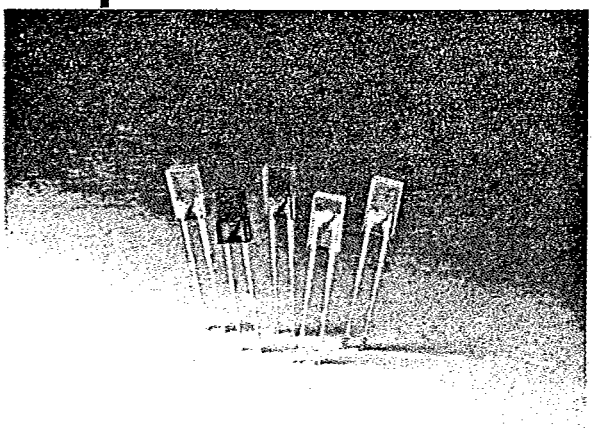
T-41-23

STANLEY

STANLEY SUPER BRIGHT LED LAMP

RECTANGLE TYPE
2×4mm TYPE

4543K | 4553K | 4503K-5 | 4523K-5 SERIES



■SELECTION GUIDE

COLOR	MATERIAL	PART NUMBER	
Red	GaAlAs	BR	4503K-5, 4523K-5
	GaP	PR	4543K, 4503K-5 4553K, 4523K-5
Green	GaP	(E)BG	4543K, 4503K-5 4553K, 4523K-5
	GaP	PG	4553KY
Yellow	GaP	PY	4543K, 4553K
	GaAsP/GaP	AY	4543K, 4503K-5 4553K, 4523K-5
Orange	GaAsP/GaP	AA	4543K, 4503K-5 4553K, 4523K-5

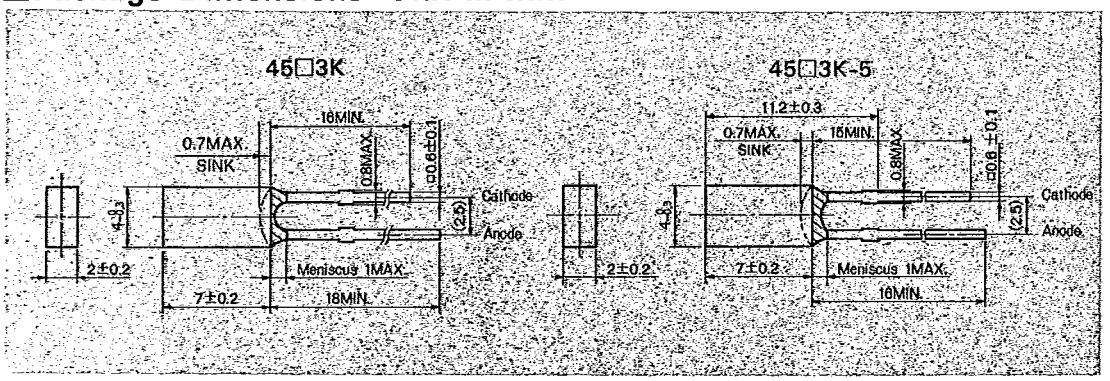
■FEATURES

- AVAILABLE IN 4 COLORS; RED, GREEN, YELLOW AND ORANGE
- 4mm x 2mm LIGHTED AREA
- 4543K AND 4553K: DIFFUSED TYPE
- 4503K-5 AND 4523K-5: CLEAR (WATER COLOR) TYPE
- FLAT LIGHT-EMITTING SURFACE WITH UNIFORM ILLUMINATION
- LOW CURRENT DRIVE, DIRECTLY COMPATIBLE WITH IC
- QUICK RESPONSE, ALLOWING PULSED OPERATION
- HIGH RELIABILITY

■DESCRIPTION

4543K and 4553K: Ideal for displays.
4503K-5 and 4523K-5: Ideal for back lighting due to wide viewing angle.

