

# Reflecting small LEDs, directly mountable ( $\phi 3.1\text{mm}$ ) (no need for solder modification)

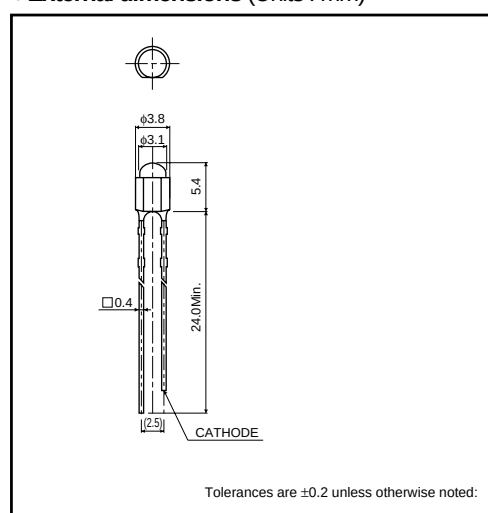
## SLR-343 Series

The SLR-343 series are small 3.1mm LEDs which can be directly mounted on a printed circuit board. Four colors and two lens types are available for a total of eight types, and they are suitable for use in a wide variety of applications.

### ●Features

- 1) Four colors : red, orange, yellow and green.
- 2) Two lens types : Colored diffused and Colored clear.
- 3) High reliability even in case of direct mount.
- 4) Blow-holeless solder type.

### ●External dimensions (Units : mm)



### ●Selection guide

| Emitting color   | Red       | Orange    | Yellow    | Green     |
|------------------|-----------|-----------|-----------|-----------|
| Lens             |           |           |           |           |
| Colored diffused | SLR-343VR | SLR-343DU | SLR-343YY | SLR-343MG |
| Colored clear    | SLR-343VC | SLR-343DC | SLR-343YC | SLR-343MC |

### ●Absolute maximum ratings (Ta = 25°C)

| Parameter             | Symbol           | Red                     | Orange                 | Yellow                 | Green                  | Unit |
|-----------------------|------------------|-------------------------|------------------------|------------------------|------------------------|------|
|                       |                  | SLR-343VR<br>SLR-343VC  | SLR-343DU<br>SLR-343DC | SLR-343YY<br>SLR-343YC | SLR-343MG<br>SLR-343MC |      |
| Power dissipation     | P <sub>D</sub>   | 60                      | 60                     | 60                     | 75                     | mW   |
| Forward current       | I <sub>F</sub>   | 20                      | 20                     | 20                     | 25                     | mA   |
| Peak forward current  | I <sub>FP</sub>  | 60*                     | 60*                    | 60*                    | 60*                    | mA   |
| Reverse voltage       | V <sub>R</sub>   | 3                       | 3                      | 3                      | 3                      | V    |
| Operating temperature | T <sub>opr</sub> | -25~+85                 |                        |                        |                        | °C   |
| Storage temperature   | T <sub>stg</sub> | -30~+100                |                        |                        |                        | °C   |
| Soldering temperature | —                | 260°C 5 seconds maximum |                        |                        |                        | —    |

\*Pulse width 1ms Duty 1 / 5

## LED lamps

## ●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          | $V_F$           | $I_F=10\text{mA}$ | –    | 2.0  | 3.0  | –      | 2.0  | 3.0  | –      | 2.1  | 3.0  | –     | 2.1  | 3.0  | V             |
| Reverse current          | $I_R$           | $V_R=3\text{V}$   | –    | –    | 10   | –      | –    | 10   | –      | –    | 10   | –     | –    | 10   | $\mu\text{A}$ |
| Peak wavelength          | $\lambda_P$     | $I_F=10\text{mA}$ | –    | 650  | –    | –      | 610  | –    | –      | 585  | –    | –     | 563  | –    | nm            |
| Spectral line half width | $\Delta\lambda$ | $I_F=10\text{mA}$ | –    | 40   | –    | –      | 40   | –    | –      | 40   | –    | –     | 40   | –    | nm            |
| Viewing angle            | $2\theta_{1/2}$ | Diffused          | –    | 40   | –    | –      | 40   | –    | –      | 40   | –    | –     | 40   | –    | deg           |
|                          |                 | Transparent       | –    | 40   | –    | –      | 40   | –    | –      | 40   | –    | –     | 40   | –    |               |

