

5504S/5514S/5524S/5534S/5704S/5714S/5724S/5734S SERIES

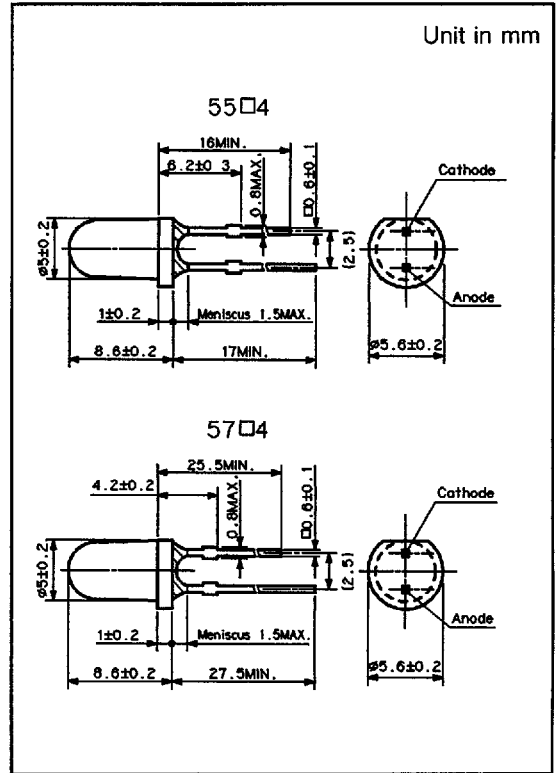
FEATURES

- AVAILABLE IN 4 COLORS; RED, GREEN, YELLOW AND ORANGE
- ALL RESIN MOLDED PACKAGE
- AVAILABLE IN WIDE VIEWING AND NARROW VIEWING ANGLES
- LOW CURRENT DRIVE
- LARGE ALLOWABLE CURRENT CAPACITY, EXCELLENT FOR PULSE DRIVE
- HIGH RELIABILITY, LONG LIFE

APPLICATION

- LIGHT SOURCE FOR OA EQUIPMENT
- LIGHT SOURCE FOR AV EQUIPMENT
- LIGHT SOURCE FOR ILLUMINATED SWITCH

Package Dimension



Absolute Maximum Ratings

(Ta=25°C)

| Parameter | Symbol | Red | | | Green | | Yellow | | Orange | Units |
|-----------------------|------------------|----------|-----|-----|----------|-------|----------|-----|----------|-------|
| | | BR | AR | PR | BG | PG(Y) | 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 | P _d | 100 | 100 | 75 | 125 | 125 | 125 | 125 | 125 | mW |
| Operating Temperature | T _{opr} | -30~+85 | | | -30~+85 | | -30~+85 | | -30~+85 | °C |
| Storage Temperature | T _{stg} | -30~+100 | | | -30~+100 | | -30~+100 | | -30~+100 | °C |

* The current derating for operation above 25°C is 0.67mA/°C for BR/BG/PG/PY/AY/AA, 0.40mA/°C for MVR/MPR/MPY/MAY and 0.33mA/°C for VR/PR/MBG/MPG/MAA.

Electro-Optical Characteristics

(Ta=25°C)