■Package Dimensions–Unit in mm



Absolute Maximum Ratings (Ta=25°C)

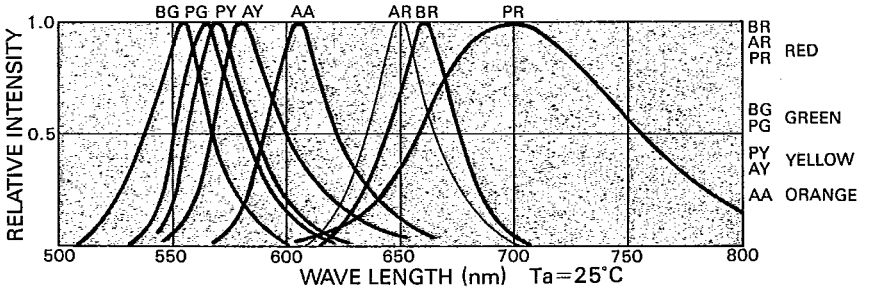
Parameter	Symbol	Red			Green		Yellow		Orange	Units
		BR	AR	PR	BG	PG	PY	AY	AA	
Forward Current	I_F	50		30	50	50	50	50	50	mA
Peak Forward Current	I_{FM}	300		100	100	100	100	100	100	mA
Reverse Voltage	V_R	4			4		4		4	V
Power Dissipation	Pd	100		75	125	125	125	125	125	mW
Operating Temperature	Topr	−30~+ 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)

T-41-23

Type No.	Chip		Lens	Iv(mcd)		at I_F	Peak Wave Length λp(nm)	Spectral Line Half Width Δλ(nm)	V_F(V)		at I_F	at V_R4V I_R(μA)	Capacitance Co(pF)
	Material	Emitted Color		Min.	Typ.	(mA)			Typ.	Max.	(mA)		
BR4503K-5(23K-5)	GaAlAs	Red	W.C (C.C)	3.0	6.0	20	660	30	1.7	2.0	20	100	50
PR4503K-5(23K-5)	GaP	Red	W.C (C.C)	0.8	1.6	10	700	100	2.1	2.5	10	100	70
4553K(43K)	GaP	Red	C.S.D (W.S.D)	0.3	0.5	10	700	100	2.1	2.5	10	100	70
BG4503-5(23K-5)	GaP	Green	W.C (C.C)	1.5	3.0	20	555	30	2.1	2.5	20	100	50
4553K(43K)	GaP	Green	C.S.D (W.S.D)	0.5	1.0	20	555	30	2.1	2.5	20	100	50
(E)BG4503K-5(23K-5)	GaP	Green	W.C (C.C)	3.0	4.5	20	555	30	2.1	2.5	20	100	50
PG4553KY	GaP	Green	C.S.D	1.5	3.0	20	565	30	2.1	2.5	20	100	40
PY4553K(43K)	GaP	Yellow	C.S.D (W.S.D)	2.0	4.0	20	570	30	2.1	2.5	20	100	40
AY4503K-5(23K-5)	GaAsP/GaP	Yellow	W.C (C.C)	2.0	4.0	20	580	30	2.2	2.5	20	100	40
4553K(43K)	GaAsP/GaP	Yellow	C.S.D (W.S.D)	1.0	2.0	20	580	30	2.2	2.5	20	100	40
AA4503K-5(23K-5)	GaAsP/GaP	Orange	W.C (C.C)	2.0	4.0	20	605	30	2.2	2.5	20	100	50
4553K(43K)	GaAsP/GaP	Orange	C.S.D (W.S.D)	1.0	2.0	20	605	30	2.2	2.5	20	100	50

