

STANLEY**STANLEY
SUPER BRIGHT
LED LAMP****RECTANGLE TYPE
2.4×7.2mm TYPE****7841REC****7851REC****SERIES**

T-41-23

SELECTION GUIDE

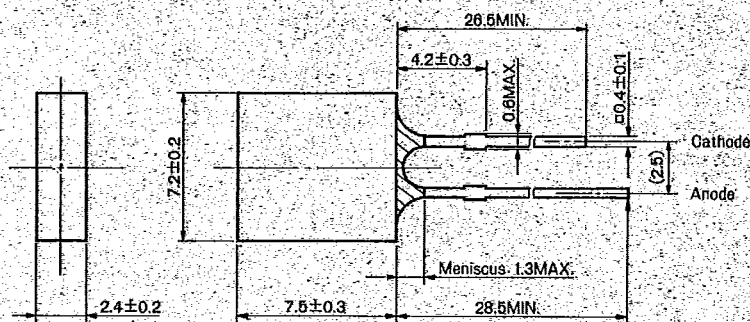
COLOR	MATERIAL	PART NUMBER
Red	GaAlAs	SBR 7841REC, 7851REC
	GaP	SPR 7841REC, 7851REC
Green	GaP	SPG 7851REC
Yellow	GaP	SPY 7841REC, 7851REC
	GaAsP/GaP	SAY 7841REC, 7851REC

FEATURES

- AVAILABLE IN 3 COLORS; RED, GREEN AND YELLOW
- 2.4 x 7.2mm FLAT RECTANGULAR LIGHT EMITTING SURFACE
- FLAT LIGHT-EMITTING SURFACE WITH UNIFORM ILLUMINATION
- LOW CURRENT DRIVE, DIRECTLY COMPATIBLE WITH IC
- QUICK RESPONSE, ALLOWING PULSED OPERATION
- HIGH RELIABILITY

DESCRIPTION

The rectangular type LEDs are most suitable for the use requiring thin and special configuration. As these rectangular types feature high visibility and three different colors, these can find wide applications when used in line besides the use for display as single element.

Package Dimensions—Unit in mm

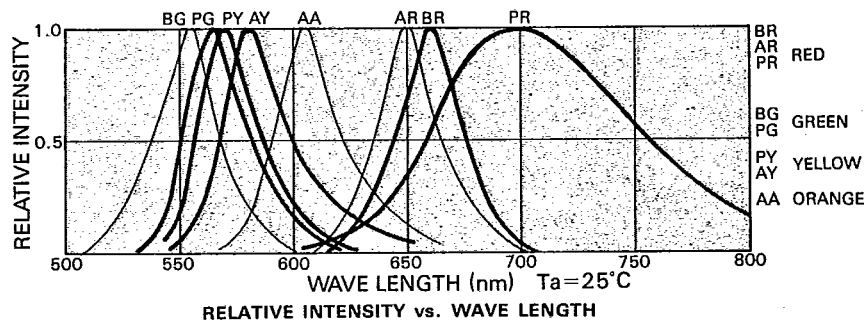
■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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

■ Electro-Optical Characteristics ($T_a = 25^\circ\text{C}$)

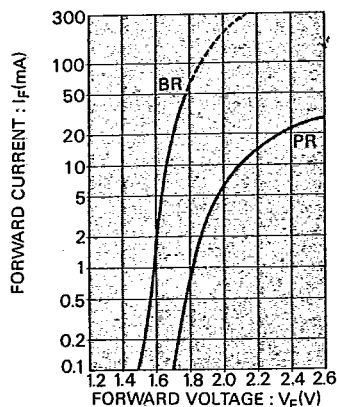
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Type No.	Chip		Lens	$I_v(\text{mcd})$		I_F (mA)	Peak Wave Length $\lambda_p(\text{nm})$	Spectral Line Half Width $\Delta\lambda(\text{nm})$	$V_F(\text{V})$		I_F (mA)	I_F at $V_R 4\text{V}$ (μA)	Capaci tance Co(pF)
	Material	Emitted Color		Min.	Typ.				Typ.	Max.			
SBR7851REC(41REC)	GaAlAs	Red	C.S.D (W.S.D)	1.5	3.0	20	660	30	1.7	2.0	20	100	50
SPR7851REC(41REC)	GaP	Red	C.S.D (W.S.D)	0.3	0.5	10	700	100	2.1	2.5	10	100	70
SPG7851REC	GaP	Green	C.S.D	1.5	3.0	20	565	30	2.1	2.5	20	100	40
SPY7851REC(41REC)	GaP	Yellow	C.S.D (W.S.D)	2.0	4.0	20	570	30	2.1	2.5	20	100	40
SAY7851REC(41REC)	GaAsP/GaP	Yellow	C.S.D (W.S.D)	1.2	2.4	20	580	30	2.2	2.5	20	100	40



