STANLEY

T-41-21

STANLEY SUPER BRIGHT LED LAMP

φ5(T-1 3/4)TYPE

5501 | 5511 | 5521 | 5531 | 5701 | 5711 | 5721 | 5731 SERIES

■SELECTION GUIDE

COLOR	MATERIAL	PART NUMBER
Red	GaAlAs	(E)SBR 5501, 5701 5511, 5711 5521, 5721 5531, 5731
	GaAsP	SAR 5501, 5701 5511, 5711 5521, 5721 5531, 5731
	GaP	SPR 5501, 5701 5511, 5711 5521, 5721 5531, 5731
Green	GaP	(E)SBG 5501, 5701 5511, 5711 5521, 5721 5531, 5731
	GaP	SPG 5521, 5721 5531, 5731
Yellow	GaP	(E)SPY 5501, 5701 5511, 5711 5521, 5721 5531, 5731
	GaAsP/GaP	(E)SAY 5501, 5701 5511, 5711 5521, 5721 5531, 5731
Orange	GaAsP/GaP	(E)SAA 5501, 5701 5511, 5711 5521, 5721 5531, 5731

■FEATURES

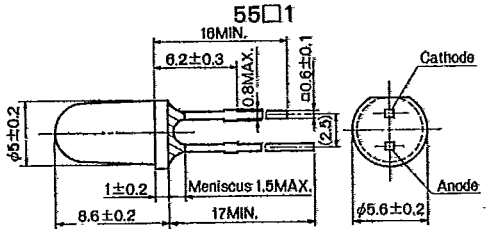
- AVAILABLE IN 4 COLORS; RED, GREEN, YELLOW AND ORANGE
- 5mm DIA EPOXY PACKAGE
- AVAILABLE IN BOTH WIDE AND NARROW VIEWING ANGLES
- LOW CURRENT DRIVE, DIRECTLY COMPATIBLE WITH IC
- QUICK RESPONSE, ALLOWING PULSED OPERATION
- HIGH RELIABILITY

■DESCRIPTION

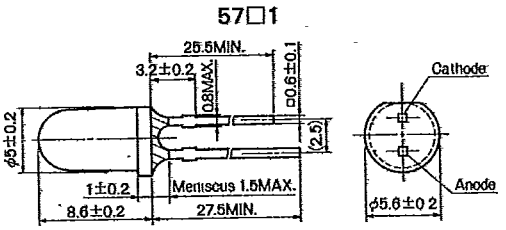
Each LED is encapsulated in epoxy package with 5mm DIA and available in two types according to the package resin; one having wide viewing angle with diffusive agent and the other with narrow viewing angle by which high brightness is obtained in axis direction in colored clear or water color

■Package Dimensions–Unit in mm

55□1



57□1



■Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Red			Green		Yellow		Orange	Units
		BR	AR	PR	BG	PG	PY	AY	AA	
Forward Current	I_F	50	50	30	50	50	50	50	50	mA
Peak Forward Current	I_{FM}	300	300	100	100	100	100	100	100	mA
Reverse Voltage	V_R	4			4		4		4	V
Power Dissipation	Pd	100	100	75	125	125	125	125	125	mW
Operating Temperature	Topr	−30~+ 85			−30~+ 85		−30~+ 85		-30~+85	°C
Storage Temperature	Tstg	−30~+100			−30~+100		−30~+100		-30~+100	°C
Lead Soldering Temperature		260°C for 5 seconds (3.0mm from body)								

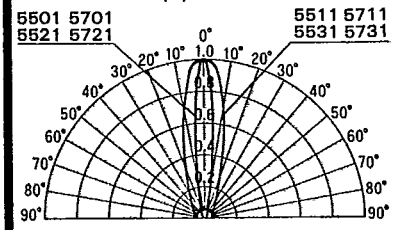
■Electro-Optical Characteristics (Ta=25°C)

