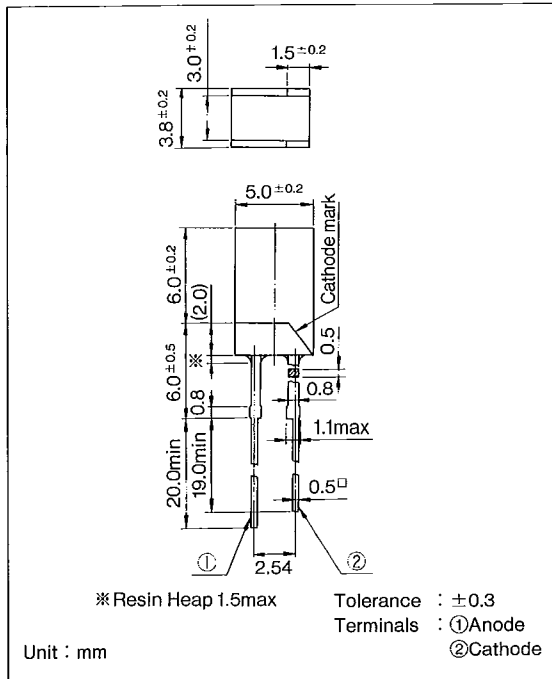
- Rectangular Light Emitting Surface
- Long-life/High Reliability
- Selection of 5 Colors/Intensities
- Pulse-Drivable
- CMOS/MOS, TTL Compatible

APPLICATIONS

- General Use
- Use for Various Display
- Portable Devices
- Communication Devices



Package Dimensions



Intensity Ranks

Type No.	Intensity Min. (mcd)	Condition I _F (mA)	Color	
			Lens	Chip
SEL 1121 R A	0.2	10	R	R
B	0.5			
C	0.9			
D	1.4			
SEL 1321 G A	0.2	10	G	G
B	0.5			
C	0.9			
D	1.4			
SEL 1721 Y A	0.2	10	Y	Y
B	1.4			
C	2.4			
D	3.6			
SEL 1821 D A	0.8	10	O	A
B	1.2			
C	1.5			
D	2.0			
SEL 1921 D A	0.2	10	O	O
B	0.5			
C	0.9			
D	1.4			

R=Red G=Green O=Orange Y=Yellow A=Amber

Individual Specifications

Electro-Optical Characteristics (Ta=25°C)							
Symbol	Description	Type No.	Min.	Typ.	Max.	Unit	Test Condition
I _v	Intensity	SEL 1121 R	0.2	1.4		mcd	I _F =10 (mA)
		SEL 1321 G	0.2	1.4			
		SEL 1721 Y	0.2	3.6			
		SEL 1821 D	0.8	2.0			
		SEL 1921 D	0.2	1.4			
2θ _{1/2}	Including Angle Between Half Intensity Points	SEL 1121 R				Deg	I _F =10 (mA) See Note 1
		SEL 1321 G					
		SEL 1721 Y					
		SEL 1821 D					
		SEL 1921 D					
λ _P	Peak Wavelength	SEL 1121 R		700		nm	I _F =10 (mA)
		SEL 1321 G		560			
		SEL 1721 Y		570			
		SEL 1821 D		612			
		SEL 1921 D		583			
Δλ	Spectral Line Halfwidth	SEL 1121 R		100		nm	
		SEL 1321 G		28			
		SEL 1721 Y		40			
		SEL 1821 D		40			
		SEL 1921 D		36			
λ _d	Dominant Wavelength	SEL 1121 R		650		nm	See Note 2
		SEL 1321 G		562			
		SEL 1721 Y		566			
		SEL 1821 D		608			
		SEL 1921 D		585			
C	Capacitance	SEL 1121 R		38		pF	V _F =0 f=1 (MHz)
		SEL 1321 G		15			
		SEL 1721 Y		15			
		SEL 1821 D		15			
		SEL 1921 D		10			
V _F	DC Forward Voltage	SEL 1121 R	1.5	2.0	3.0	V	I _F =10 (mA)
		SEL 1321 G					
		SEL 1721 Y					
		SEL 1821 D					
		SEL 1921 D					
V _R	DC Reverse Voltage	SEL 1121 R	5.0			V	I _R =100 (μA)
		SEL 1321 G					
		SEL 1721 Y					
		SEL 1821 D					
		SEL 1921 D					

