SANKEN

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LIGHT EMITTING DIODES

Square Display (2×5) (Diffused)

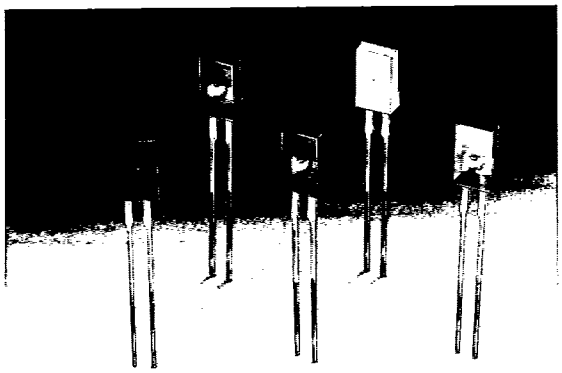
SEL 1120 R
SEL 1320 G
SEL 1720 Y
SEL 1820 D
SEL 1920 D

FEATURES

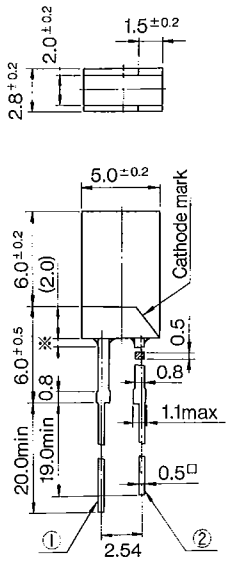
- Rectangular Light Emitting Surface
- Long-life/High Reliability
- Selection of 5 Colors/Intensities
- Pulse-Drivable
- CMOS/MOS, TTL Compatible

APPLICATIONS

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



Package Dimensions



※Resin Heap 1.5max

Tolerance : ±0.3
Terminals : ①Anode
②Cathode

Unit : mm

Intensity Ranks

Type No.		Intensity Min. (mcd)	Condition I_F (mA)	Color	
				Lens	Chip
SEL 1120 R	A	0.2	10	R	R
	B	0.5			
	C	0.9			
	D	1.4			
SEL 1320 G	A	0.2	10	G	G
	B	0.5			
	C	0.9			
	D	1.4			
SEL 1720 Y	A	0.2	10	Y	Y
	B	0.5			
	C	0.9			
	D	1.4			
SEL 1820 D	A	0.8	10	O	A
	B	1.2			
	C	1.5			
	D	2.0			
SEL 1920 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

Electro-Optical Characteristics (Ta=25°C)

Symbol	Description	Type No.	Min.	Typ.	Max.	Unit	Test Condition
I_V	Intensity	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D	0.2 0.2 0.2 0.8 0.2	1.4 1.4 1.4 2.0 1.4		mcd	I_F=10 (mA)
$2\theta_{1/2}$	Including Angle Between Half Intensity Points	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D				Deg	I_F=10 (mA) See Note 1
λ_P	Peak Wavelength	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D		700 560 570 612 583		nm	I_F=10 (mA)
$\Delta\lambda$	Spectral Line Halfwidth	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D		100 28 40 40 36		nm	
λ_d	Dominant Wavelength	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D		650 562 566 608 585		nm	See Note 2
C	Capacitance	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D		38 15 15 15 10		pF	V_F=0 f=1 (MHz)
V_F	DC Forward Voltage	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D	1.5	2.0	3.0	V	I_F=10 (mA)
V_R	DC Reverse Voltage	SEL1120 R SEL1320 G SEL1720 Y SEL1820 D SEL1920 D	5.0			V	I_R=100 (μA)

Notes : 1. $\theta_{1/2}$ 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=100μA)	5	V
I_{FP}	Transient Max. Peak Forward Current*3 (10μsec 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