Type No.	Chip		Lens	Iv(mcd)		at I_F (mA)	Peak Wave Length λp(nm)	Spectral Line Half Width Δλ(nm)	V_F(V)		at I_F (mA)	at V_R4V I_R(μA)	Capacitance Co(pF)
	Material	Emitted Color		Min.	Typ.				Typ.	Max.			
SBR5501(21)	GaAlAs	Red	W.C (C.C)	40.0	80.0	20	660	30	1.7	2.0	20	100	50
5531(11)	GaAlAs	Red	C.D (W.D)	8.0	20.0	20	660	30	1.7	2.0	20	100	50
ESBR5501(21)	GaAlAs	Red	W.C (C.C)	80.0	160.0	20	660	30	1.7	2.0	20	100	50
5531(11)	GaAlAs	Red	C.D (W.D)	20.0	30.0	20	660	30	1.7	2.0	20	100	50
SAR5501(21)	GaAsP	Red	W.C (C.C)	3.0	6.0	20	650	30	1.7	2.0	20	100	40
5531(11)	GaAsP	Red	C.D (W.D)	1.5	3.0	20	650	30	1.7	2.0	20	100	40
SPR5501(21)	GaP	Red	W.C (C.C)	6.0	12.0	10	700	100	2.1	2.5	10	100	70
5531(11)	GaP	Red	C.D (W.D)	3.0	6.0	10	700	100	2.1	2.5	10	100	70
SBG5501(21)	GaP	Green	W.C (C.C)	20.0	40.0	20	555	30	2.1	2.5	20	100	50
5531(11)	GaP	Green	C.D (W.D)	5.0	8.0	20	555	30	2.1	2.5	20	100	50
ESBG5501(21)	GaP	Green	W.C (C.C)	50.0	80.0	20	555	30	2.1	2.5	20	100	50
5531(11)	GaP	Green	C.D (W.D)	8.0	12.0	20	555	30	2.1	2.5	20	100	50
SPG5521	GaP	Green	C.C	30.0	60.0	20	565	30	2.1	2.5	20	100	40
5531	GaP	Green	C.D	12.0	24.0	20	565	30	2.1	2.5	20	100	40
SPY5501(21)	GaP	Yellow	W.C (C.C)	40.0	80.0	20	570	30	2.1	2.5	20	100	40
5531(11)	GaP	Yellow	C.D (W.D)	15.0	30.0	20	570	30	2.1	2.5	20	100	40
ESPY5501(21)	GaP	Yellow	W.C (C.C)	80.0	160.0	20	570	30	2.1	2.5	20	100	40
5531(11)	GaP	Yellow	C.D (W.D)	30.0	45.0	20	570	30	2.1	2.5	20	100	40
SAY5501(21)	GaAsP/GaP	Yellow	W.C (C.C)	30.0	60.0	20	580	30	2.2	2.5	20	100	40
5531(11)	GaAsP/GaP	Yellow	C.D (W.D)	8.0	16.0	20	580	30	2.2	2.5	20	100	40
ESAY5501(21)	GaAsP/GaP	Yellow	W.C (C.C)	60.0	90.0	20	580	30	2.2	2.5	20	100	40
5531(11)	GaAsP/GaP	Yellow	C.D (W.D)	16.0	24.0	20	580	30	2.2	2.5	20	100	40
SAA5501(21)	GaAsP/GaP	Orange	W.C (C.C)	30.0	60.0	20	605	30	2.2	2.5	20	100	50
5531(11)	GaAsP/GaP	Orange	C.D (W.D)	8.0	16.0	20	605	30	2.2	2.5	20	100	50
ESAA5501(21)	GaAsP/GaP	Orange	W.C (C.C)	60.0	90.0	20	605	30	2.2	2.5	20	100	50
5531(11)	GaAsP/GaP	Orange	C.D (W.D)	16.0	24.0	20	605	30	2.2	2.5	20	100	50

