



T-41-23

**STANLEY
SUPER BRIGHT
LED LAMP**

**RECTANGLE TYPE
2x4mm TYPE**

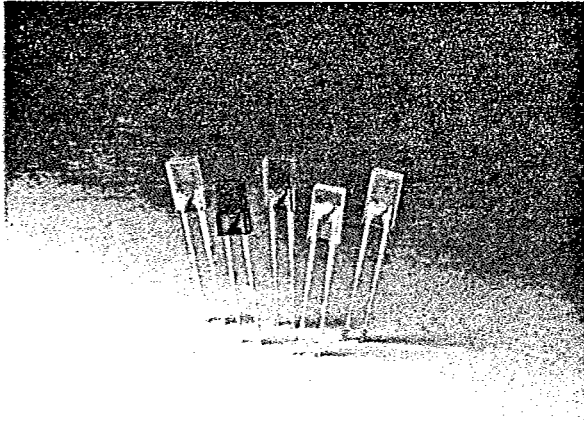
4543K

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 |

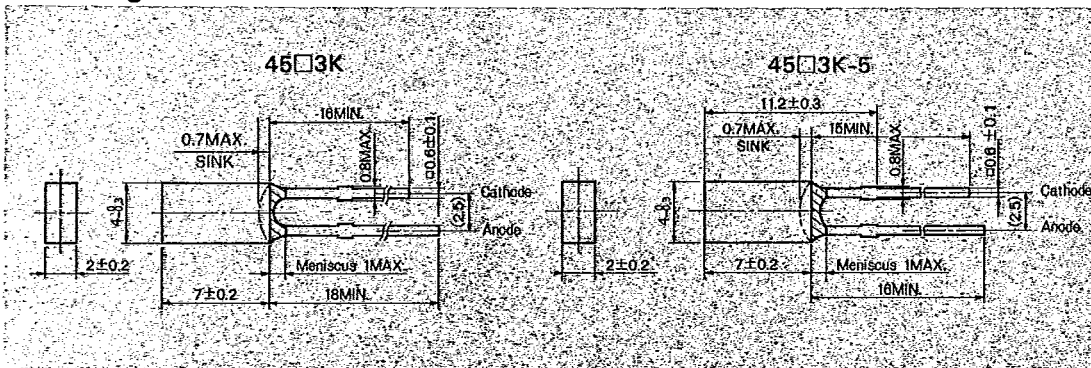
FEATURES

- 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)

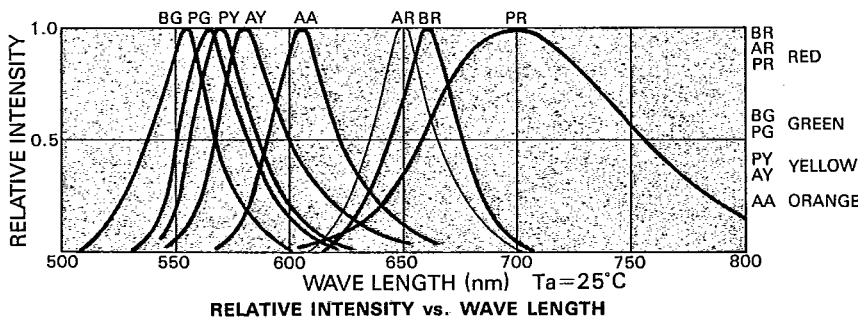
| Parameter | Symbol | Red | | | Green | | Yellow | | Orange | Units |
|----------------------------|-----------------|---------------------------------------|----|-----|----------|-----|----------|-----|----------|-------|
| | | BR | AR | PR | BG | PG | PY | AY | AA | |
| Forward Current | I _F | 50 | | 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 | P _d | 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)