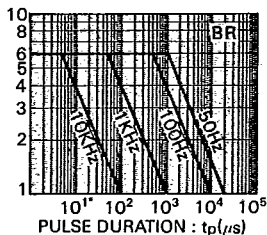
RED

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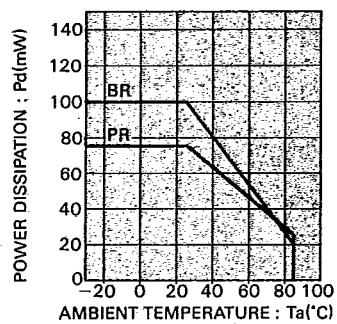


FORWARD CURRENT vs. FORWARD VOLTAGE

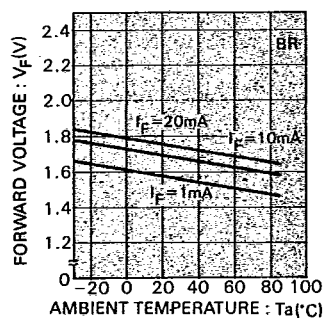
RATIO OF MAXIMUM TOLERABLE
PEAK CURRENT
TO MAXIMUM TOLERABLE
DC CURRENT



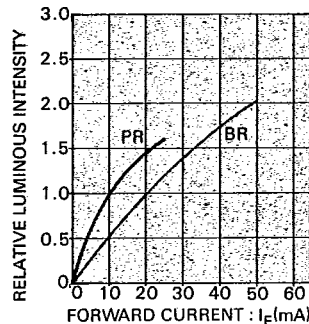
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



POWER DISSIPATION vs. AMBIENT TEMPERATURE

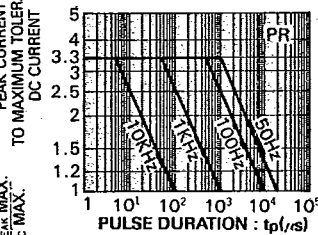


FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

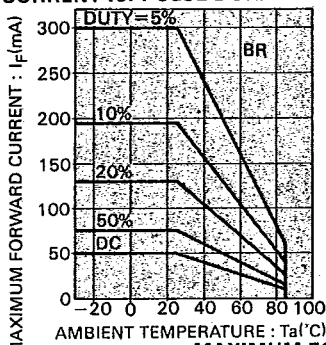


RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT

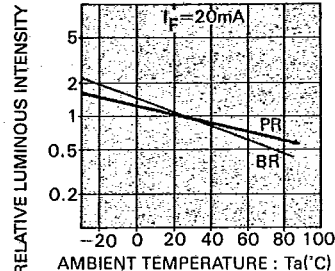
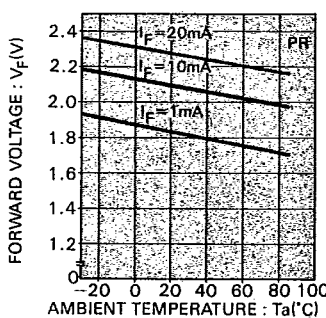
RATIO OF MAXIMUM TOLERABLE
PEAK CURRENT
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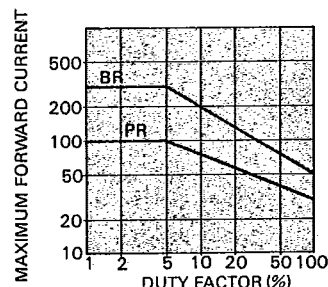
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