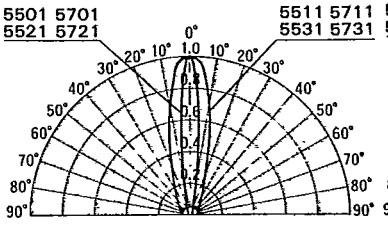
※57□1 types have the same characteristics with those of 55□1 types

■SPATIAL DISTRIBUTION

(E) SBR



SAR



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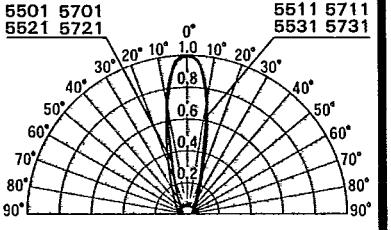
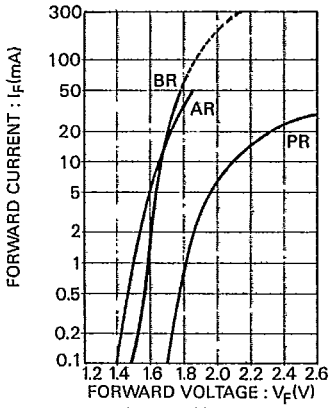
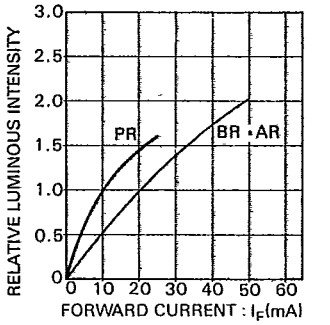


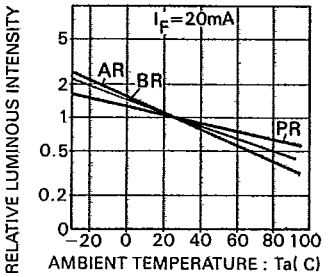
■RED



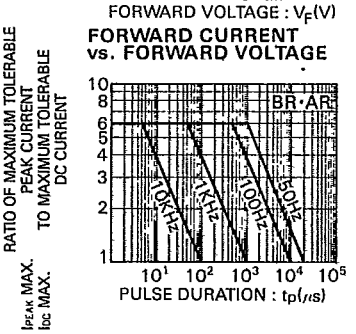
FORWARD CURRENT vs. FORWARD VOLTAGE

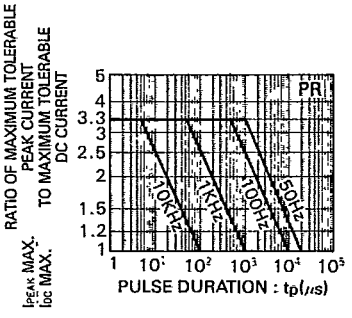


RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT

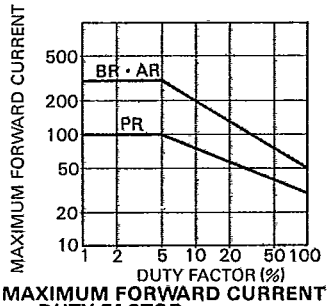


RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE

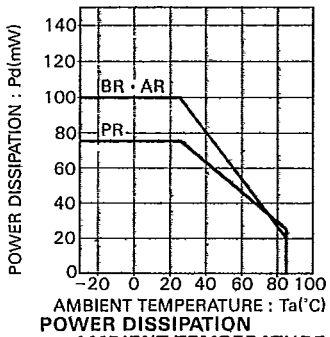




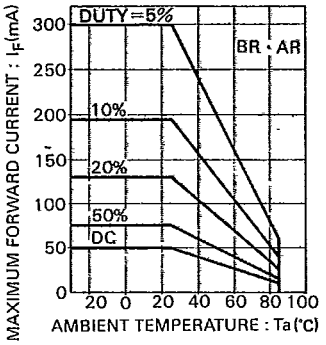
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION

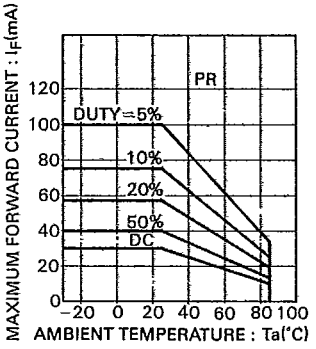


MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

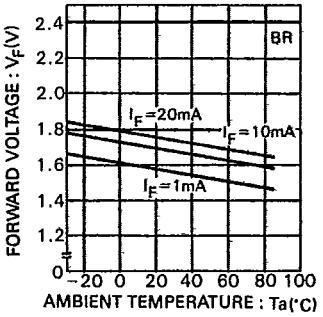


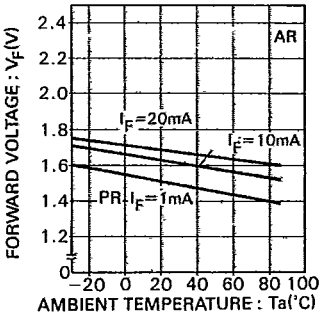
POWER DISSIPATION vs. AMBIENT TEMPERATURE

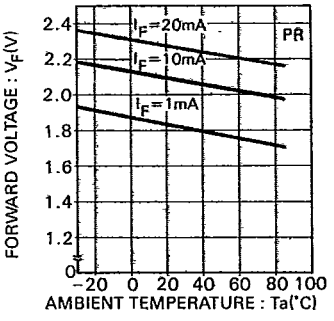




MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE







FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

GREEN

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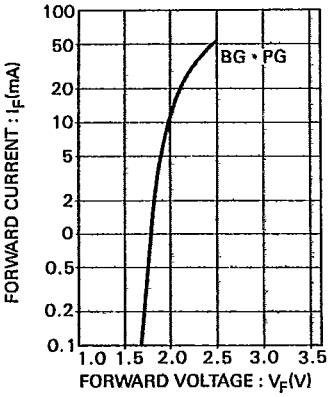
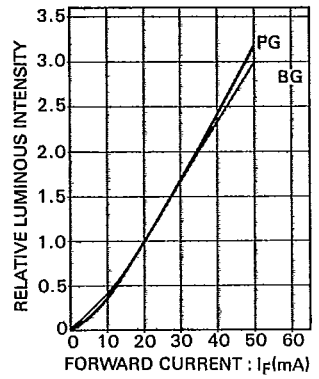
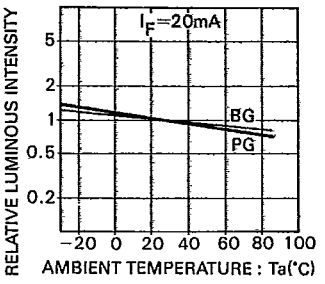


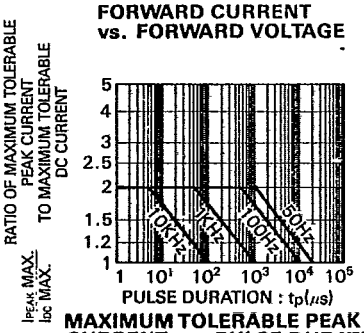
FORWARD CURRENT vs. FORWARD VOLTAGE



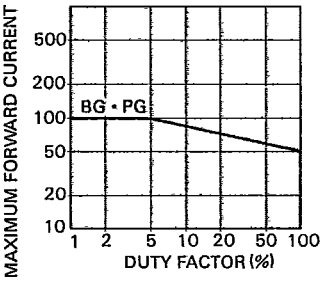
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



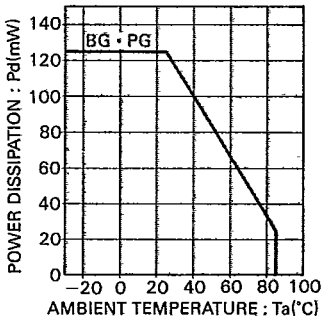
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



