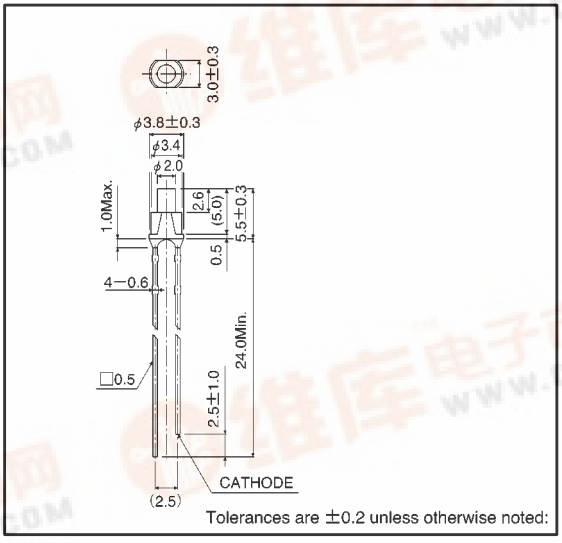
# Small cylindrical LEDs (ϕ2.0 mm)

## SLC-22 Series

The SLC-22 series are ϕ2 mm small cylindrical LEDs with a high luminous efficiency. They are available in four colors and are suitable for use in a wide variety of applications.

●External dimensions (Units: mm)




●Features

1) Small and cylindrical (ϕ2 mm in diameter) with planar light emission.
2) High luminance.
3) Available in four colors : red, orange, yellow, and green.
4) High reliability.

●Selection guide

| Emitting color / Lens | Red | Orange | Yellow | Green |
|---|---|---|---|---|
| Colored diffused | SLC-22VR | SLC-22DU | SLC-22YY | SLC-22MG |

●Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Red | Orange | Yellow | Green | Unit |
|---|---|---|---|---|---|---|
| | | SLC-22VR | SLC-22DU | SLC-22YY | SLC-22MG | |
| Power dissipation | $P_D$ | 60 | 60 | 60 | 75 | mW |
| Forward current | $I_F$ | 20 | 20 | 20 | 25 | mA |
| Peak forward current | $I_{FP}$ | 60* | 60* | 60* | 60* | mA |
| Reverse voltage | $V_R$ | 3 | 3 | 3 | 3 | V |
| Operating temperature | Topr | −25～+85 | | | | ℃ |
| Storage temperature | Tstg | −30～+100 | | | | ℃ |
| Soldering temperature | — | 260℃ 5 seconds maximum | | | | — |

*Pulse width 1ms Duty 1 / 5

●Electrical and optical characteristics (Ta = 25°C)

| Parameter | Symbol | Conditions | Red | | | Orange | | | Yellow | | | Green | | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Forward voltage | $V_F$ | $I_F$=10mA | — | 2.0 | 3.0 | — | 2.0 | 3.0 | — | 2.1 | 3.0 | — | 2.1 | 3.0 | V |
| Reverse current | $I_R$ | $V_R$=3V | — | — | 10 | — | — | 10 | — | — | 10 | — | — | 10 | μA |
| Peak wavelength | $\lambda_P$ | $I_F$=10mA | — | 650 | — | — | 610 | — | — | 585 | — | — | 563 | — | nm |
| Spectral line half width | $\Delta\lambda$ | $I_F$=10mA | — | 40 | — | — | 40 | — | — | 40 | — | — | 40 | — | nm |
| Viewing angle | $2\theta_{1/2}$ | Diffused | — | 115 | — | — | 115 | — | — | 115 | — | — | 115 | — | deg |

●Luminous intensity vs. wavelength

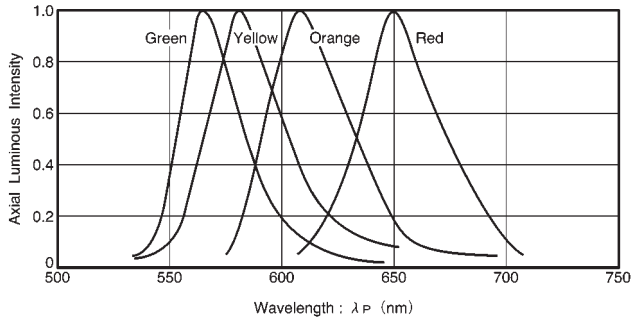



Fig.1

●Luminous intensity

| Color | $\lambda_P$ | Type | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Red | 650 | SLC-22VR | 0.9 | 2.5 | — | mcd |
| Orange | 610 | SLC-22DU | 0.56 | 1.6 | — | mcd |
| Yellow | 585 | SLC-22YY | 0.90 | 2.5 | — | mcd |
| Green | 563 | SLC-22MG | 0.90 | 2.5 | — | mcd |

