



STANLEY ELECTRIC CO LTD

# HI-SUPER BRIGHT LED LAMP

ROUND SHAPE TYPE  
φ5/φ4

## KR-5704X/KR5505S/KR4505S SERIES

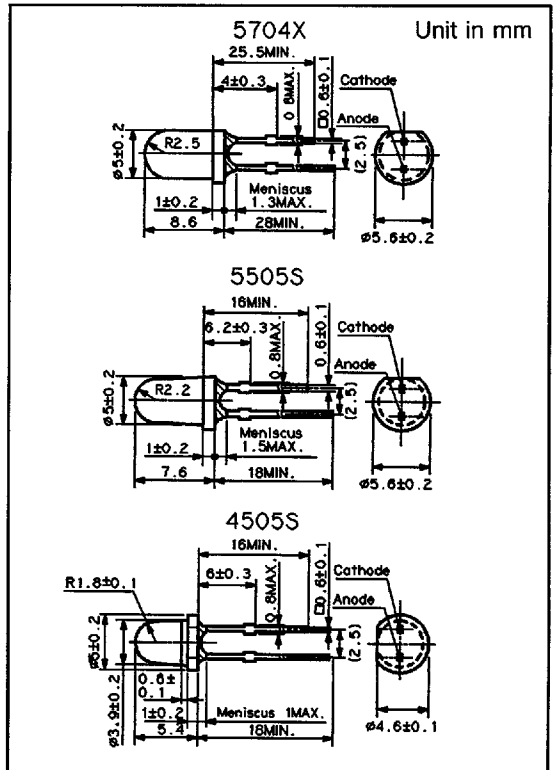
### FEATURES

- WIDE DIRECTIVITY TYPES ARE SERIALIZED
- GaAlAs DH CONSTRUCTION HI-SUPER BRIGHT RED EMISSION
- WATER CLEAR 5 mm DIA. MOLDED PACKAGE
- ASPHERICAL LENS WITH EXCELLENT LUMINOUS RADIATION EFFICIENCY
- LOW CURRENT DRIVE
- LARGE ALLOWABLE CURRENT CAPACITY, EXCELLENT FOR PULSE DRIVE
- HIGH RELIABILITY, LONG LIFE

### APPLICATION

- INFORMATION DISPLAY BOARD
- INDOOR AND OUTDOOR DISPLAY BOARD
- LIGHT SOURCE FOR PHOTODIODE
- AUTOMOBILE
- SECURITY EQUIPMENT
- OPTICAL DATA TRANSMISSION

### Package Dimension



### Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Red		Units
		KR		
* Forward Current	I <sub>F</sub>	50		mA
* Peak Forward Current	I <sub>FM</sub>	300		mA
Reverse Voltage	V <sub>R</sub>	4		V
Power Dissipation	P <sub>d</sub>	125		mW
Operating Temperature	T <sub>opr</sub>	-30 ~ +85		°C
Storage Temperature	T <sub>stg</sub>	-30 ~ +100		°C

\* The currents are derated above Ta = 25°C at 0.67mA/°C \*I<sub>FM</sub> is for tw ≤ 1 msec and Duty ≤ 1/20

**Electro-Optical Characteristics**

(Ta=25°C)

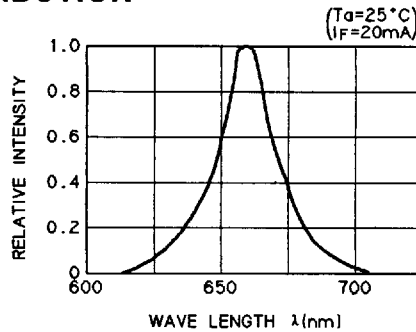
Type No.	Chip		Lens *	Iv(mcd)		at I <sub>F</sub> (mA)	Peak Wave Length λ <sub>p</sub> (nm)	Spectral Line Half Width Δλ(nm)	V <sub>F</sub> (V)		at I <sub>F</sub> (mA)	at V <sub>R4V</sub> I <sub>R</sub> (μA)	Capacitance Co(pF)
	Material	Emitted Color		Min.	Typ.				Typ.	Max.			
KR5704X	GaAlAs	Red	W.C	400	800	20	660	25	1.8	2.5	20	100	50
KR5505S	GaAlAs	Red	W.C	200	400	20	660	25	1.8	2.5	20	100	50
KR4505S	GaAlAs	Red	W.C	100	200	20	660	25	1.8	2.5	20	100	50