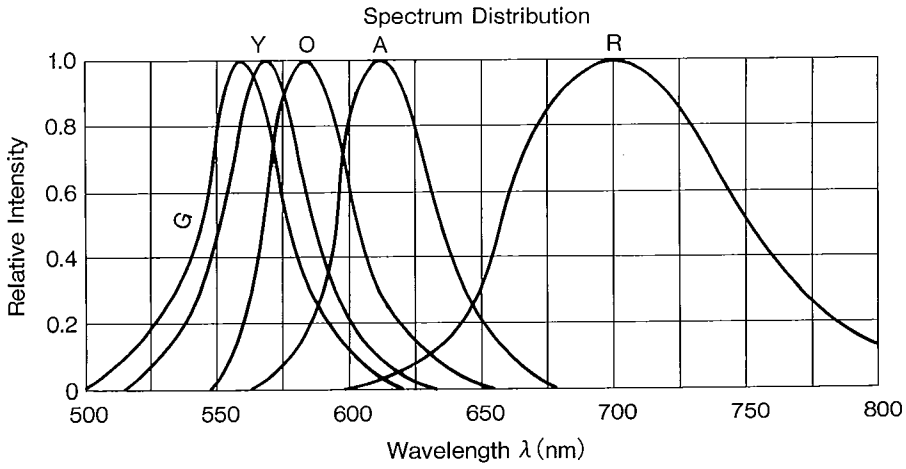


Fig. 1 : Relative Intensity vs. Wavelength

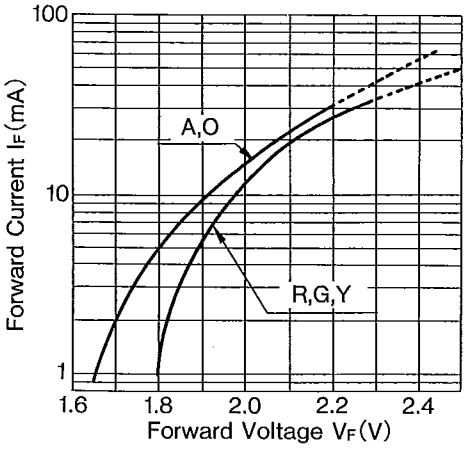


Fig.2 : Forward Current vs. Forward Voltage

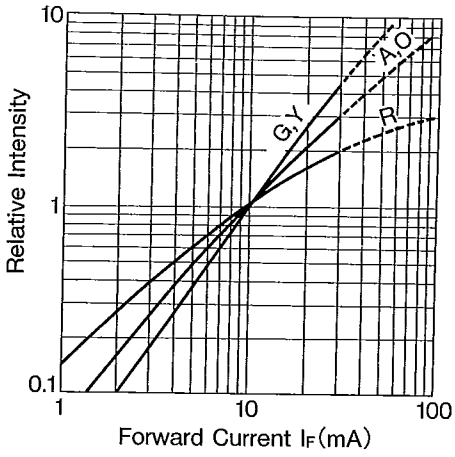


Fig.3 : Relative Intensity vs. Forward Current

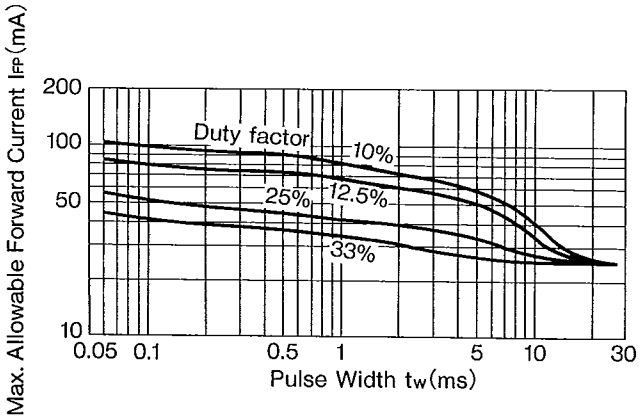


Fig.4 : Max. Allowable Forward Current vs. Pulse Width

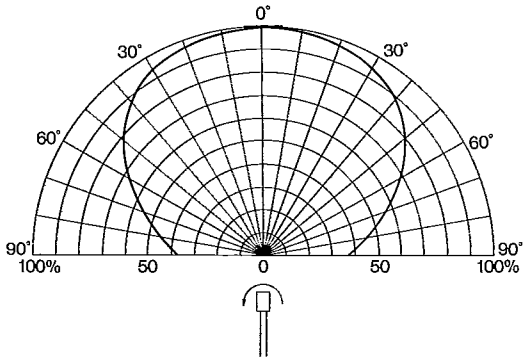


Fig.5 : Viewing Angle (Longer axis direction)

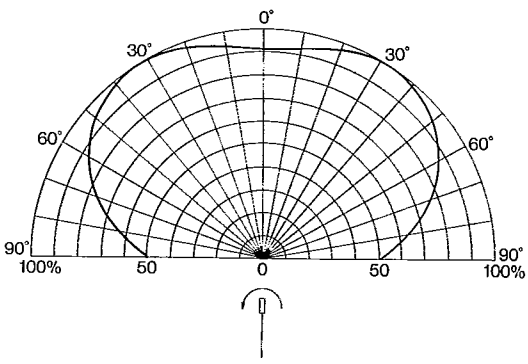


Fig.6 : Viewing Angle (Shorter axis direction)