Note: Measured at $I_F$ = 10 mA

●Directional pattern

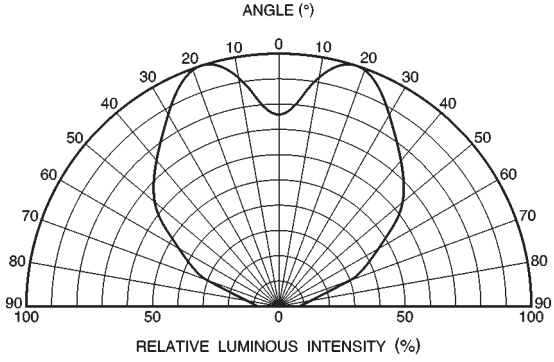



Fig. 2

●Electrical characteristic curves 1 (red)

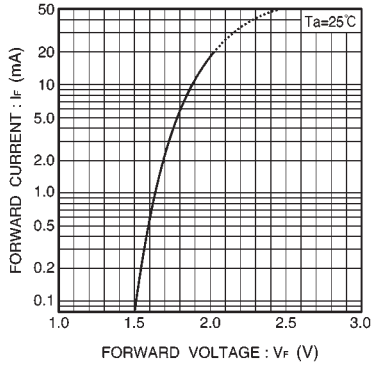



Fig. 3 Forward current vs. forward voltage

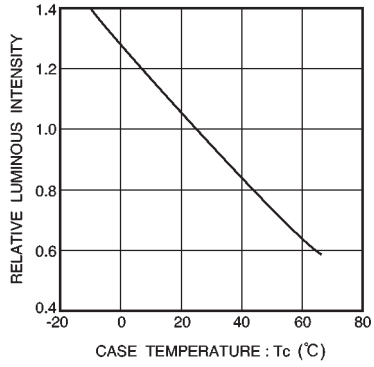



Fig. 4 Luminous intensity vs. case temperature

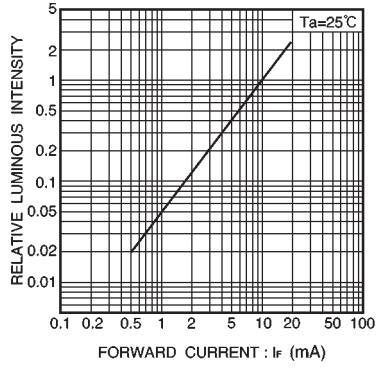



Fig. 5 Luminous intensity vs. forward current

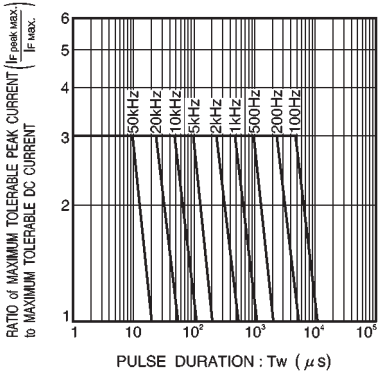



Fig. 6 Maximum tolerable peak current vs. pulse duration

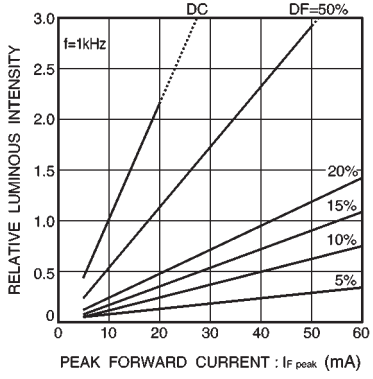



Fig. 7 Luminous intensity vs. peak forward current

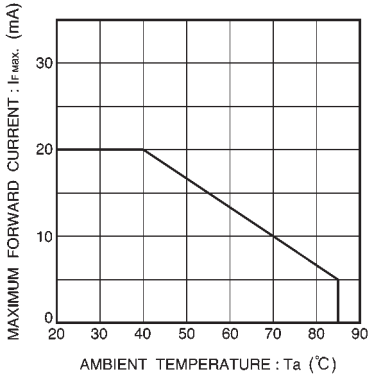



Fig. 8 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 2 (orange)

