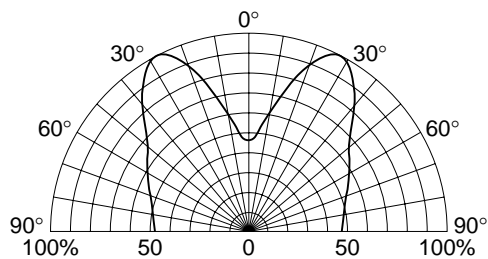


### ■3φ Inverted-Cone LEDs (for lighting-panels)

SEL6013 Series (available as Direct Mount)

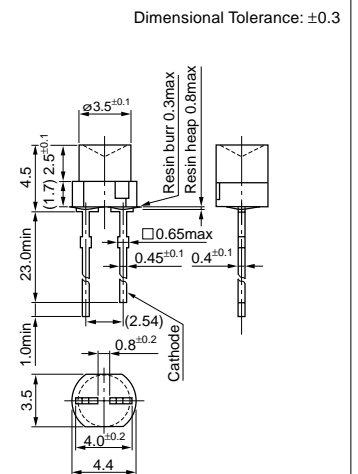
| Part Number | Emitting Color          | Lens Color        | Forward Voltage  |     | Conditions<br>IF (mA) | Luminous Intensity |                       | Peak Wavelength            |                       | Dominant Wavelength        |                       | Spectrum Half Bandwidth        |                       | Chip Material |
|-------------|-------------------------|-------------------|------------------|-----|-----------------------|--------------------|-----------------------|----------------------------|-----------------------|----------------------------|-----------------------|--------------------------------|-----------------------|---------------|
|             |                         |                   | VF<br>(V)<br>TYP | MAX |                       | Iv<br>(mcd)<br>TYP | Conditions<br>IF (mA) | $\lambda_P$<br>(nm)<br>TYP | Conditions<br>IF (mA) | $\lambda_d$<br>(nm)<br>TYP | Conditions<br>IF (mA) | $\Delta\lambda$<br>(nm)<br>TYP | Conditions<br>IF (mA) |               |
| SEL6413E    | Green                   | Transparent green | 2.0              | 2.5 | 10                    | 14                 | 20                    | 560                        | 10                    | 567                        | 10                    | 20                             | 10                    | GaP           |
| SEL6413E-TG | Deep green              | Transparent green | 2.0              | 2.5 | 10                    | 6.0                | 20                    | 558                        | 10                    | 564                        | 10                    | 20                             | 10                    | GaP           |
| SEL6513C    | Pure green              | Water clear       | 2.0              | 2.5 | 10                    | 5.0                | 20                    | 555                        | 10                    | 559                        | 10                    | 20                             | 10                    | GaP           |
| SELU6213C-S | Ultrahigh<br>luminosity | Red               | 2.0              | 2.5 | 20                    | 30                 | 20                    | 632                        | 20                    | 624                        | 20                    | 20                             | 20                    | AlGaInP       |
| SELS6B13W   | Light amber             | Diffused white    | 2.0              | 2.5 | 20                    | 60                 | 20                    | 600                        | 20                    | 596                        | 20                    | 15                             | 20                    | AlGaInP       |

#### Directional Characteristics (representative example)



#### External Dimensions

(Unit: mm)



Product Mass: Approx. 0.13 g

## 5-1 Visible Light LEDs

### Absolute Maximum Ratings

#### ●Visible Light Unicolor Lamp

| Parameter        | Unit  | Ratings     |       |        |         |            | Conditions       |
|------------------|-------|-------------|-------|--------|---------|------------|------------------|
|                  |       | GaP         | GaAsP | GaAlAs | AlGaInP | InGaN      |                  |
| PD               | mW    | 75          |       |        | 120     |            |                  |
| IF               | mA    | 30          |       |        |         |            |                  |
| ΔIF              | mA/°C | -0.45       |       |        |         |            | 25°C or higher   |
| IFP              | mA    | 100         |       |        | 70      |            | f=1kHz, tw≤100μs |
| VR               | V     | 3           |       | 5      |         |            |                  |
| T <sub>op</sub>  | °C    | -30 to +85  |       |        |         | -30 to +80 |                  |
| T <sub>stg</sub> | °C    | -30 to +100 |       |        |         |            |                  |