## ●Luminous intensity vs. wavelength

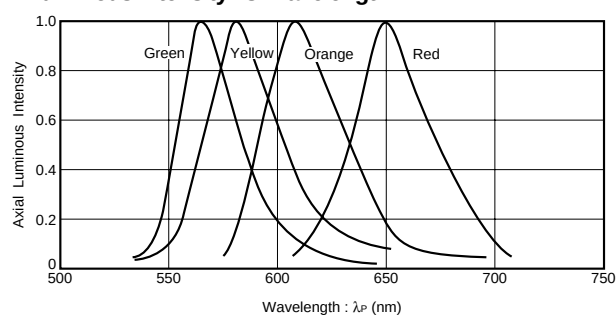


Fig. 1

## ●Luminous intensity

| Color  | $\lambda_P$ | Type      | Min. | Typ. | Max. | Unit |
|--------|-------------|-----------|------|------|------|------|
| Red    | 650         | SLR-343VR | 5.6  | 16.0 | –    | mcd  |
|        |             | SLR-343VC | 9.0  | 25.0 | –    | mcd  |
| Orange | 610         | SLR-343DU | 5.6  | 16.0 | –    | mcd  |
|        |             | SLR-343DC | 9.0  | 25.0 | –    | mcd  |
| Yellow | 585         | SLR-343YY | 3.6  | 10   | –    | mcd  |
|        |             | SLR-343YC | 5.6  | 16.0 | –    | mcd  |
| Green  | 563         | SLR-343MG | 5.6  | 16.0 | –    | mcd  |
|        |             | SLR-343MC | 9.0  | 25.0 | –    | mcd  |