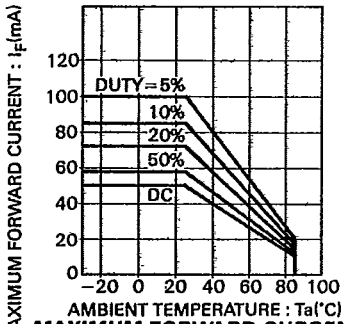
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



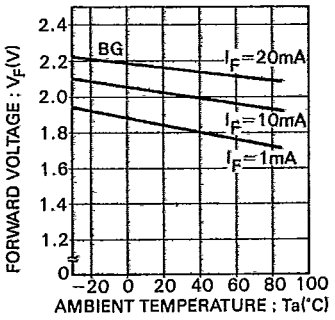
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

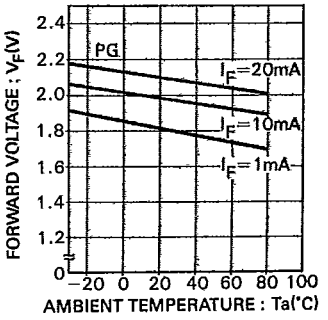


POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE

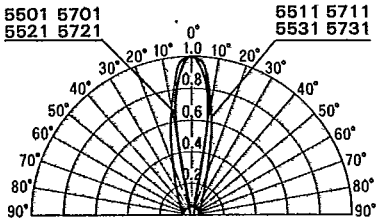




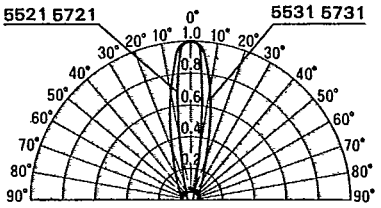
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

SPATIAL DISTRIBUTION

(E) SBG

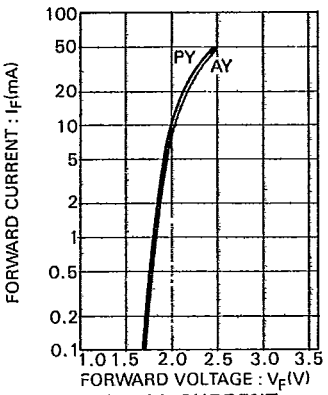


SPG

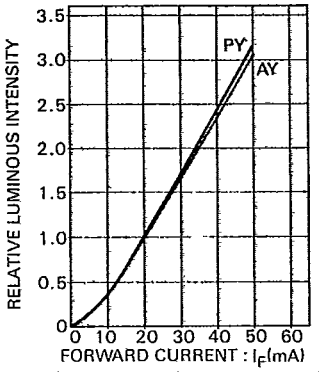


LED LAMP

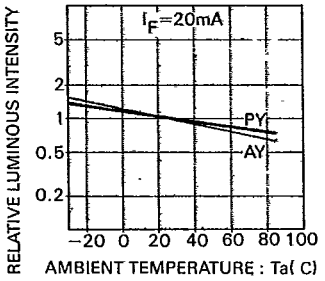
■YELLOW



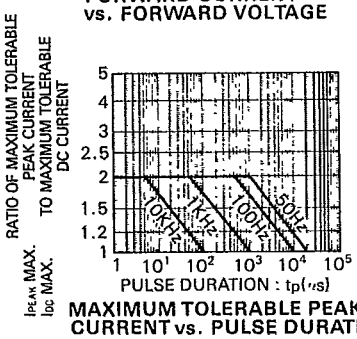
FORWARD CURRENT vs. FORWARD VOLTAGE



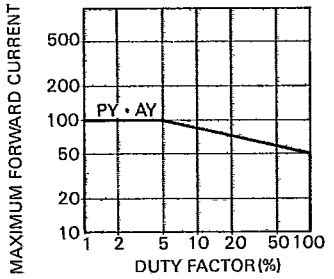
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