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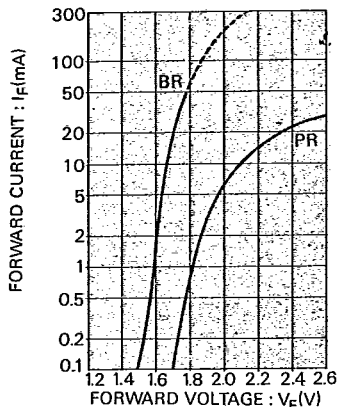
| Type No. | Chip | | Lens | I _v (mcd) | | at I _F (mA) | Peak Wave Length λ _p (nm) | Spectral Line Half Width Δλ(nm) | V _F (V) | | at I _F (mA) | at V _R 4V I _R (μA) | Capacitance Co(pF) |
|---------------------|-----------|---------------|---------------|----------------------|------|------------------------|--------------------------------------|---------------------------------|--------------------|------|------------------------|--|--------------------|
| | Material | Emitted Color | | Min. | Typ. | | | | Typ. | Max. | | | |
| 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

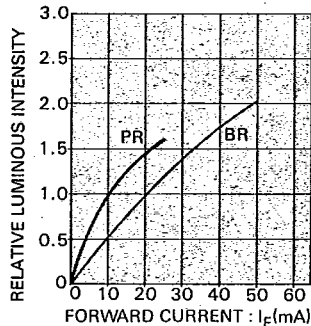


RED

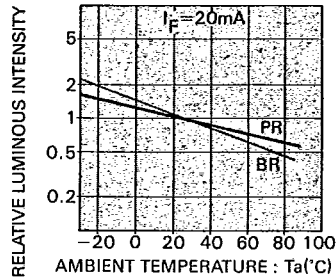
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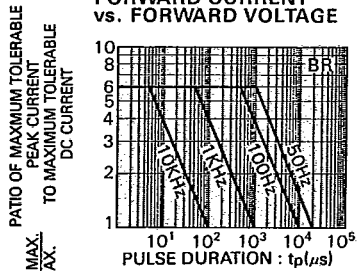
FORWARD CURRENT vs. FORWARD VOLTAGE



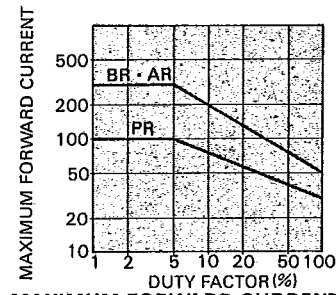
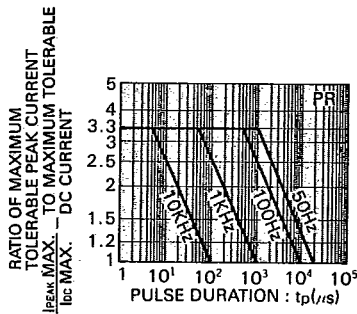
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT



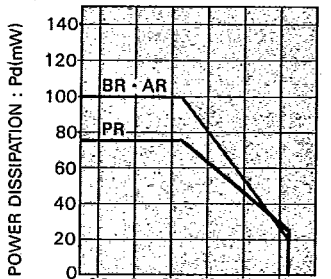
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



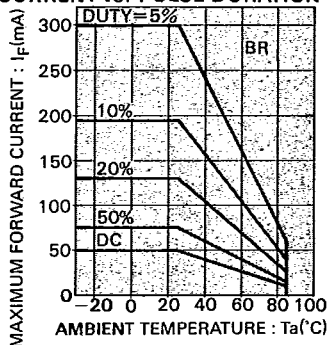
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



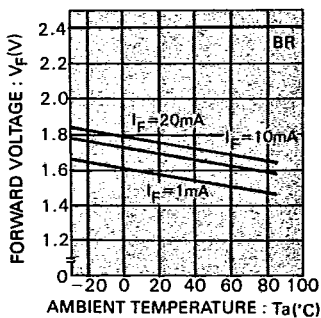
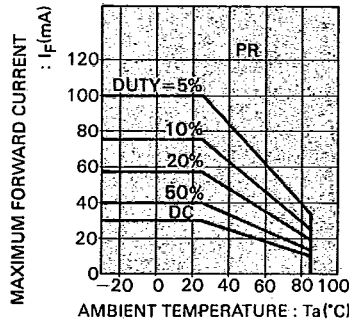
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



