

SANKEN

SANKEN
LIGHT EMITTING DIODES

Square Display (2.5 × 5) (Diffused)

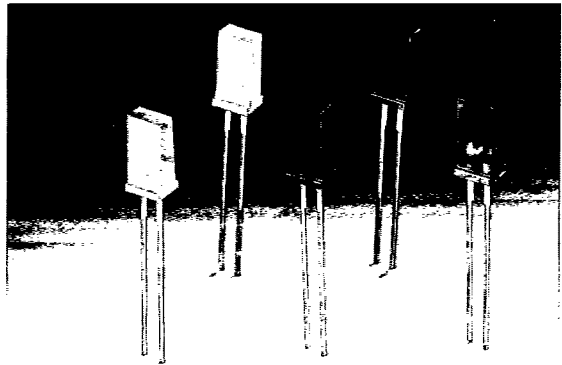
SEL 1222 R SEL 1822 D
SEL 1422 G SEL 1922 D
SEL 1722 Y

FEATURES

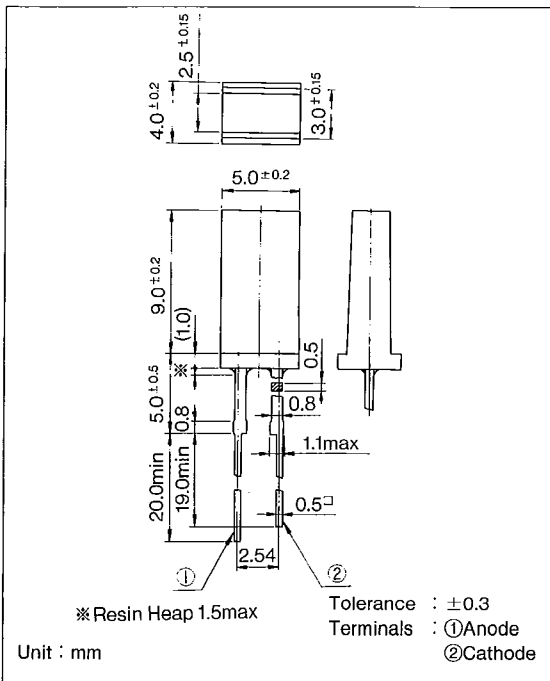
- Rectangular Light Emitting Surface
- Long-life/High Reliability
- Selection of 5 Colors/Intensities
- Pulse-Drivable
- CMOS/MOS, TTL Compatible

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 1222 R A	2.4	20	R	HIR
B	3.3			
C	4.4			
D	6.0			
SEL 1422 G A	2.0	20	G	HIG
B	2.7			
C	3.6			
D	4.8			
SEL 1722 Y A	2.2	10	Y	Y
B	2.9			
C	3.9			
D	5.2			
SEL 1822 D A	1.4	10	O	A
B	1.7			
C	2.4			
D	3.2			
SEL 1922 D A	1.6	10	O	O
B	2.2			
C	3.0			
D	4.0			

R=Red G=Green O=Orange Y=Yellow A=Amber HIR=High Intensity Red HIG=High Intensity Green

Electro-Optical Characteristics (Ta = 25°C)

Symbol	Description	Type No.	Min.	Typ.	Max.	Unit	Test Condition
I _v	Intensity	SEL 1222 R	2.4	6.0		mcd	I _F =20 (mA)
		SEL 1422 G	2.0	4.8			
		SEL 1722 Y	2.2	5.2	I _F =10 (mA)		
		SEL 1822 D	1.4	3.2			
		SEL 1922 D	1.6	4.0			
2θ _{1/2}	Including Angle Between Half Intensity Points	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D				Deg	I _F =10 (mA) See Note 1
λ _p	Peak Wavelength	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D		635 560 570 612 583		nm	I _F =10 (mA)
Δλ	Spectral Line Halfwidth	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D		40 28 40 40 36		nm	
λ _d	Dominant Wavelength	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D		626 562 566 608 585		nm	See Note 2
C	Capacitance	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D		15 15 15 15 10		pF	V _F =0 f=1 (MHz)
V _F	DC Forward Voltage	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D	1.5	2.0	3.0	V	I _F =10 (mA)
V _R	DC Reverse Voltage	SEL 1222 R SEL 1422 G SEL 1722 Y SEL 1822 D SEL 1922 D	5.0			V	I _R =100 (μA)