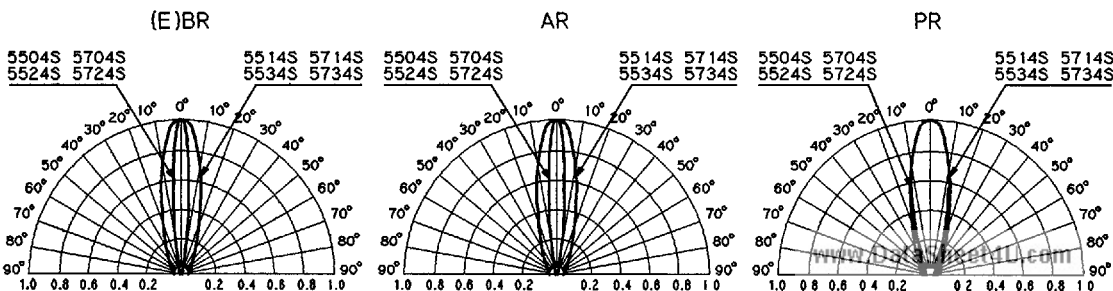
| Type No. | Chip | | Lens * | Iv(mcd) | | at If (mA) | Peak Wave Length λp(nm) | Spectral Line Half Width Δλ(nm) | Vf(V) | | at If (mA) | at VR4V I _R (μA) | Capacitance Co(pF) |
|----------------|---------------|---------------|----------|---------|-------|------------|-------------------------|---------------------------------|-------|------|------------|-----------------------------|--------------------|
| | Material | Emitted Color | | Min. | Typ. | | | | Typ. | Max. | | | |
| BR5504S (24S) | GaAlAs | Red | WC (C,C) | 40.0 | 80.0 | 20 | 660 | 30 | 1.7 | 2.0 | 20 | 100 | 50 |
| BR5534S (14S) | GaAlAs | Red | CD (W,D) | 8.0 | 20.0 | 20 | 660 | 30 | 1.7 | 2.0 | 20 | 100 | 50 |
| EBR5504S (24S) | GaAlAs | Red | WC (C,C) | 80.0 | 160.0 | 20 | 660 | 30 | 1.7 | 2.0 | 20 | 100 | 50 |
| EBR5534S (14S) | GaAlAs | Red | CD (W,D) | 20.0 | 30.0 | 20 | 660 | 30 | 1.7 | 2.0 | 20 | 100 | 50 |
| AR5504S (24S) | GaAsP | Red | WC (C,C) | 3.0 | 6.0 | 20 | 650 | 30 | 1.7 | 2.0 | 20 | 100 | 40 |
| AR5534S (14S) | GaAsP | Red | CD (W,D) | 1.5 | 3.0 | 20 | 650 | 30 | 1.7 | 2.0 | 20 | 100 | 40 |
| PR5504S (24S) | GaP | Red | WC (C,C) | 6.0 | 12.0 | 10 | 700 | 100 | 2.1 | 2.5 | 10 | 100 | 70 |
| PR5534S (14S) | GaP | Red | CD (W,D) | 3.0 | 6.0 | 10 | 700 | 100 | 2.1 | 2.5 | 10 | 100 | 70 |
| BG5504S (24S) | GaP | Pure Green | WC (C,C) | 20.0 | 40.0 | 20 | 555 | 30 | 2.1 | 2.5 | 20 | 100 | 50 |
| BG5534S (14S) | GaP | Pure Green | CD (W,D) | 5.0 | 8.0 | 20 | 555 | 30 | 2.1 | 2.5 | 20 | 100 | 50 |
| EBG5504S (24S) | GaP | Pure Green | WC (C,C) | 50.0 | 80.0 | 20 | 555 | 30 | 2.1 | 2.5 | 20 | 100 | 50 |
| EBG5534S (14S) | GaP | Pure Green | CD (W,D) | 8.0 | 12.0 | 20 | 555 | 30 | 2.1 | 2.5 | 20 | 100 | 50 |
| PG5524SY | GaP | Green | C.C | 30.0 | 60.0 | 20 | 565 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| PG5534SY | GaP | Green | C.D | 12.0 | 24.0 | 20 | 565 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| PY5504S (24S) | GaP | Yellow | WC (C,C) | 40.0 | 80.0 | 20 | 570 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| PY5534S (14S) | GaP | Yellow | CD (W,D) | 15.0 | 30.0 | 20 | 570 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| EPY5504S (24S) | GaP | Yellow | WC (C,C) | 80.0 | 160.0 | 20 | 570 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| EPY5534S (14S) | GaP | Yellow | CD (W,D) | 30.0 | 45.0 | 20 | 570 | 30 | 2.1 | 2.5 | 20 | 100 | 40 |
| AY5504S (24S) | GaAsP/ GaP | Yellow | WC (C,C) | 30.0 | 60.0 | 20 | 580 | 30 | 2.2 | 2.5 | 20 | 100 | 40 |
| AY5534S (14S) | GaAsP/ GaP | Yellow | CD (W,D) | 8.0 | 16.0 | 20 | 580 | 30 | 2.2 | 2.5 | 20 | 100 | 40 |
| EAY5504S (24S) | GaAsP/ GaP | Yellow | WC (C,C) | 60.0 | 90.0 | 20 | 580 | 30 | 2.2 | 2.5 | 20 | 100 | 40 |
| EAY5534S (14S) | GaAsP/ GaP | Yellow | CD (W,D) | 16.0 | 24.0 | 20 | 580 | 30 | 2.2 | 2.5 | 20 | 100 | 40 |
| AA5504S (24S) | GaAsP/ GaP | Orange | WC (C,C) | 30.0 | 60.0 | 20 | 605 | 30 | 2.2 | 2.5 | 20 | 100 | 50 |
| AA5534S (14S) | GaAsP/ GaP | Orange | CD (W,D) | 8.0 | 16.0 | 20 | 605 | 30 | 2.2 | 2.5 | 20 | 100 | 50 |
| EAA5504S (24S) | GaAsP/ GaP | Orange | WC (C,C) | 60.0 | 90.0 | 20 | 605 | 30 | 2.2 | 2.5 | 20 | 100 | 50 |
| EAA5543S (14S) | GaAsP/ GaP | Orange | CD (W,D) | 16.0 | 24.0 | 20 | 605 | 30 | 2.2 | 2.5 | 20 | 100 | 50 |