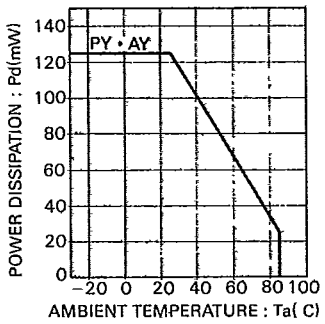
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



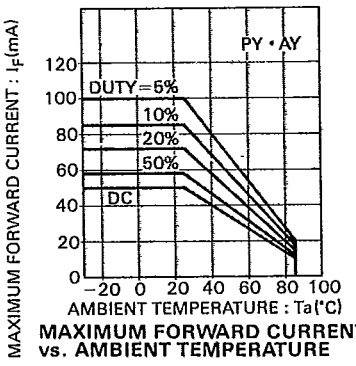
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



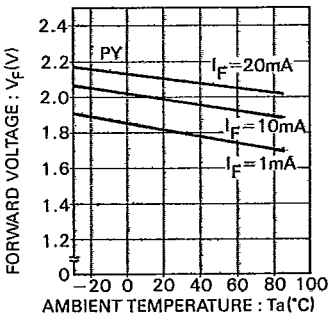
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

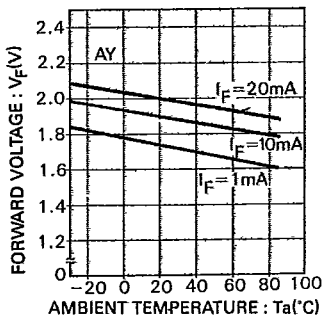


POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE

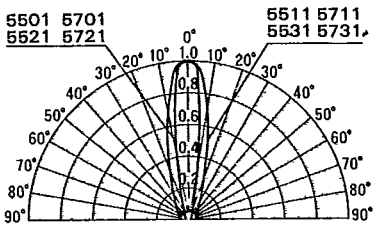




FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

■SPATIAL DISTRIBUTION

(E) SPY



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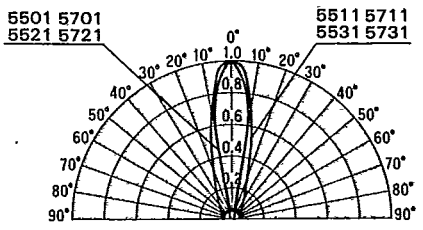
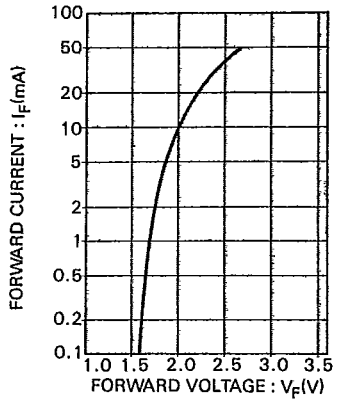
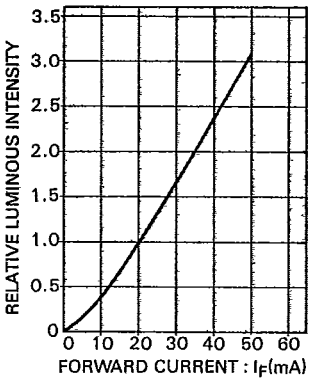