Note: Measured at  $I_F=10\text{mA}$ 

## ●Directional pattern

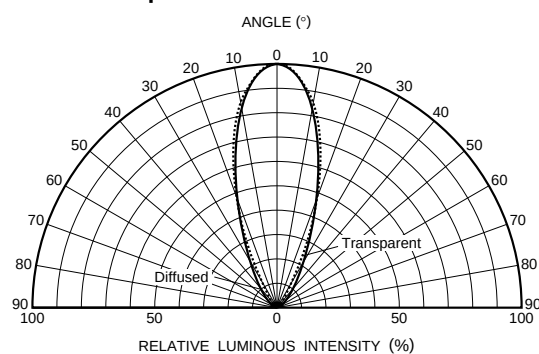


Fig. 2

## LED lamps

## ●Electrical characteristic curves 1 (red)

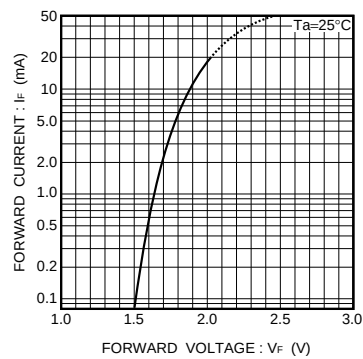


Fig.3 Forward current vs. forward voltage

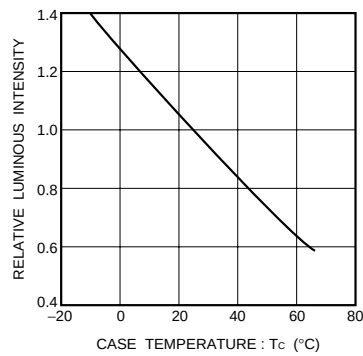


Fig.4 Luminous intensity vs. case temperature

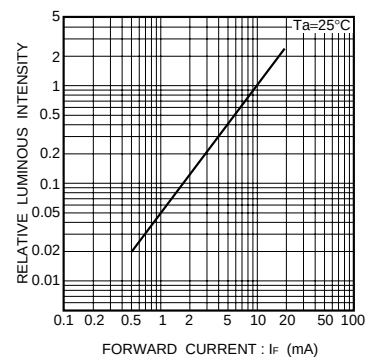


Fig.5 Luminous intensity vs. forward current

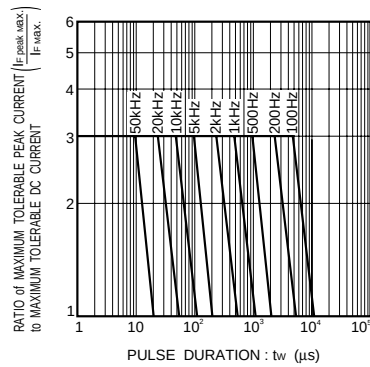


Fig.6 Maximum tolerable peak current vs. pulse duration

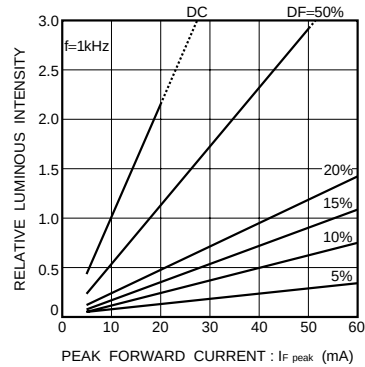


Fig.7 Luminous intensity vs. peak forward current

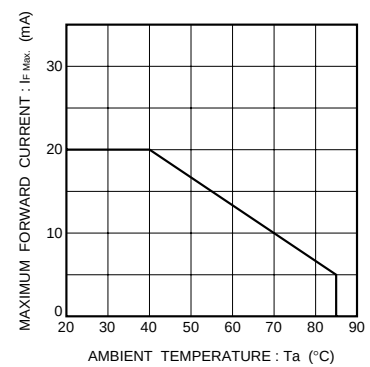


Fig.8 Maximum forward current vs. ambient temperature

## LED lamps

## ●Electrical characteristic curves 2 (orange)

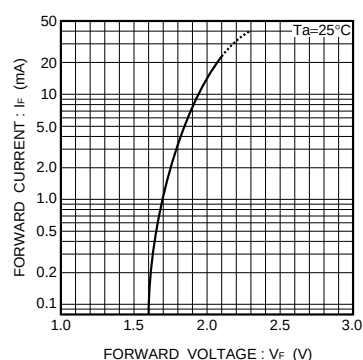


Fig.9 Forward current vs. forward voltage