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

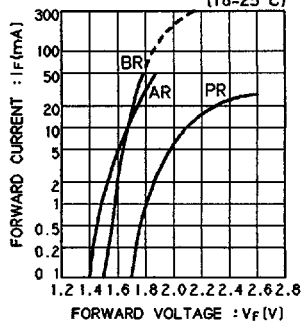
C.D = Color Diffused
W.S.D = White Surface Diffused
C.S.D = Color Surface Diffused

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

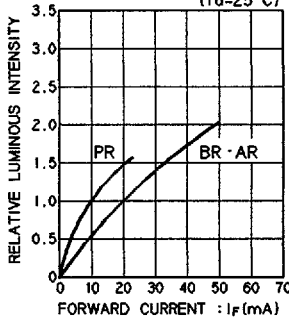
SPATIAL DISTRIBUTION



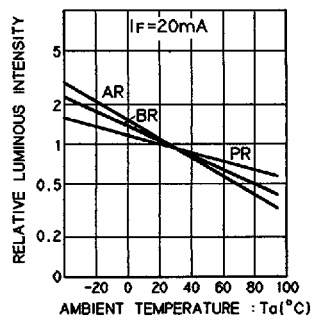
FORWARD CURRENT vs. FORWARD VOLTAGE (Ta=25°C)



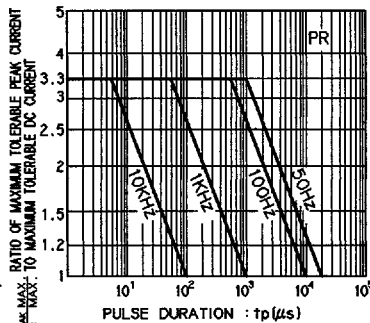
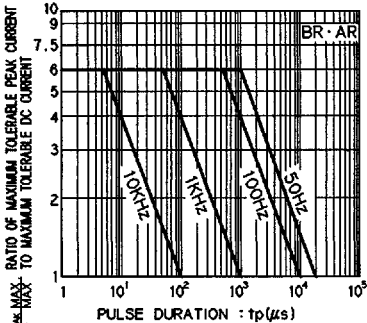
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT (Ta=25°C)



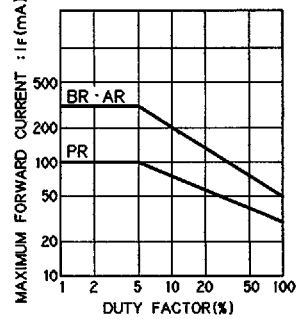
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE (If=20mA)



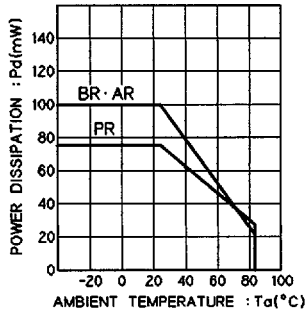
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



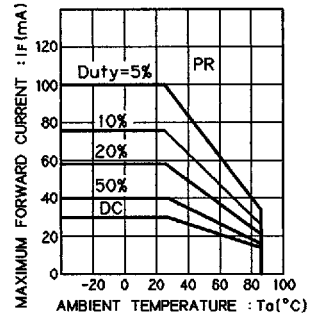
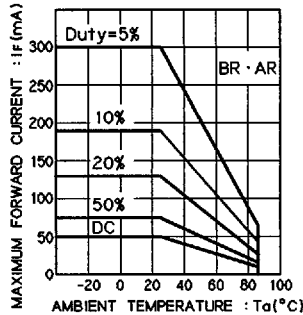
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