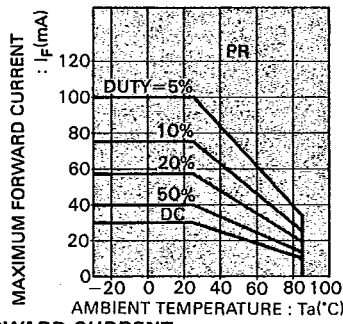
MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



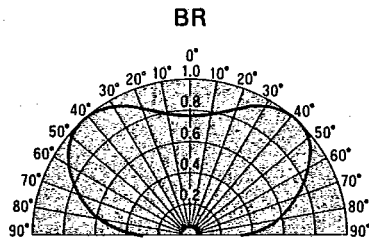
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

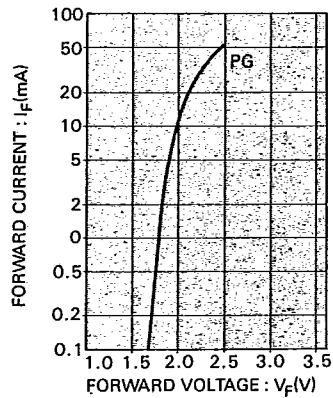


SPATIAL DISTRIBUTION

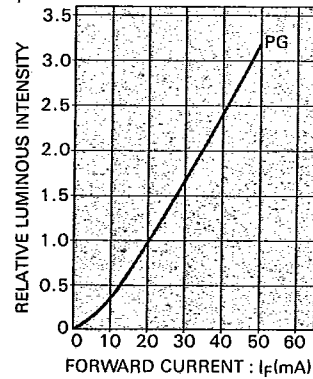


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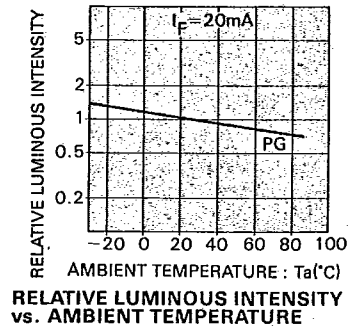
GREEN



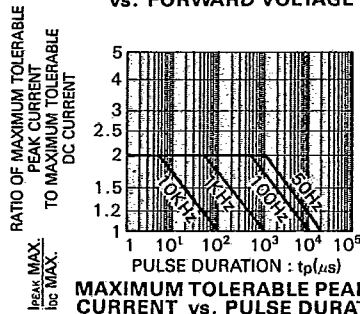
FORWARD CURRENT vs. FORWARD VOLTAGE



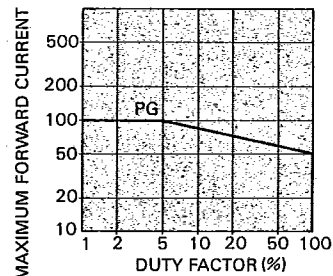
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



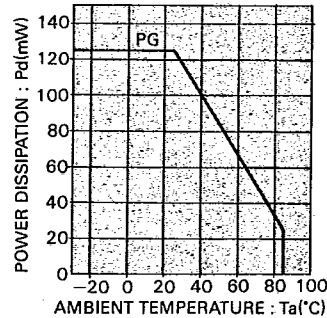
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



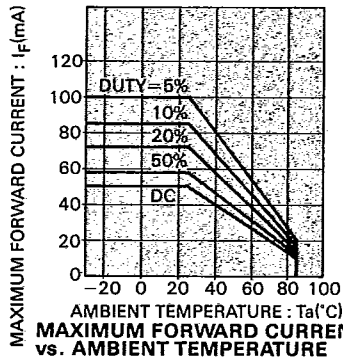
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



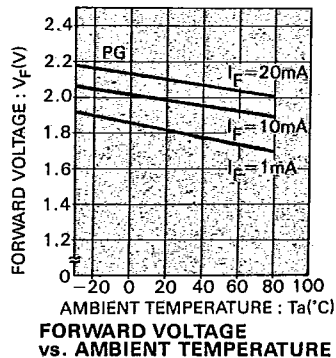
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