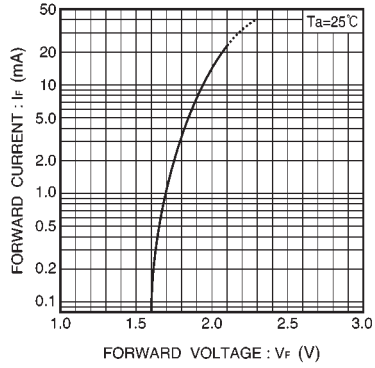



Fig. 9 Forward current vs. forward voltage

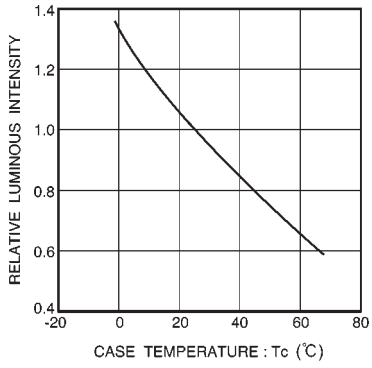



Fig. 10 Luminous intensity vs. case temperature

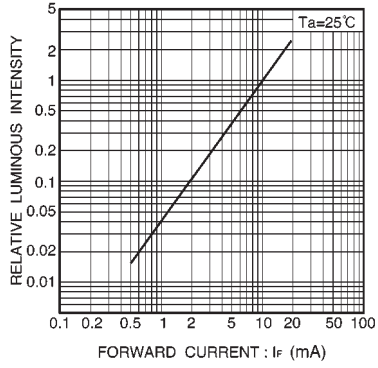



Fig. 11 Luminous intensity vs. forward current

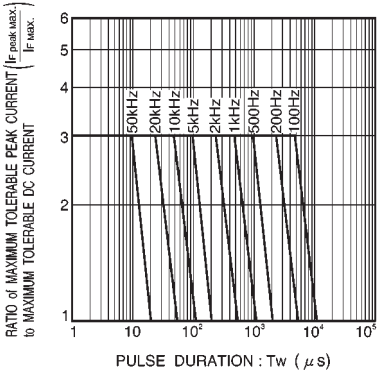



Fig. 12 Maximum tolerable peak current vs. pulse duration

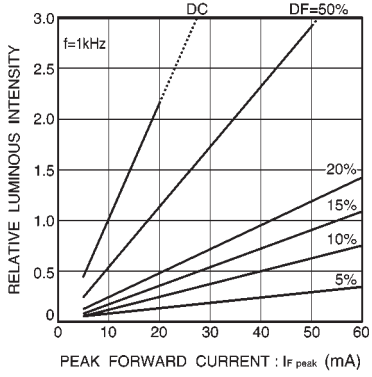



Fig. 13 Luminous intensity vs. peak forward current

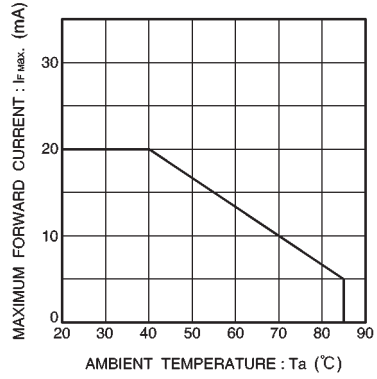



Fig. 14 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 3 (yellow)