Notes : 1. θ_{1/2} is the off-axis angle at which the intensity is half the axial intensity.
 2. The dominant wavelength, λ_d, is derived from the CIE chromaticity diagram and it represents the single wavelength which defines the color of the device.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Description	Ratings	Unit
I_P	Peak Forward Current*1	100	mA
I_F	Max. DC Forward Current*2	30	mA
V_R	DC Reverse Voltage ($I_R=100\mu A$)	5	V
I_{FP}	Transient Max. Peak Forward Current*3 (10 μ sec Pulse)	500	mA
T_{op}	Operating Temp. Range	-55 to +100	°C
T_{stg}	Storage Temp. Range	-55 to +100	
T_{sld}	Lead Soldering Temp. (more than 4.0 mm from body)	260° C for 5 seconds	

- Notes :
1. See Figure 4
 2. This current derates linearly from 25°C at 0.33 mA/°C
 3. Only for one pulse

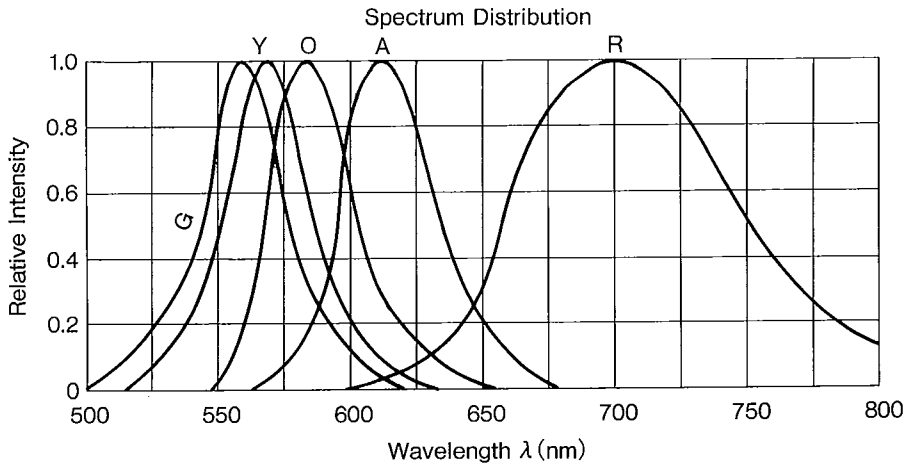


Fig. 1 : Relative Intensity vs. Wavelength

Individual Specifications

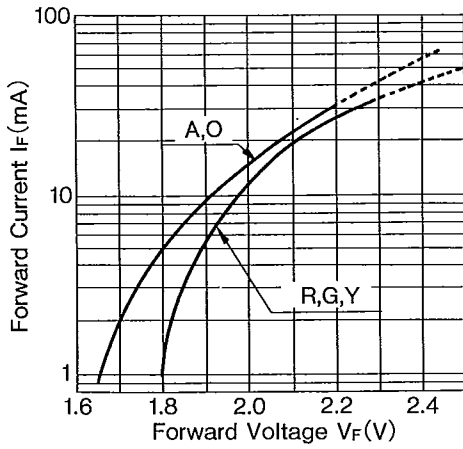


Fig.2 : Forward Current vs. Forward Voltage

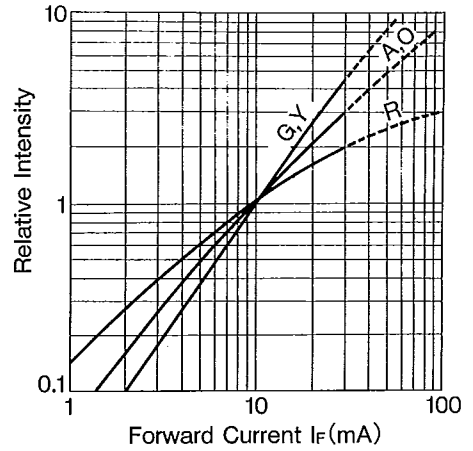


Fig.3 : Relative Intensity vs. Forward Current

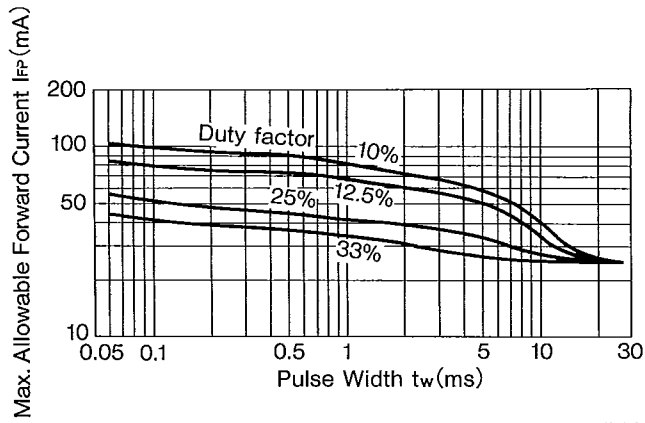


Fig.4 : Max. Allowable Forward Current vs. Pulse Width