\* W.C = Water Clear  
 W.D = Water Diffused  
 C.C = Color Clear

C.D = Color Diffused  
 W.S.D = White Surface Diffused  
 C.S.D = Color Surface Diffused

P.C = Pastel Color  
 P.D = Pastel Diffused  
 P.S.D = Pastel Surface Diffused

**■ SPECTRAL DISTRIBUTION**

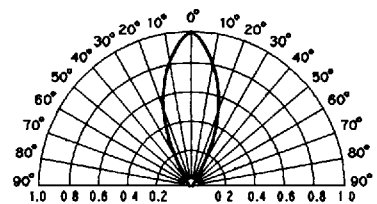
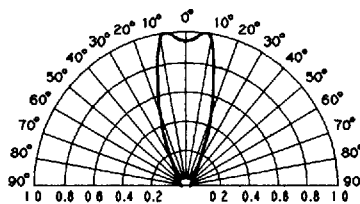
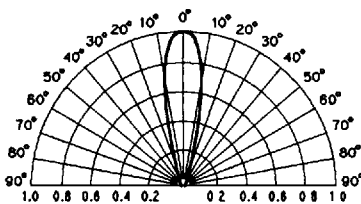


**■ SPATIAL DISTRIBUTION**

KR5704X

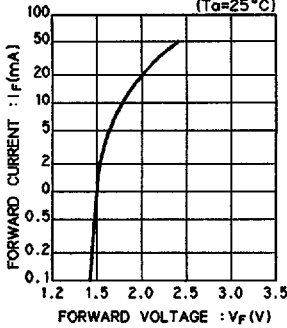
KR5505S

KR4505S

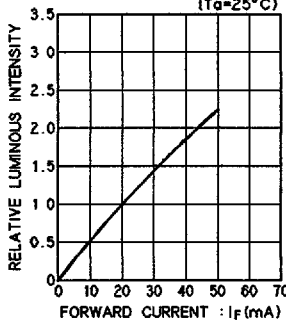


LED LAMP

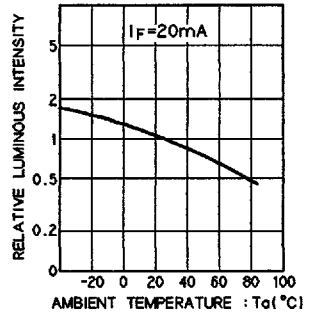
**FORWARD CURRENT vs. FORWARD VOLTAGE**  
( $T_a=25^\circ\text{C}$ )



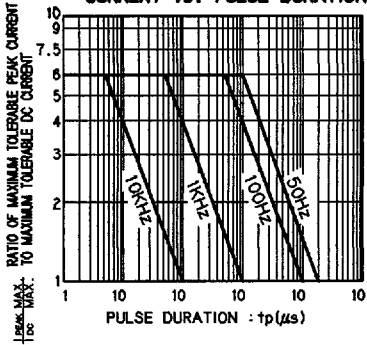
**RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT**  
( $T_a=25^\circ\text{C}$ )



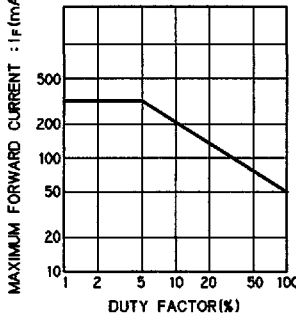
**RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE**  
( $I_f=20\text{mA}$ )



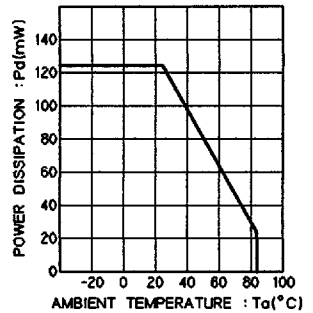
**MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION**



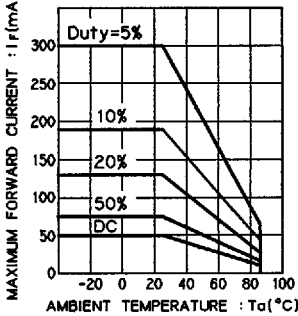
**MAXIMUM FORWARD CURRENT vs. DUTY FACTOR**



**POWER DISSIPATION vs. AMBIENT TEMPERATURE**



**MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE**



**FORWARD VOLTAGE vs. AMBIENT TEMPERATURE**

