

# Infrared LED

## L2204/L2402/L3458 series

4-pin plastic package, infrared LED



### Features

- High radiant output power
- High reliability
- Long life

### Applications

- Optical switches
- Automatic control systems

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

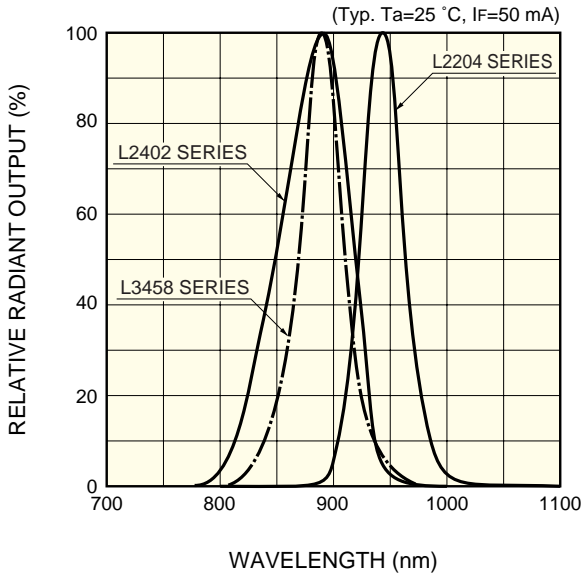
| Parameter             | Symbol | Condition                           | Value       | Unit |
|-----------------------|--------|-------------------------------------|-------------|------|
| Forward current       | IF     |                                     | 65          | mA   |
| Reverse voltage       | VR     |                                     | 5           | V    |
| Pulse forward current | IFP    | Pulse width=10 μs<br>Duty ratio=1 % | 1.0         | A    |
| Operating temperature | Topr   |                                     | -25 to +85  | °C   |
| Storage temperature   | Tstg   |                                     | -30 to +100 | °C   |

#### ■ Electrical and optical characteristics (Ta=25 °C)

| Parameter                | Symbol          | Condition            | L2204/-01/-03 |      |      | L2402/-01/-02 |      |      | L3458/-01/-03 |      |      | Unit               |
|--------------------------|-----------------|----------------------|---------------|------|------|---------------|------|------|---------------|------|------|--------------------|
|                          |                 |                      | Min.          | Typ. | Max. | Min.          | Typ. | Max. | Min.          | Typ. | Max. |                    |
| Peak emission wavelength | $\lambda_p$     | IF=50 mA             | 920           | 945  | 970  | 870           | 890  | 920  | 870           | 890  | 920  | nm                 |
| Spectral half width      | $\Delta\lambda$ | IF=50 mA             | -             | 45   | -    | -             | 80   | -    | -             | 50   | -    | nm                 |
| Forward voltage          | VF              | IF=50 mA             | -             | 1.30 | 1.40 | -             | 1.40 | 1.50 | -             | 1.40 | 1.60 | V                  |
| Pulse forward voltage    | VFP             | IF=1 A *1            | -             | 2.3  | 2.6  | -             | 2.8  | 3.4  | -             | 3.0  | 3.6  | V                  |
| Reverse current          | IR              | VR=5 V               | -             | -    | 5    | -             | -    | 5    | -             | -    | 5    | μA                 |
| Radiant flux             | $\phi_e$        | IF=50 mA             | 4.0           | 6.0  | -    | 7.0           | 9.0  | -    | 9.0           | 13.0 | -    | mW                 |
| Radiant illuminance      | PE              | IF=50 mA             | -             | 0.5  | -    | -             | 0.8  | -    | -             | 1.0  | -    | mW/cm <sup>2</sup> |
| Rise time                | tr              | IF=50 mA, 10 to 90 % | -             | 1.2  | 2.0  | -             | 0.45 | 0.7  | -             | 0.45 | 0.7  | μs                 |
| Fall time                | tf              | IF=50 mA, 90 to 10 % | -             | 1.3  | 2.0  | -             | 0.45 | 0.7  | -             | 0.45 | 0.7  | μs                 |

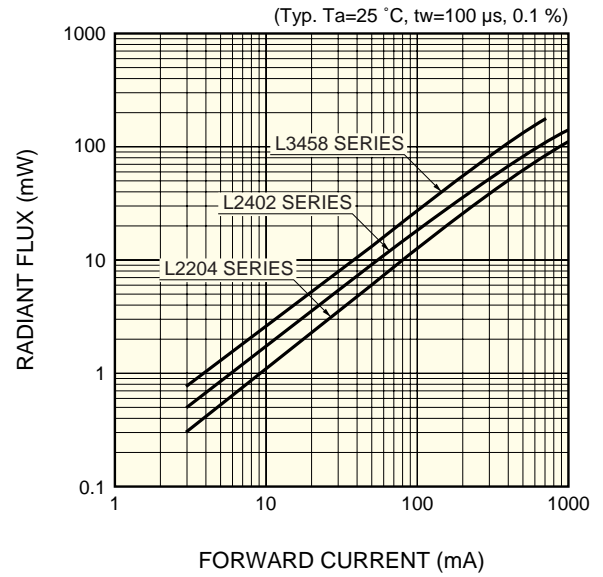
\*1: Pulse width 100 μs, duty ratio 0.1 %