※45□3K-5 types have the same characteristics with those of 45□3K types

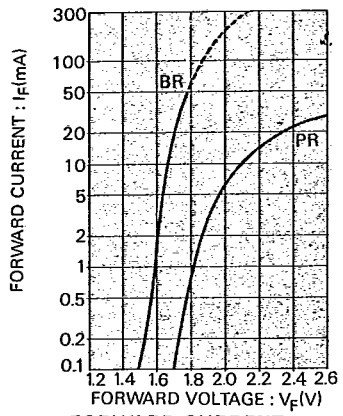


RELATIVE INTENSITY vs. WAVE LENGTH

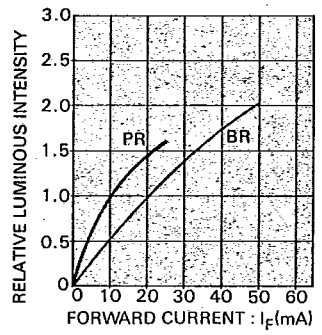
LED LAMP

RED

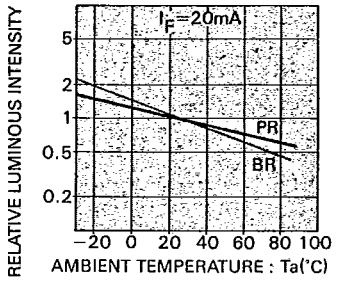
T-41-23



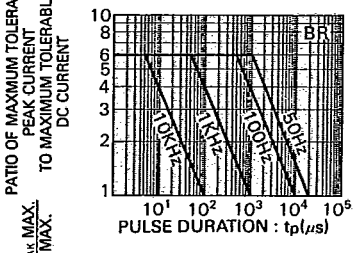
FORWARD CURRENT vs. FORWARD VOLTAGE

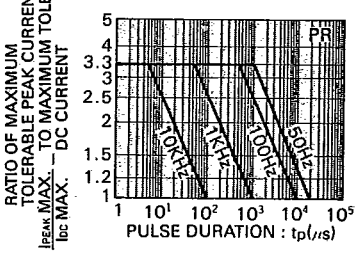


RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT

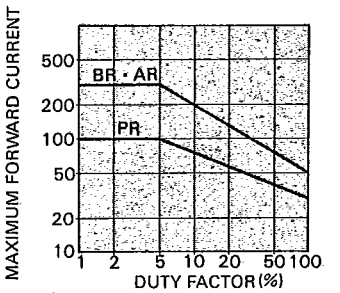


RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE

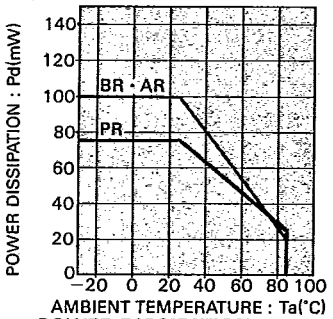




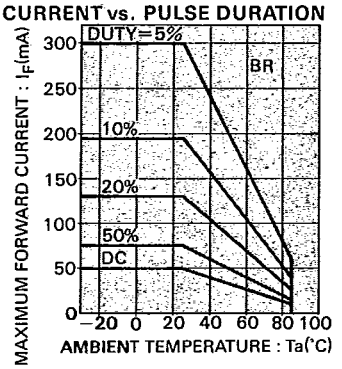
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION

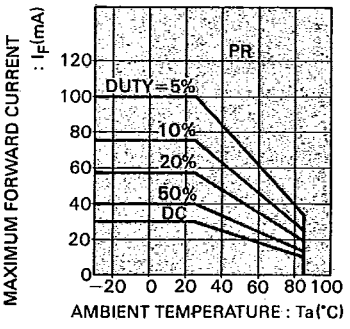


MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

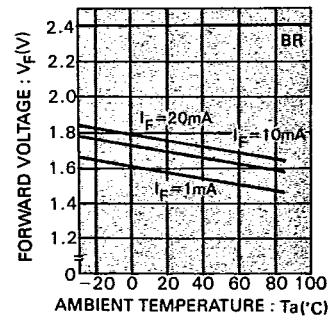


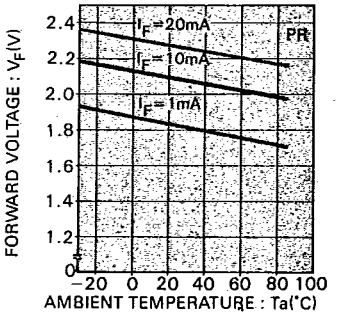
POWER DISSIPATION vs. AMBIENT TEMPERATURE





