

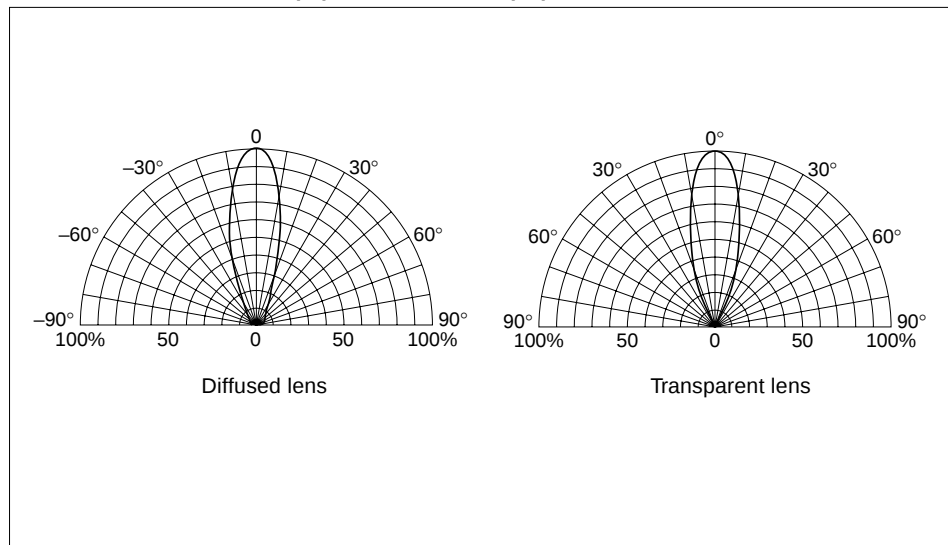
### ■5ø Round Narrow Viewing Angle LEDs

### SEL1050M Series (available as Direct Mount)

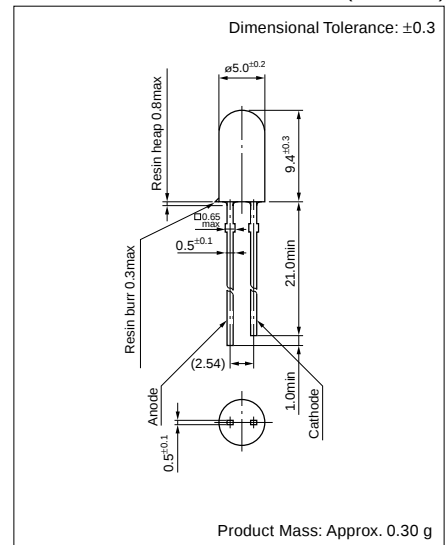
| Part Number  | Emitting Color       | Lens Color         | Forward Voltage |     |                    | Luminous Intensity |                    | Peak Wavelength |                    | Dominant Wavelength |                    | Spectrum Half Bandwidth |                    | Chip Material |
|--------------|----------------------|--------------------|-----------------|-----|--------------------|--------------------|--------------------|-----------------|--------------------|---------------------|--------------------|-------------------------|--------------------|---------------|
|              |                      |                    | VF (V)          |     | Conditions IF (mA) | Iv (mcd) TYP       | Conditions IF (mA) | λP (nm) TYP     | Conditions IF (mA) | λd (nm) TYP         | Conditions IF (mA) | Δλ (nm) TYP             | Conditions IF (mA) |               |
|              |                      |                    | TYP             | MAX |                    |                    |                    |                 |                    |                     |                    |                         |                    |               |
| SEL1250RM    | Red                  | Diffused red       | 1.9             | 2.5 | 10                 | 48                 | 20                 | 630             | 10                 | 620                 | 10                 | 35                      | 10                 | GaAsP         |
| SEL1250SM    | Red                  | Transparent red    | 1.9             | 2.5 | 10                 | 75                 | 20                 | 630             | 10                 | 620                 | 10                 | 35                      | 10                 | GaAsP         |
| SEL1850AM    | Amber                | Transparent orange | 1.9             | 2.5 | 10                 | 90                 | 20                 | 610             | 10                 | 605                 | 10                 | 35                      | 10                 | GaAsP         |
| SEL1850DM    | Amber                | Diffused orange    | 1.9             | 2.5 | 10                 | 60                 | 20                 | 610             | 10                 | 605                 | 10                 | 35                      | 10                 | GaAsP         |
| SEL1950KM    | Orange               | Transparent orange | 1.9             | 2.5 | 10                 | 96                 | 20                 | 587             | 10                 | 590                 | 10                 | 33                      | 10                 | GaAsP         |
| SEL1450EKM   | Green                | Transparent green  | 2.0             | 2.5 | 10                 | 190                | 20                 | 560             | 10                 | 567                 | 10                 | 20                      | 10                 | GaP           |
| SEL1450GM-YG | Green                | Diffused green     | 2.0             | 2.5 | 10                 | 120                | 20                 | 560             | 10                 | 567                 | 10                 | 20                      | 10                 | GaP           |
| SEL1550CM    | Pure green           | Water clear        | 2.0             | 2.5 | 10                 | 72                 | 20                 | 555             | 10                 | 559                 | 10                 | 20                      | 10                 | GaP           |
| SEL1E50CM-S  | Blue                 | Water clear        | 4.0             | 4.6 | 10                 | 80                 | 10                 | 430             | 10                 | 466                 | 10                 | 65                      | 10                 | GaN           |
| SELU1250CM   | Ultrahigh luminosity | Red                | 2.0             | 2.5 | 20                 | 900                | 20                 | 635             | 20                 | 625                 | 20                 | 15                      | 20                 | AlGaInP       |
| SELT1D50CM-S |                      | Pure green         | 3.3             | 4.0 | 20                 | 6500               | 20                 | 512             | 20                 | 520                 | 20                 | 35                      | 20                 | InGaN         |
| SELT1E50CM-S |                      | Blue               | Water clear     | 3.3 | 4.0                | 20                 | 2000               | 20              | 460                | 20                  | 465                | 20                      | 25                 | 20            |

\* Mass production in preparation

### 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                                  |                  |
| Tstg      | °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           |            |                                                                           |
| Top       | °C    | −30 to +80  |            |                                                                           |
| Tsta      | °C    | −30 to +100 |            |                                                                           |