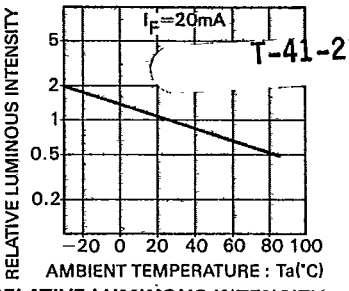
■ORANGE



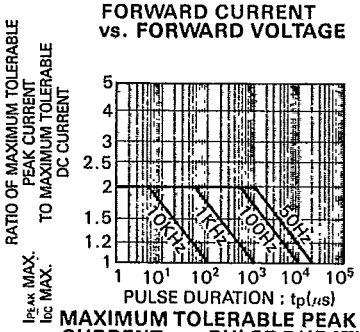
FORWARD CURRENT
vs. FORWARD VOLTAGE



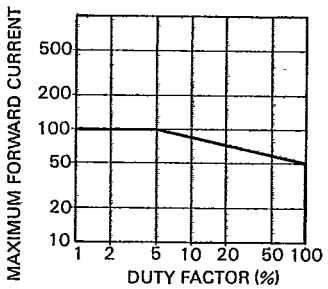
RELATIVE LUMINOUS INTENSITY
vs. FORWARD CURRENT



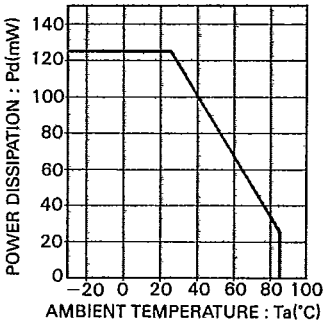
RELATIVE LUMINOUS INTENSITY
vs. AMBIENT TEMPERATURE



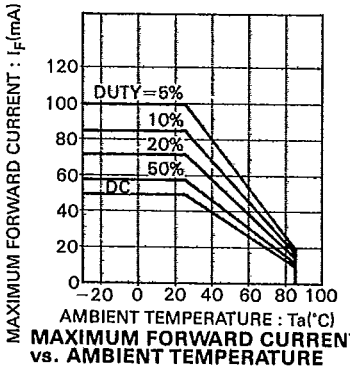
MAXIMUM TOLERABLE PEAK
CURRENT vs. PULSE DURATION



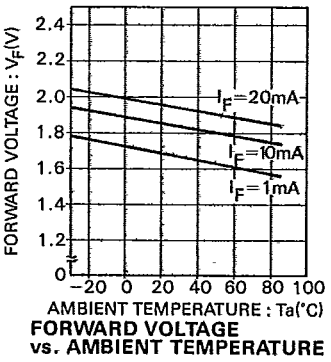
MAXIMUM FORWARD CURRENT
vs. DUTY FACTOR



POWER DISSIPATION
vs. AMBIENT TEMPERATURE

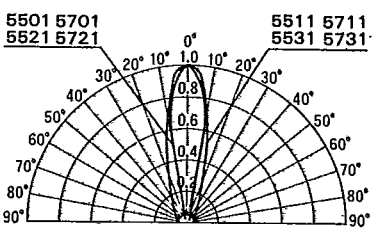


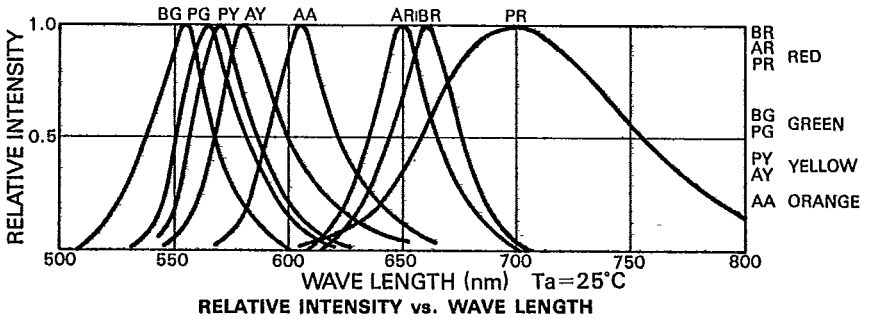
MAXIMUM FORWARD CURRENT
vs. AMBIENT TEMPERATURE



FORWARD VOLTAGE
vs. AMBIENT TEMPERATURE

SPATIAL DISTRIBUTION





RELATIVE INTENSITY vs. WAVE LENGTH