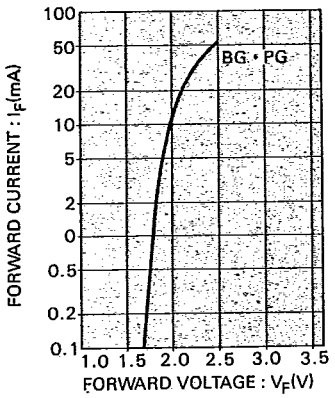
MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



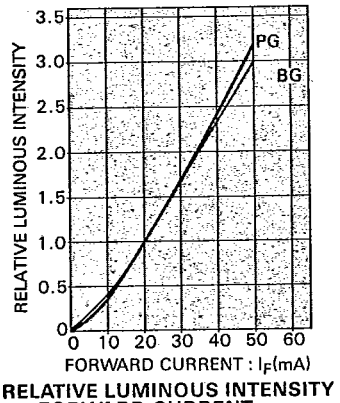


FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

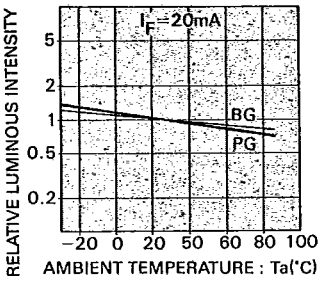
GREEN



FORWARD CURRENT vs. FORWARD VOLTAGE

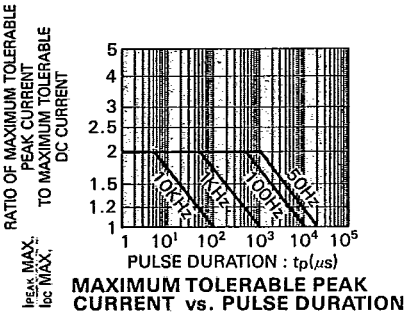


RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT

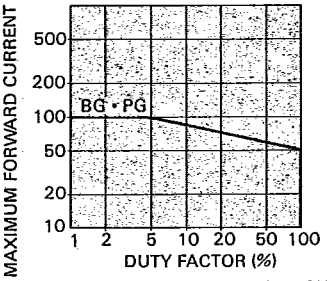


RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE

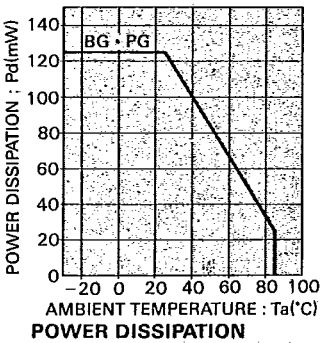
T-41-23



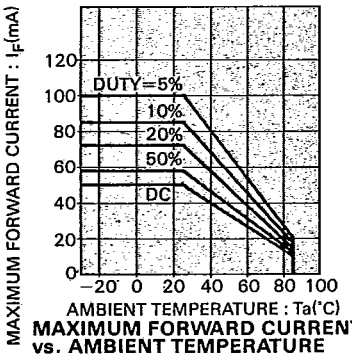
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



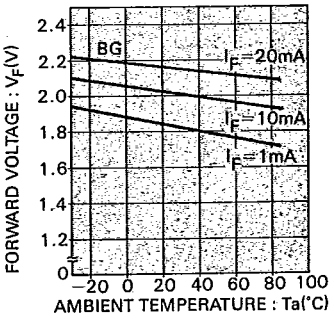
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