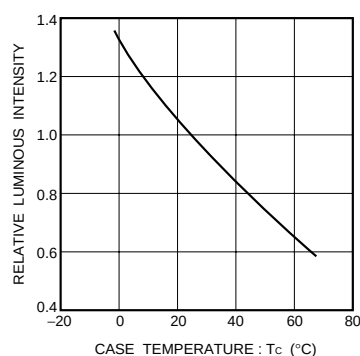


Fig.10 Luminous intensity vs. case temperature

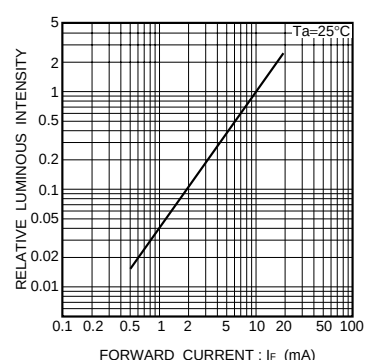


Fig.11 Luminous intensity vs. forward current

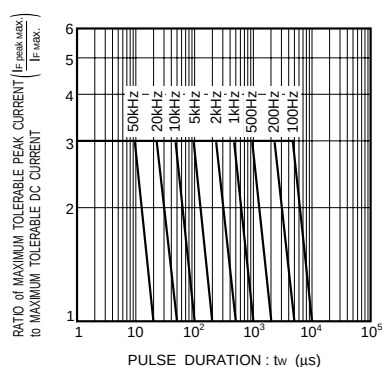


Fig.12 Maximum tolerable peak current vs. pulse duration

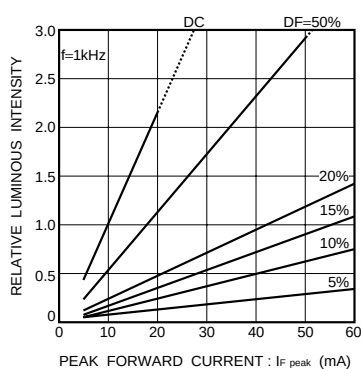


Fig.13 Luminous intensity vs. peak forward current

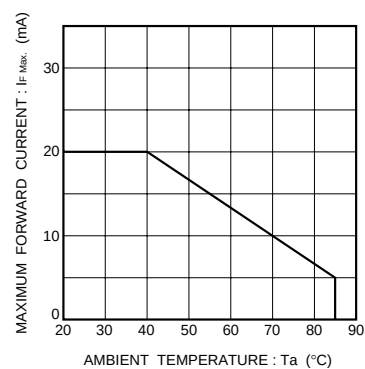


Fig.14 Maximum forward current vs. ambient temperature

## LED lamps

## ●Electrical characteristic curves 3 (yellow)

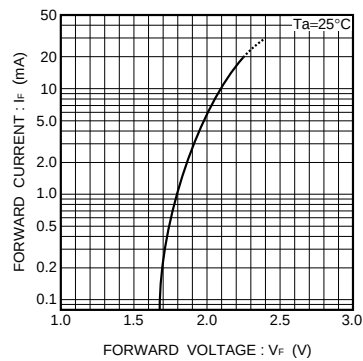


Fig.15 Forward current vs. forward voltage

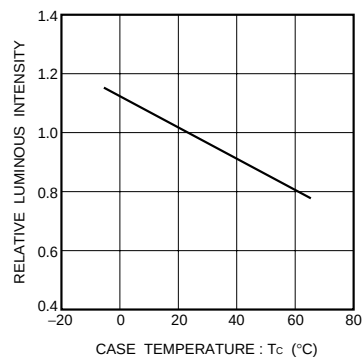


Fig.16 Luminous intensity vs. case temperature

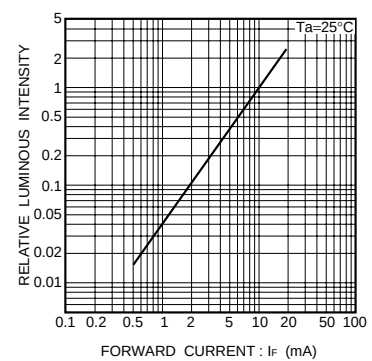


Fig.17 Luminous intensity vs. forward current

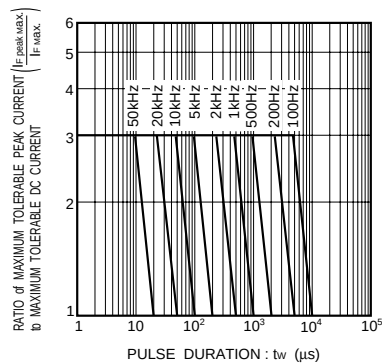