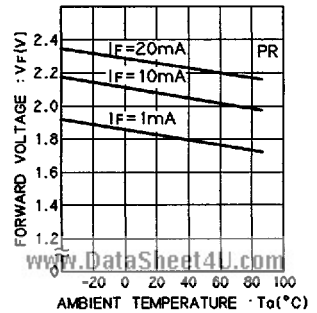
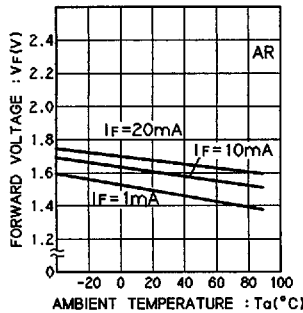
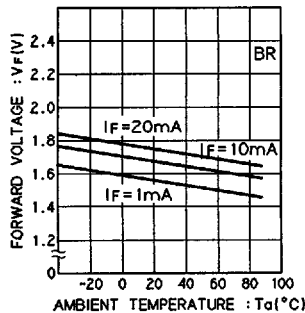
POWER DISSIPATION vs. AMBIENT TEMPERATURE



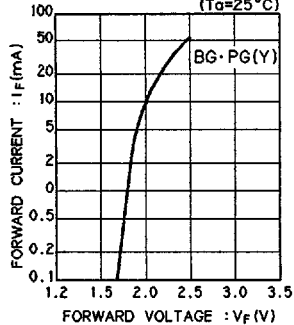
MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



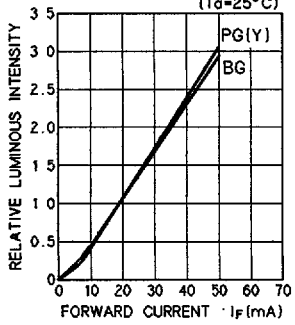
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE



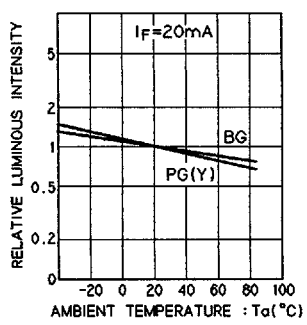
FORWARD CURRENT vs. FORWARD VOLTAGE
($T_a=25^\circ\text{C}$)



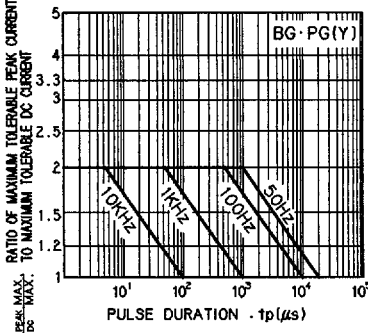
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT
($T_a=25^\circ\text{C}$)



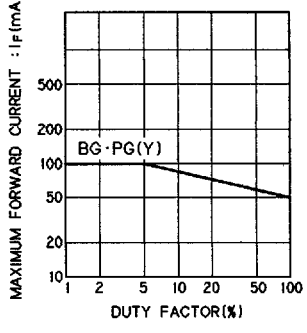
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE



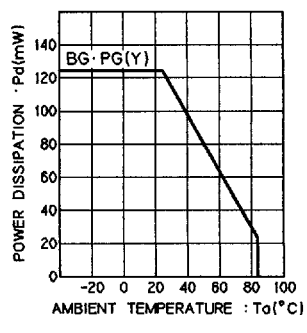
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



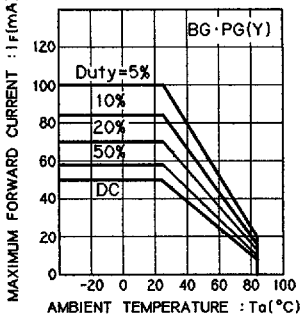
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



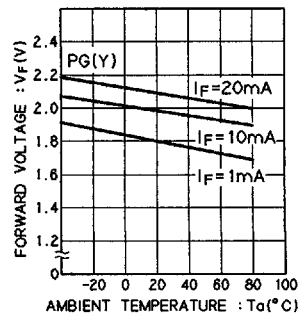
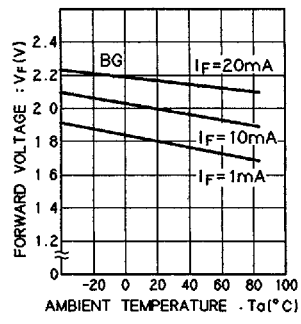
POWER DISSIPATION vs. AMBIENT TEMPERATURE