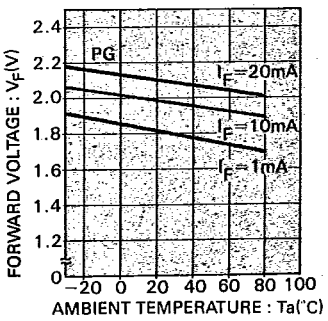


POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



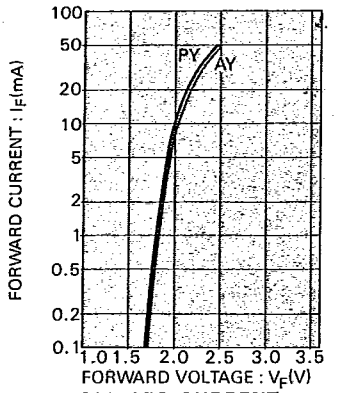


FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

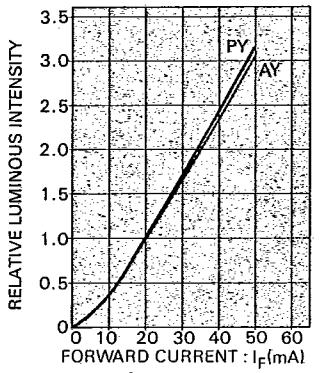
LED LAMP

YELLOW

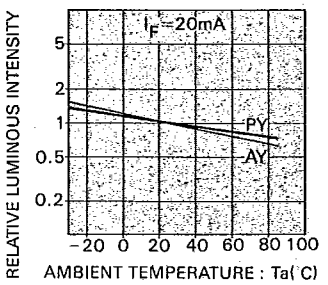
T-41-23



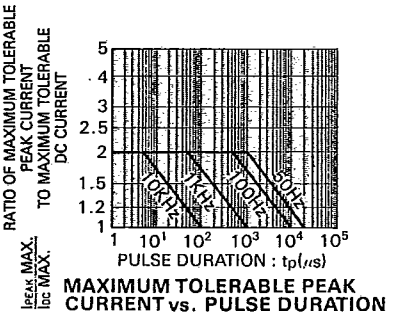
FORWARD CURRENT vs. FORWARD VOLTAGE



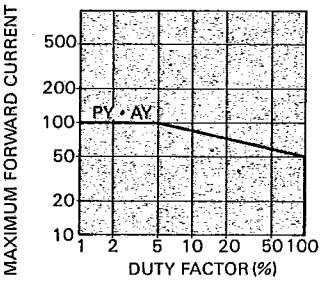
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



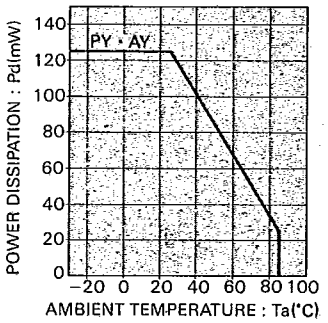
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



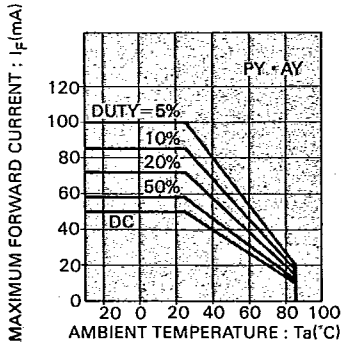
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



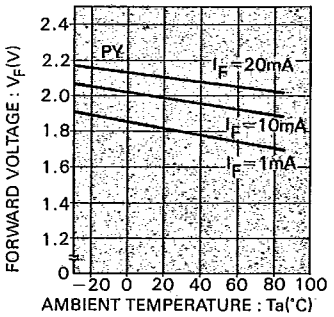
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR

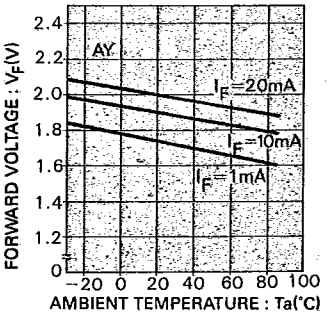


POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE

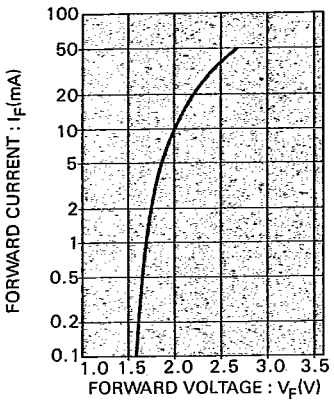




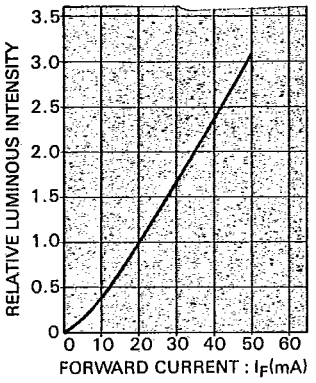
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

ORANGE

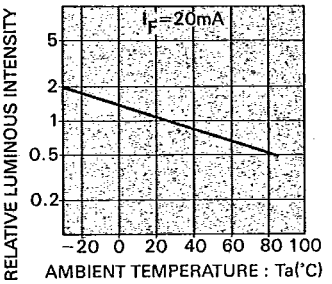
T-41-23



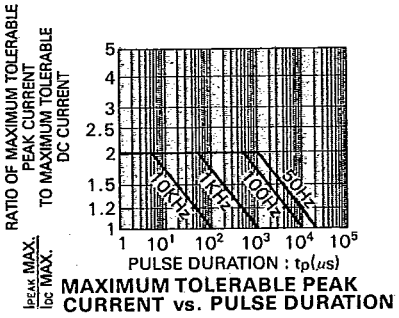
FORWARD CURRENT vs. FORWARD VOLTAGE



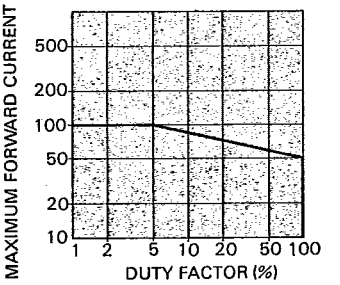
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



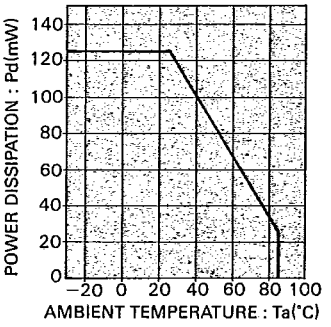
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



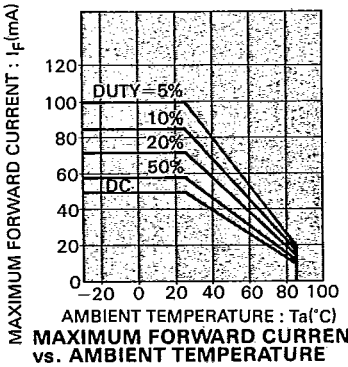
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



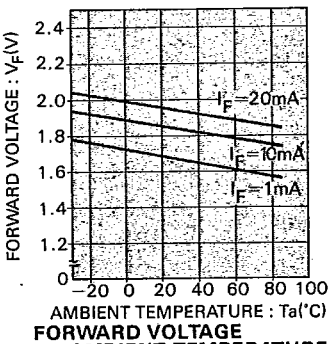
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



FORWARD VOLTAGE vs. AMBIENT TEMPERATURE

LED LAMP