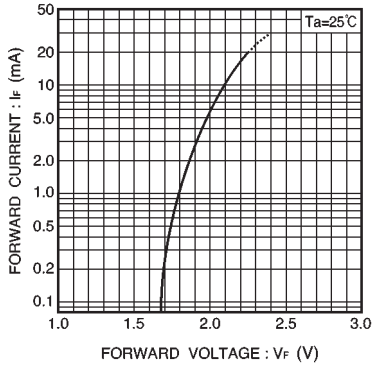



Fig. 15 Forward current vs. forward voltage

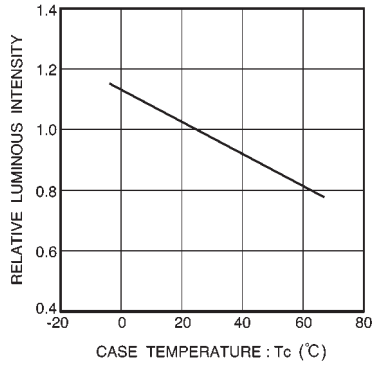



Fig. 16 Luminous intensity vs. case temperature

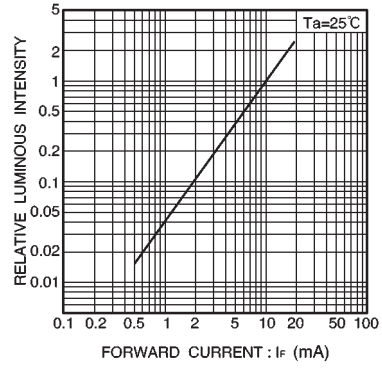



Fig. 17 Luminous intensity vs. forward current

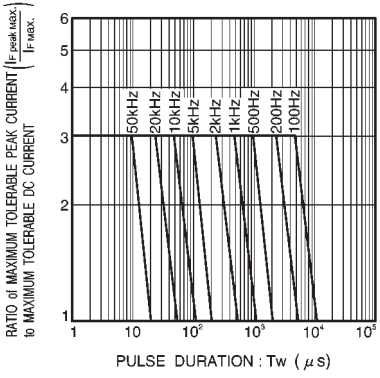



Fig. 18 Maximum tolerable peak current vs. pulse duration

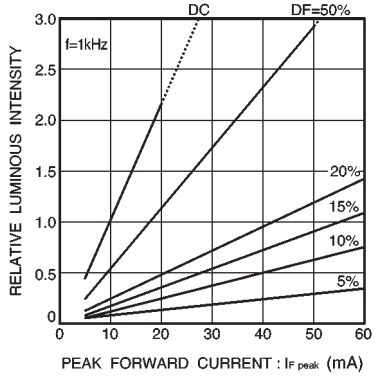



Fig. 19 Luminous intensity vs. peak forward current

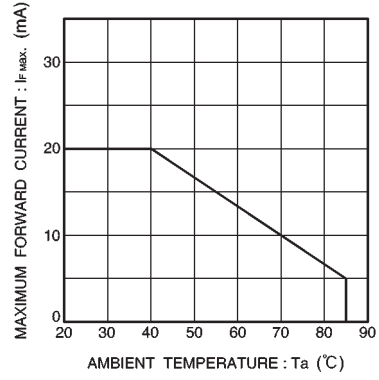



Fig. 20 Maximum forward current vs. ambient temperature

●Electrical characteristic curves 4 (green)

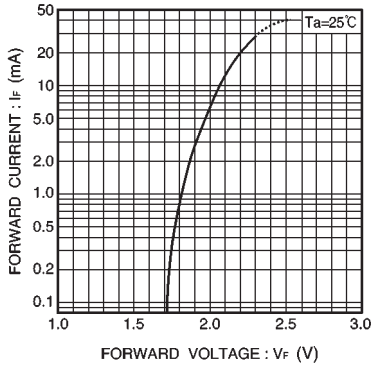



Fig. 21 Forward current vs. forward voltage

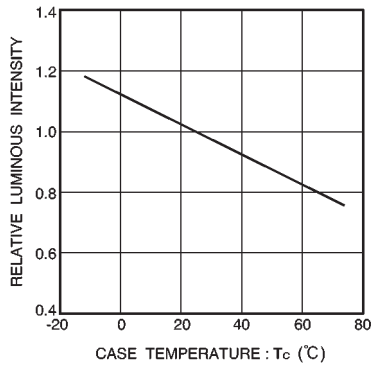



Fig. 22 Luminous intensity vs. case temperature

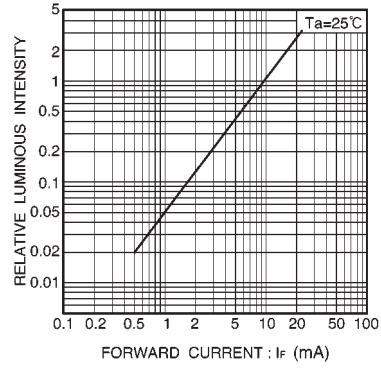



Fig. 23 Luminous intensity vs. forward current

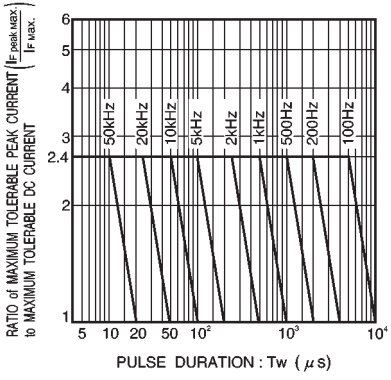



Fig. 24 Maximum tolerable peak current vs. pulse duration

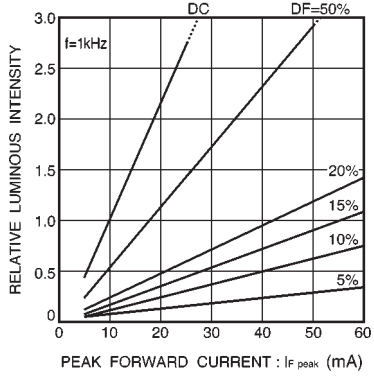



Fig. 25 Luminous intensity vs. peak forward current

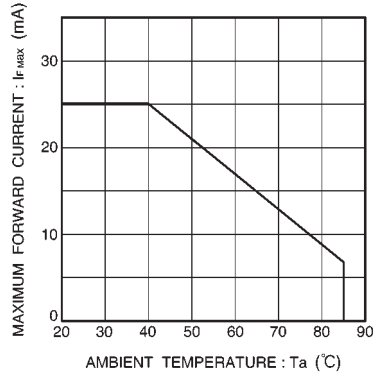



Fig. 26 Maximum forward current vs. ambient temperature