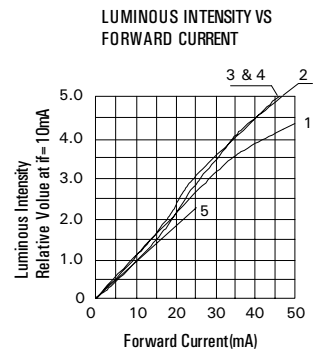
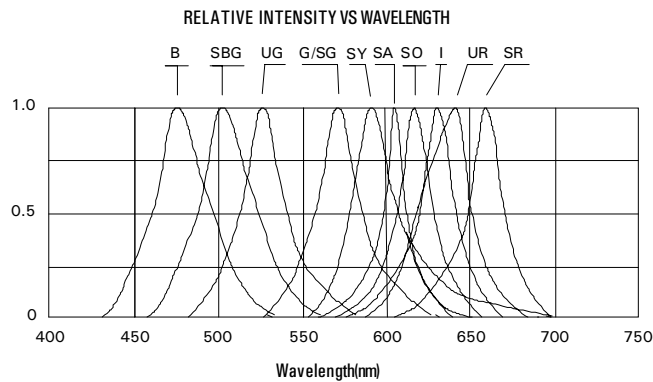
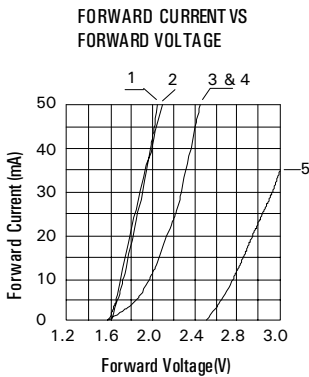


| PART NO. | Common Anode | CA | | | | | | | | | | | | | | |
|---|----------------|----|--|-----------------|---------|--------------|-------------|----------------|-----------------|--|--|--|---------------------------|---------------|----------------|---------|
| | Common Cathode | CC | KLS33I | KLS33 SR | KLS33 G | KLS33 SG | KLS33 SY | KLS33 SA | KLS33 UR | KLS33 SO | KLS33 B/UB | KLS33 BG | KLS33 UG | KLS33 W | | |
| | | | KLS34I | KLS34 SR | KLS34 G | KLS34 SG | KLS34 SY | KLS34 SA | KLS34 UR | KLS34 SO <td>KLS34 B/UB <td>KLS34 BG <td>KLS34 UG <td>KLS34 W</td> </td></td></td> | KLS34 B/UB <td>KLS34 BG <td>KLS34 UG <td>KLS34 W</td> </td></td> | KLS34 BG <td>KLS34 UG <td>KLS34 W</td> </td> | KLS34 UG <td>KLS34 W</td> | KLS34 W | | |
| OPERATING CHARACTERISTICS AT 25°C (Bigger Display may have more than one LED chip per segment) | | | UNITS | SYMBOL | IR | SUPER RED SR | GREEN G | SUPER GREEN SG | SUPER YELLOW SY | SUPER AMBER SA | ULTRA RED UR | SUPER ORANGE SO | BLUE B/UB | BLUE GREEN BG | ULTRA GREEN UG | WHITE W |
| Semiconductor Composition | | | | | AlGaAs | | GaP/AlInGaP | | AllnGaP | | | SiC / GaInN | | | | |
| Forward Voltage - Typical @ 10mA | | | V | V _F | 2.10 | 1.90 | 2.20 | 2.20 | 2.10 | 2.10 | 1.90 | 1.90 | 3.50 | 3.50 | 3.50 | 3.50 |
| Forward Voltage - Maximum @ 20 mA | | | V | V _{FM} | 2.40 | 2.10 | 2.60 | 2.40 | 2.40 | 2.10 | 2.40 | 2.40 | 4.50 | 4.50 | 4.50 | 4.50 |
| Reverse Current @ V _R = 5V | | | μA | I _R | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Peak Emission Wavelength | | | nm | λ _p | 630 | 660 | 568 | 568 | 590 | 610 | 645 | 620 | 470 | 502 | 525 | --- |
| Emission Wavelength Half Width | | | nm | Δλ | 35 | 20 | 30 | 15 | 15 | 15 | 20 | 20 | 25 | 30 | 35 | --- |
| Luminous Intensity per Segment | | | μcd | I _v | 3500 | 6000 | 4000 | 6000 | 7000 | 7500 | 13000 | 13000 | 6000 | 7000 | 17000 | --- |
| ABSOLUTE MAXIMUM RATINGS AT 25°C | | | | | | | | | | | | | | | | |
| Reverse Voltage | | | V | V _R | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Forward Current (avg) | | | mA | I _F | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Peak Forward Current (T<1μs) | | | mA | I _{FS} | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| Operating / Storage Temperature Range | | | -10° C to + 85° C | | | | | | | | | | | | | |
| Lead Soldering Temperature | | | < 260° C for 5 Seconds | | | | | | | | | | | | | |
| Series Resistor to be used per segment | | | : 300 Ohms @ 5V Supply (OR) 50 to 100 Ohms @ 3V Supply | | | | | | | | | | | | | |

ELECTRICAL CHARACTERISTIC CURVES



1. AlGaAs : I, SR

2. GaP : G

3 & 4. AllnGaP : SG, SY, SA, UR, SO

5. GaInN : B, BG, UG, W