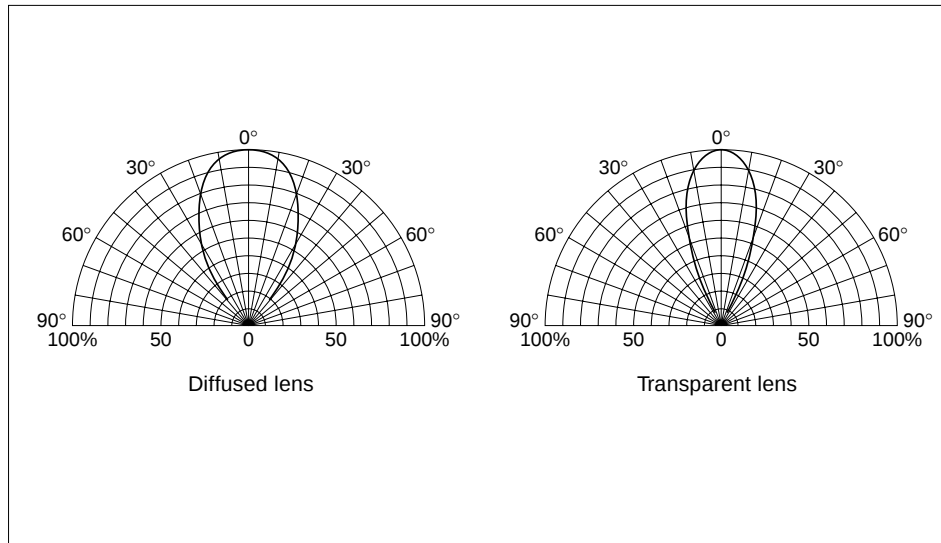


## ■4φ Round Standard LEDs

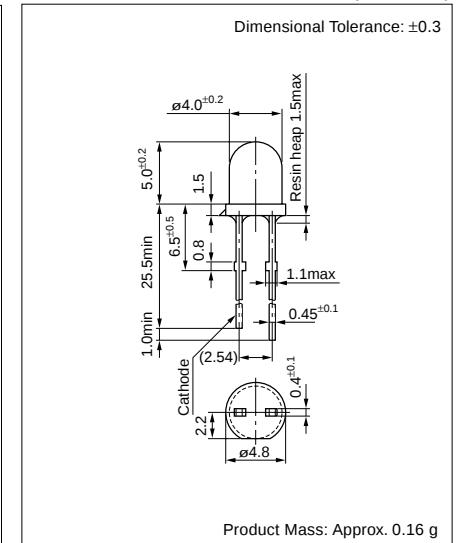
### SEL4010 Series

| Part Number   | Emitting Color       |       | Lens Color         | Forward Voltage |                    | Luminous Intensity |                    | Peak Wavelength |                    | Dominant Wavelength |                    | Spectrum Half Bandwidth |                    | Chip Material |         |
|---------------|----------------------|-------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|---------------------|--------------------|-------------------------|--------------------|---------------|---------|
|               |                      |       |                    | VF (V)          | Conditions IF (mA) | Iv (mcd)           | Conditions IF (mA) | λP (nm)         | Conditions IF (mA) | λd (nm)             | Conditions IF (mA) | Δλ (nm)                 | Conditions IF (mA) |               |         |
|               |                      |       |                    |                 |                    |                    |                    |                 |                    |                     |                    |                         |                    |               | TYP     |
| SEL4110R      | Deep red             |       | Diffused red       | 2.0             | 2.5                | 10                 | 1.7                | 5               | 700                | 10                  | 625                | 10                      | 100                | 10            | GaP     |
| SEL4110S      | Deep red             |       | Transparent red    | 2.0             | 2.5                | 10                 | 2.4                | 5               | 700                | 10                  | 625                | 10                      | 100                | 10            | GaP     |
| SEL4210R      | Red                  |       | Diffused red       | 1.9             | 2.5                | 10                 | 17                 | 20              | 630                | 10                  | 620                | 10                      | 35                 | 10            | GaAsP   |
| SEL4210S      | Red                  |       | Transparent red    | 1.9             | 2.5                | 10                 | 30                 | 20              | 630                | 10                  | 620                | 10                      | 35                 | 10            | GaAsP   |
| SEL4810A      | Amber                |       | Transparent orange | 1.9             | 2.5                | 10                 | 20                 | 10              | 610                | 10                  | 605                | 10                      | 35                 | 10            | GaAsP   |
| SEL4810D      | Amber                |       | Diffused orange    | 1.9             | 2.5                | 10                 | 15                 | 10              | 610                | 10                  | 605                | 10                      | 35                 | 10            | GaAsP   |
| SEL4910A      | Orange               |       | Transparent orange | 1.9             | 2.5                | 10                 | 26                 | 10              | 587                | 10                  | 590                | 10                      | 33                 | 10            | GaAsP   |
| SEL4910D      | Orange               |       | Diffused orange    | 1.9             | 2.5                | 10                 | 16                 | 10              | 587                | 10                  | 590                | 10                      | 33                 | 10            | GaAsP   |
| SEL4710K      | Yellow               |       | Transparent yellow | 2.0             | 2.5                | 10                 | 36                 | 10              | 570                | 10                  | 571                | 10                      | 30                 | 10            | GaP     |
| SEL4710Y      | Yellow               |       | Diffused yellow    | 2.0             | 2.5                | 10                 | 14                 | 10              | 570                | 10                  | 571                | 10                      | 30                 | 10            | GaP     |
| SEL4410E      | Green                |       | Transparent green  | 2.0             | 2.5                | 10                 | 87                 | 20              | 560                | 10                  | 567                | 10                      | 20                 | 10            | GaP     |
| SEL4410G      | Green                |       | Diffused green     | 2.0             | 2.5                | 10                 | 34                 | 20              | 560                | 10                  | 567                | 10                      | 20                 | 10            | GaP     |
| SEL4510C      | Pure green           |       | Water clear        | 2.0             | 2.5                | 10                 | 45                 | 20              | 555                | 10                  | 559                | 10                      | 20                 | 10            | GaP     |
| SELU4410CKT-S | Ultrahigh luminosity | Green | Water clear        | 2.1             | 2.5                | 20                 | 170                | 20              | 560                | 20                  | 562                | 20                      | 12                 | 20            | AlGaInP |