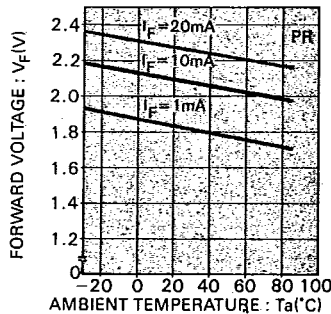
POWER DISSIPATION vs. AMBIENT TEMPERATURE



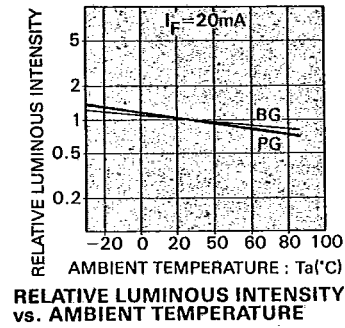
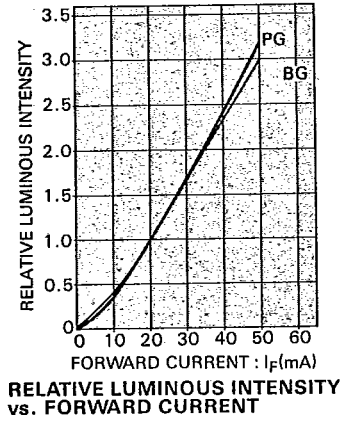
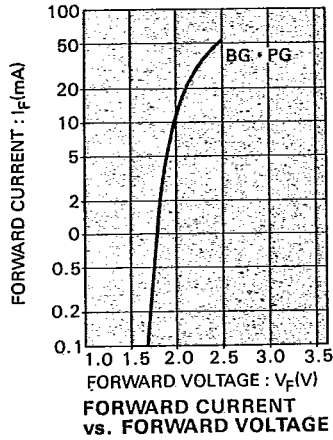
MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



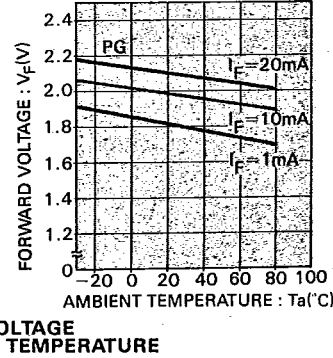
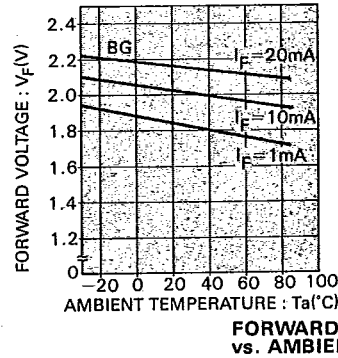
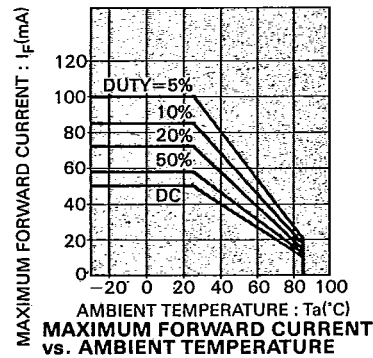
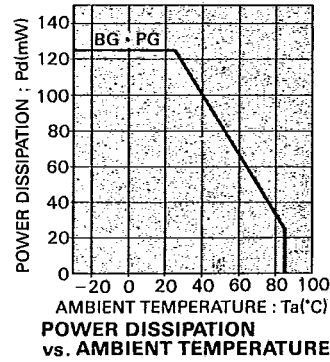
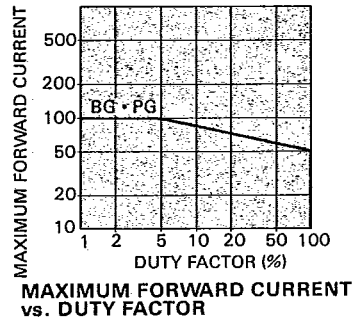
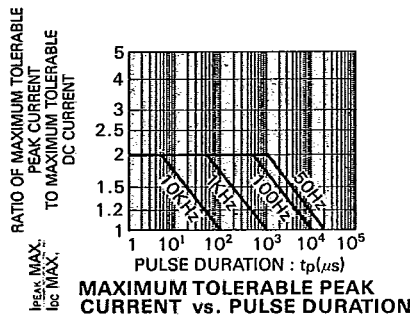
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE



GREEN

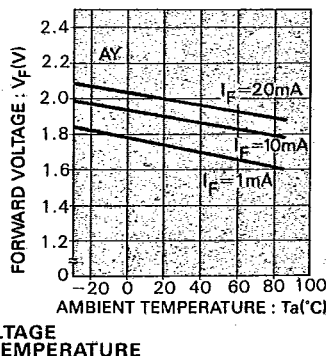
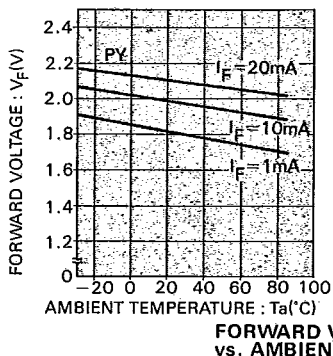
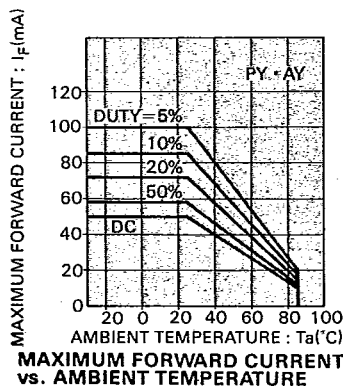
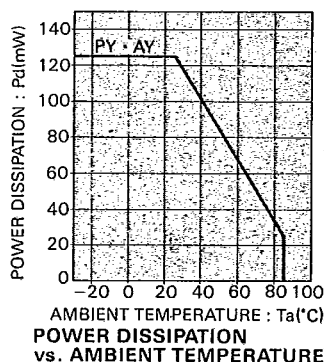
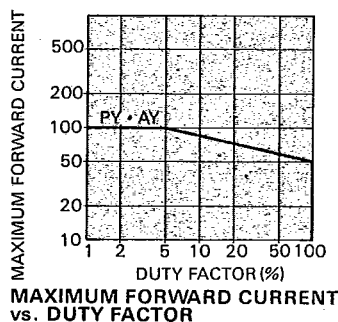
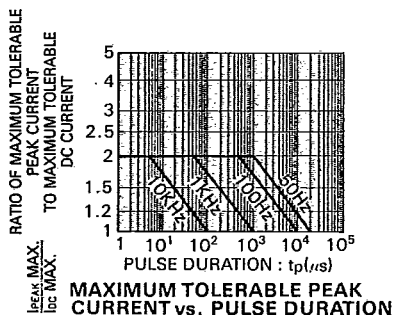
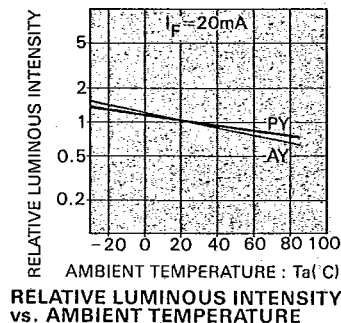
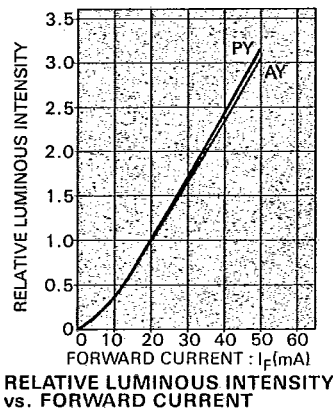
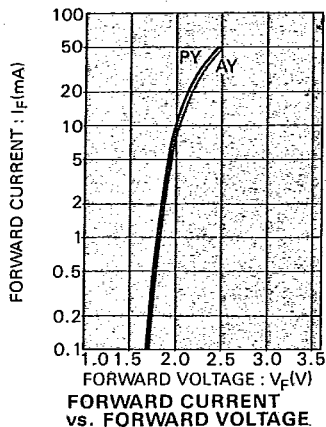


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YELLOW

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ORANGE

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