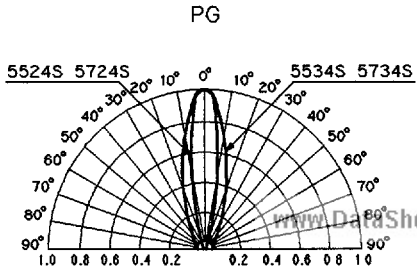
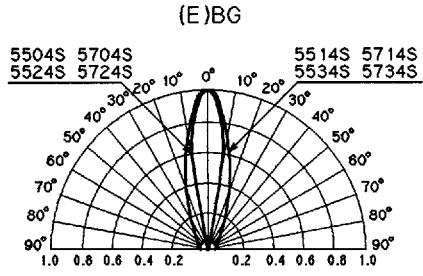
MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



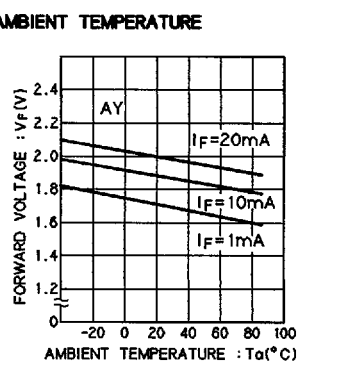
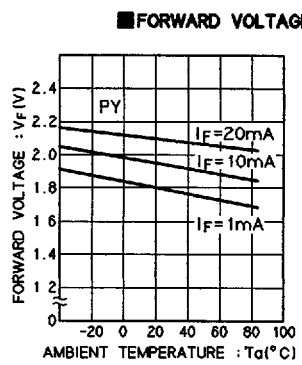
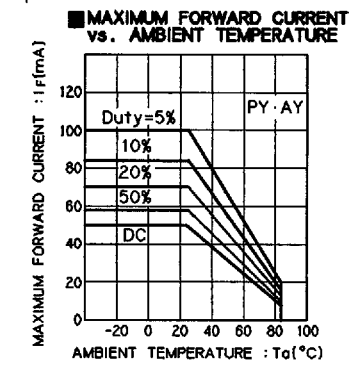
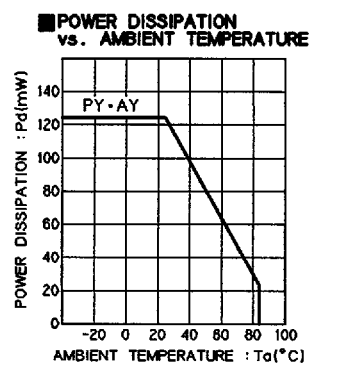
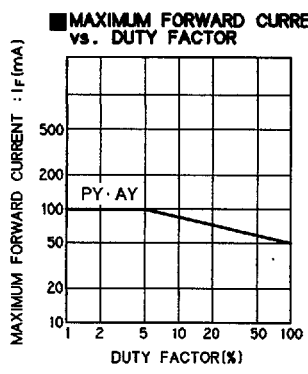
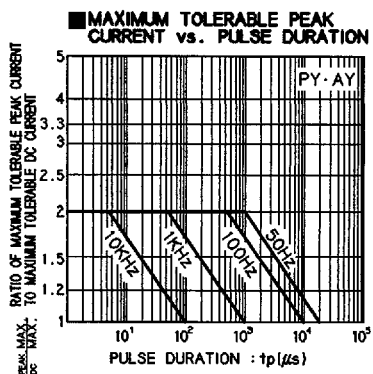
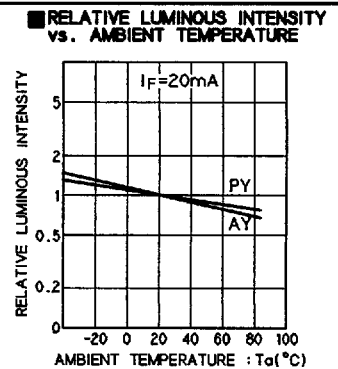
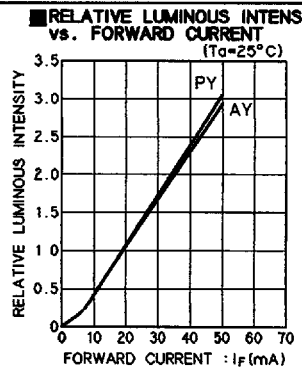
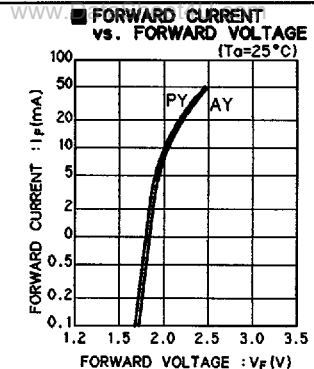
FORWARD VOLTAGE vs. AMBIENT TEMPERATURE