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 =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 _{slid}	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

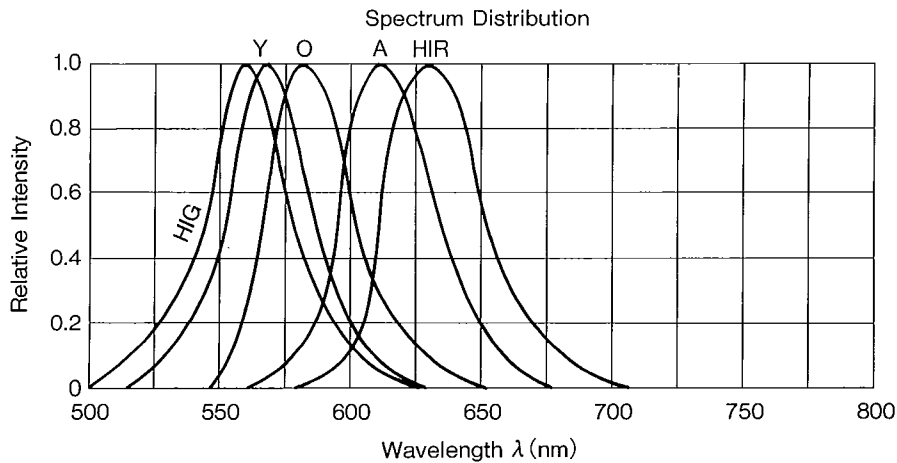


Fig. 1 : Relative Intensity vs. Wavelength

Individual Specifications

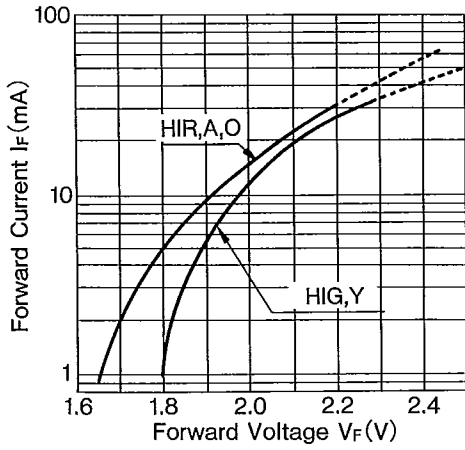


Fig.2 : Forward Current vs. Forward Voltage

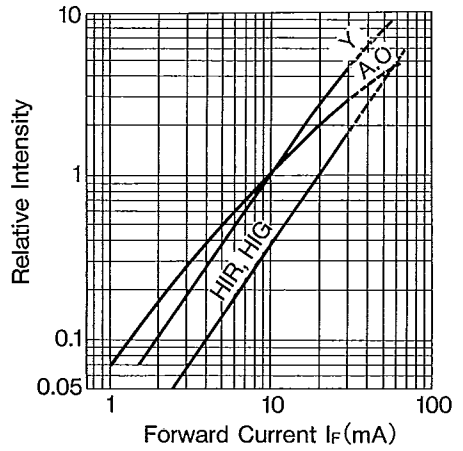


Fig.3 : Relative Intensity vs. Forward Current

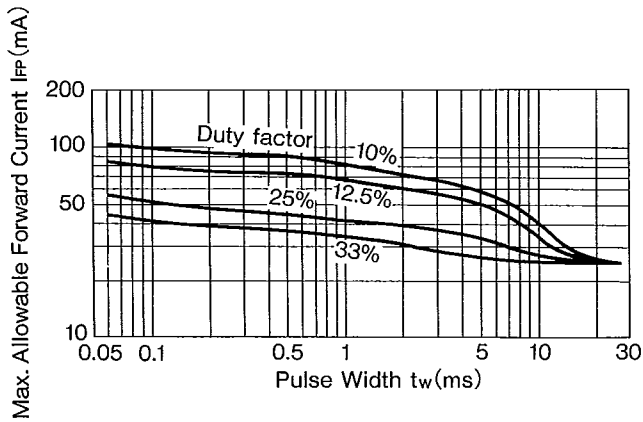


Fig.4 : Max. Allowable Forward Current vs. Pulse Width