#### ●Visible Light Bicolor Lamp

| Parameter        | Unit  | Ratings     |       |        |         |            | Conditions                                |
|------------------|-------|-------------|-------|--------|---------|------------|---|
|                  |       | GaP         | GaAsP | GaAlAs | AlGaInP | InGaN      |   |
| PD               | mW    | 75          |       |        | 120     |            | Same conditions for simultaneous lighting |
| IF               | mA    | 30          |       |        |         |            |   |
| ΔIF              | mA/°C | -0.45       |       |        |         |            | 25°C or higher                            |
| IFP              | mA    | 100         |       |        | 70      |            | f=1kHz, tw≤100μs                          |
| VR               | V     | 4           |       | 5      |         |            |   |
| T <sub>op</sub>  | °C    | -30 to +85  |       |        |         | -30 to +80 |   |
| T <sub>stg</sub> | °C    | -30 to +100 |       |        |         |            |   |

#### ●Visible Light Unicolor Surface Mount LEDs

| Parameter        | Unit  | Ratings           |       |        |                  |            | Conditions       |
|------------------|-------|-------------------|-------|--------|------------------|------------|------------------|
|                  |       | GaP               | GaAsP | GaAlAs | AlGaInP          | InGaN      |                  |
| IF               | mA    | 30                |       |        | 20               |            |                  |
| ΔIF              | mA/°C | -0.45             |       |        |                  |            | 25°C or higher   |
| IFP              | mA    | 100 <sup>*1</sup> |       |        | 70 <sup>*2</sup> |            | f=1kHz, tw≤100μs |
| VR               | V     | 3                 |       | 5      |                  |            |                  |
| T <sub>op</sub>  | °C    | -30 to +85        |       |        |                  | -30 to +80 |                  |
| T <sub>stg</sub> | °C    | -30 to +100       |       |        |                  |            |                  |

\*1: 70mA for SEC1005/1007 Series  
\*2: 50mA for SEC1005/1007 Series

#### ●Visible Light Bicolor Surface Mount LEDs

| Parameter        | Unit  | Ratings   |  | Conditions       |
|------------------|-------|---|--|------------------|
|                  |       | SEC2002/2004                                      |  |                  |
| PD               | mW    | 75<br>(Same conditions for simultaneous lighting) |  |                  |
| IF               | mA    | 30  |  |                  |
| ΔIF              | mA/°C | -0.45   |  | 25°C or higher   |
| IFP              | mA    | 70  |  | f=1kHz, tw≤100μs |
| VR               | V     | 4   |  |                  |
| T <sub>op</sub>  | °C    | -30 to +85  |  |                  |
| T <sub>stg</sub> | °C    | -30 to +100                                       |  |                  |

#### ●Visible Light Three Element Surface Mount LEDs

| Parameter        | Unit  | Ratings     |            | Conditions  |
|------------------|-------|-------------|------------|---|
|                  |       | SECT3M02C-S |            |   |
|                  |       | Red         | Green/Blue |   |
| PD               | mW    | 75          | 120        | When one chip lights up<br>(same as green/blue for simultaneous lighting) |
| IF               | mA    | 30          |            |   |
| ΔIF              | mA/°C | -0.45       |            | 25°C or higher  |
| IFP              | mA    | 70          | 50         | f=1kHz, tw≤100μs  |
| VR               | V     | 5           |            |   |
| T <sub>op</sub>  | °C    | -30 to +80  |            |   |
| T <sub>stg</sub> | °C    | -30 to +100 |            |   |