Fig.18 Maximum tolerable peak current vs. pulse duration

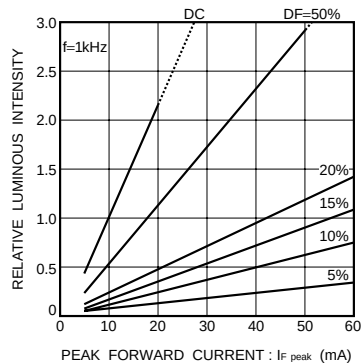


Fig.19 Luminous intensity vs. peak forward current

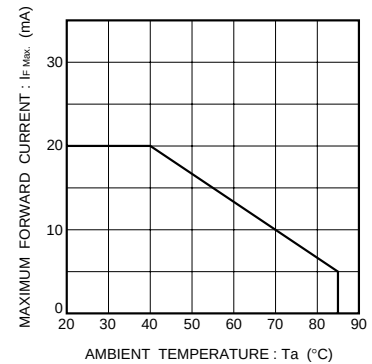


Fig.20 Maximum forward current vs. ambient temperature

## LED lamps

## ●Electrical characteristic curves 4 (green)

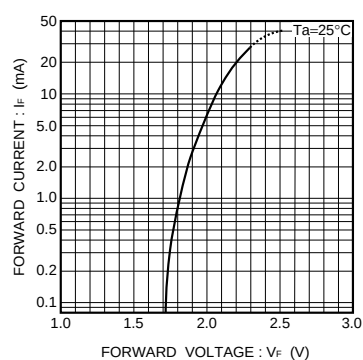


Fig.21 Forward current vs. forward voltage

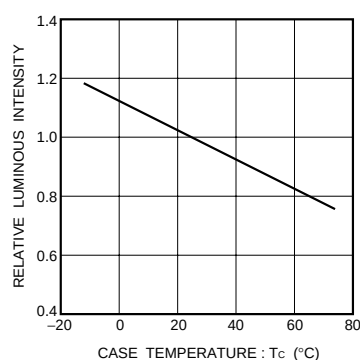


Fig.22 Luminous intensity vs. case temperature

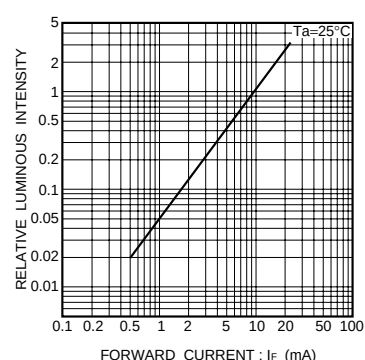


Fig.23 Luminous intensity vs. forward current

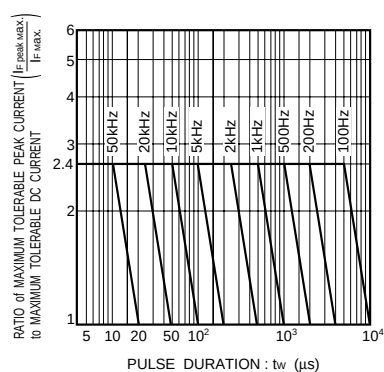


Fig.24 Maximum tolerable peak current vs. pulse duration

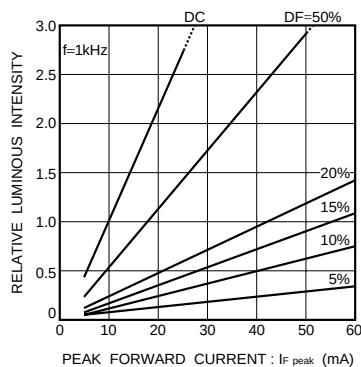


Fig.25 Luminous intensity vs. peak forward current

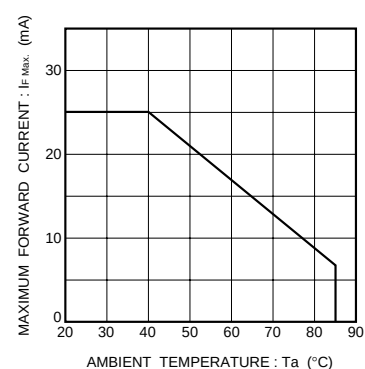


Fig.26 Maximum forward current vs. ambient temperature