### Directional Characteristics (representative example)



### External Dimensions (Unit: mm)



## 5-1 Visible Light LEDs

### Absolute Maximum Ratings

#### ●Visible Light Unicolor Lamp

| Parameter        | Unit  | Ratings     |       |        |         |            | Conditions       |
|------------------|-------|-------------|-------|--------|---------|------------|------------------|
|                  |       | GaP         | GaAsP | GaAlAs | AlGaInP | InGaN      |                  |
| P <sub>D</sub>   | mW    | 75          |       |        |         | 120        |                  |
| I <sub>F</sub>   | mA    | 30          |       |        |         |            |                  |
| ΔI <sub>F</sub>  | mA/°C | -0.45       |       |        |         |            | 25°C or higher   |
| I <sub>FP</sub>  | mA    | 100         |       |        |         | 70         | f=1kHz, tw≤100μs |
| V <sub>R</sub>   | 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 |                                           |
| P <sub>D</sub>   | mW    | 75          |       |        |         | 120   | Same conditions for simultaneous lighting |
| I <sub>F</sub>   | mA    | 30          |       |        |         |       |                                           |
| ΔI <sub>F</sub>  | mA/°C | -0.45       |       |        |         |       | 25°C or higher                            |
| I <sub>FP</sub>  | mA    | 100         |       |        |         |       | f=1kHz, tw≤100μs                          |
| V <sub>R</sub>   | V     | 4           |       |        | 5       |       |                                           |
| T <sub>op</sub>  | °C    | -30 to +85  |       |        |         |       |                                           |
| T <sub>stg</sub> | °C    | -30 to +100 |       |        |         |       |                                           |

#### ●Visible Light Unicolor Surface Mount LEDs

| Parameter        | Unit  | Ratings           |       |        |         |                  | Conditions       |
|------------------|-------|-------------------|-------|--------|---------|------------------|------------------|
|                  |       | GaP               | GaAsP | GaAlAs | AlGaInP | InGaN            |                  |
| I <sub>F</sub>   | mA    | 30                |       |        |         | 20               |                  |
| ΔI <sub>F</sub>  | mA/°C | -0.45             |       |        |         | -0.27            | 25°C or higher   |
| I <sub>FP</sub>  | mA    | 100 <sup>*1</sup> |       |        |         | 70 <sup>*2</sup> | f=1kHz, tw≤100μs |
| V <sub>R</sub>   | 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                                          |                  |
|           |       | (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                                           |                  |
| Top       | °C    | −30 to +85                                  |                  |
| Tstq      | °C    | −30 to +100                                 |                  |

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

| Parameter        | Unit  | Ratings     |            | Conditions                                                                |
|------------------|-------|-------------|------------|---------------------------------------------------------------------------|
|                  |       | SECT3M02C-S |            |                                                                           |
|                  |       | Red         | Green/Blue |                                                                           |
| P <sub>D</sub>   | mW    | 75          | 120        | When one chip lights up<br>(same as green/blue for simultaneous lighting) |
| I <sub>F</sub>   | mA    | 30          |            |                                                                           |
| ΔI <sub>F</sub>  | mA/°C | −0.45       |            | 25°C or higher                                                            |
| I <sub>FP</sub>  | mA    | 70          | 50         | f=1kHz, t <sub>w</sub> ≤100μs                                             |
| V <sub>R</sub>   | V     | 5           |            |                                                                           |
| T <sub>op</sub>  | °C    | −30 to +80  |            |                                                                           |
| T <sub>sta</sub> | °C    | −30 to +100 |            |                                                                           |