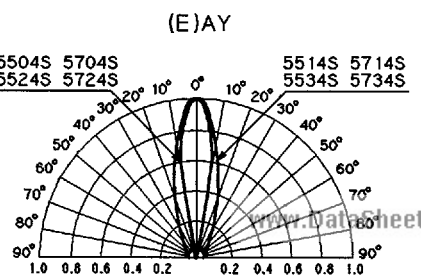
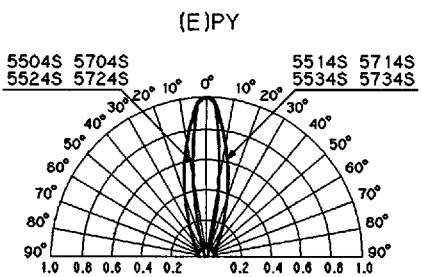
SPATIAL DISTRIBUTION



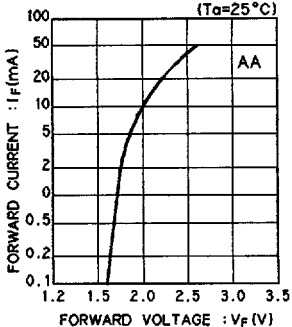
YELLOW



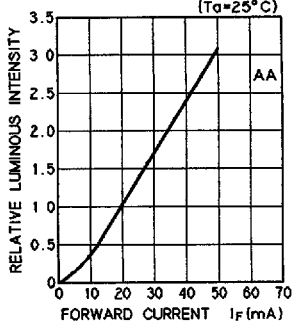
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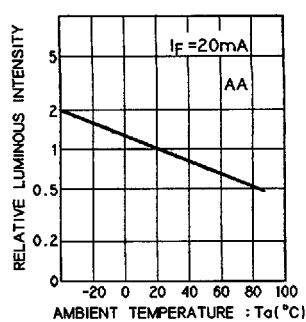
FORWARD CURRENT vs. FORWARD VOLTAGE (Ta=25°C)



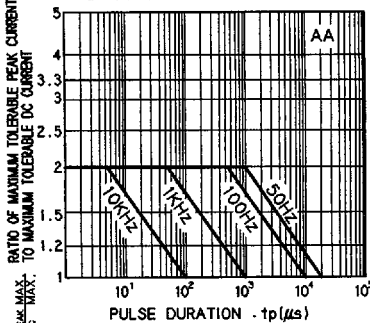
RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT (Ta=25°C)



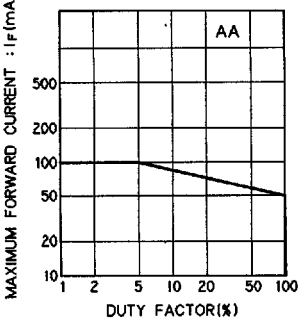
RELATIVE LUMINOUS INTENSITY vs. AMBIENT TEMPERATURE (If=20mA)



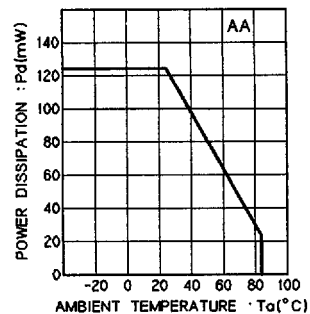
MAXIMUM TOLERABLE PEAK CURRENT vs. PULSE DURATION



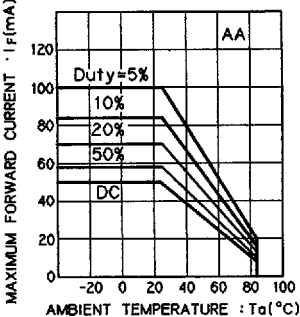
MAXIMUM FORWARD CURRENT vs. DUTY FACTOR



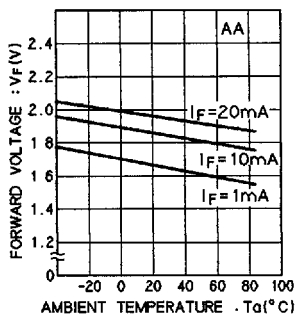
POWER DISSIPATION vs. AMBIENT TEMPERATURE



MAXIMUM FORWARD CURRENT vs. AMBIENT TEMPERATURE



FORWARD VOLTAGE vs. AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

(E)AA

5504S 5704S 5514S 5714S
5524S 5724S 5534S 5734S