POWER DISSIPATION vs. AMBIENT TEMPERATURE

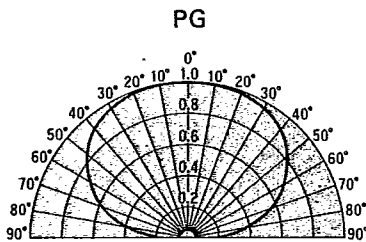


MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



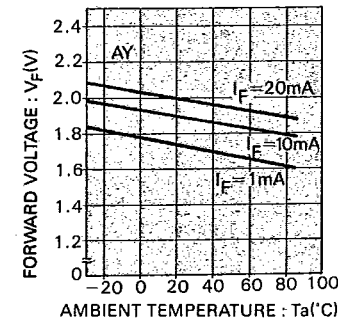
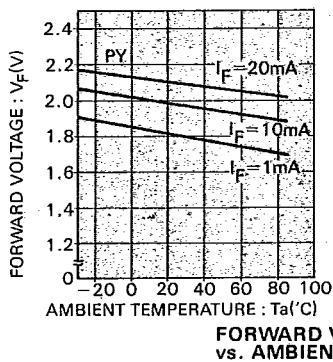
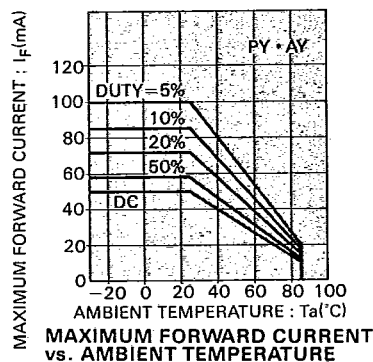
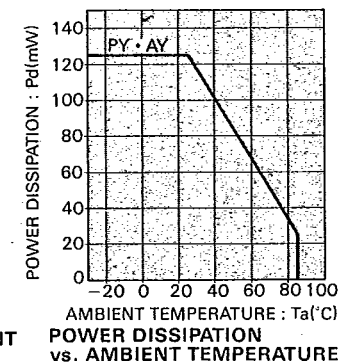
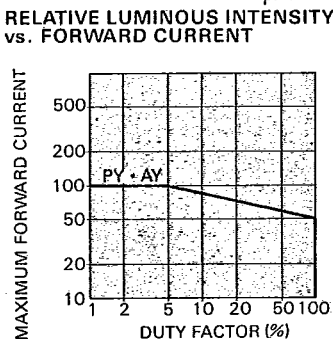
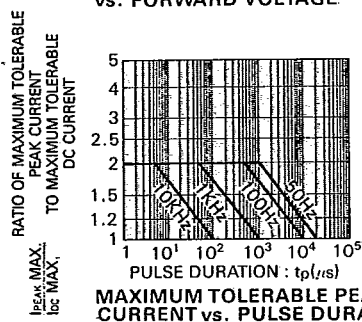
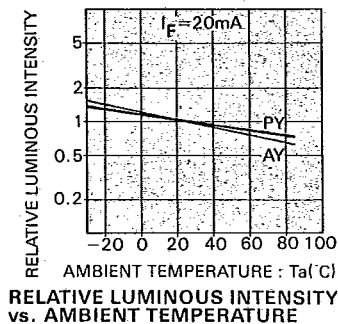
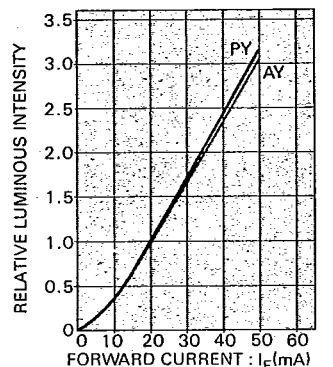
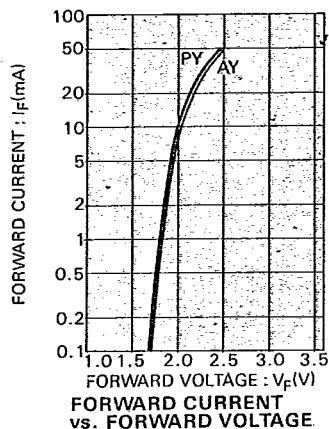
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

SPATIAL DISTRIBUTION



YELLOW

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SPATIAL DISTRIBUTION