## ■ Emission spectrum



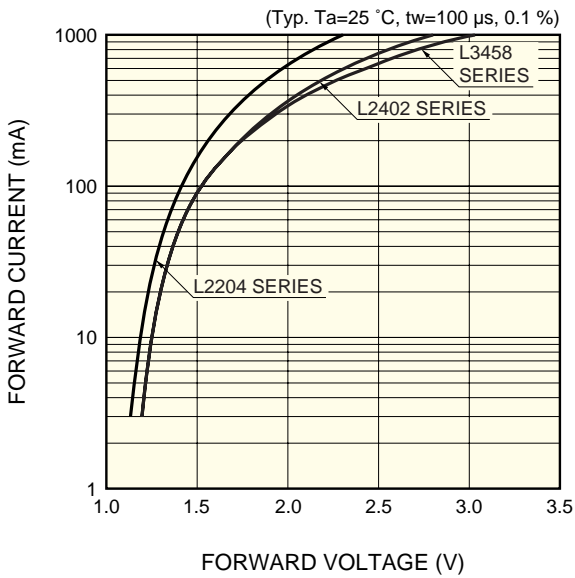
KLEDB0202EA

## ■ Radiant flux vs. forward current



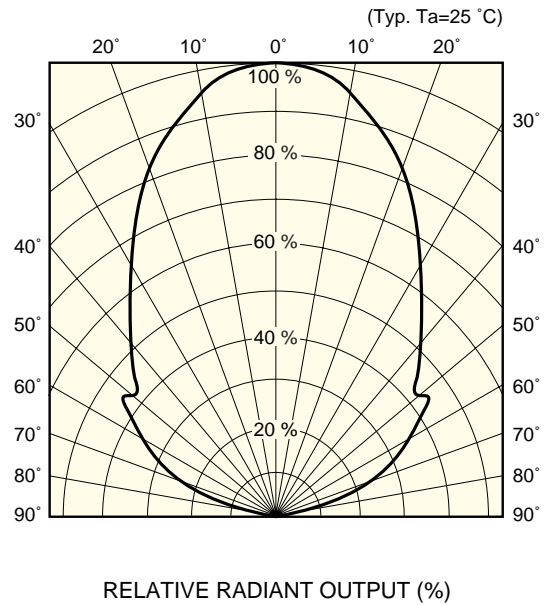
KLEDB0203EA

## ■ Forward current vs. forward voltage



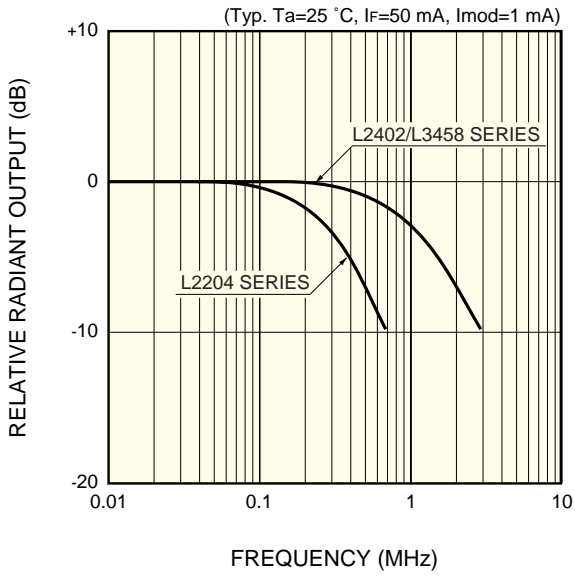
KLEDB0204EB

## ■ Directivity



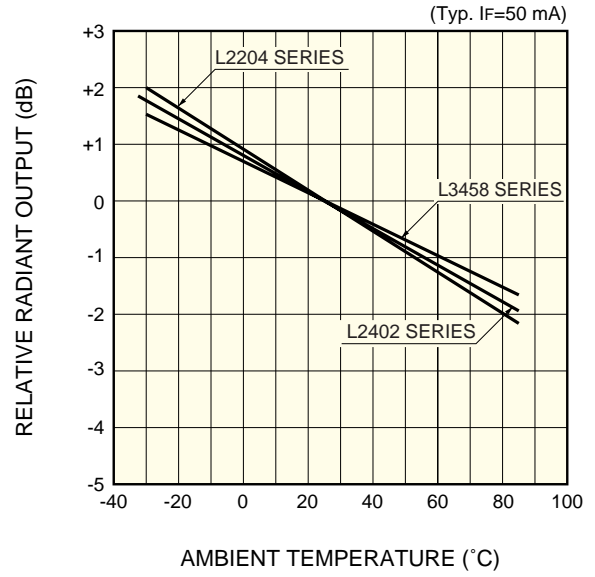
KLEDB0205EA

## Frequency response



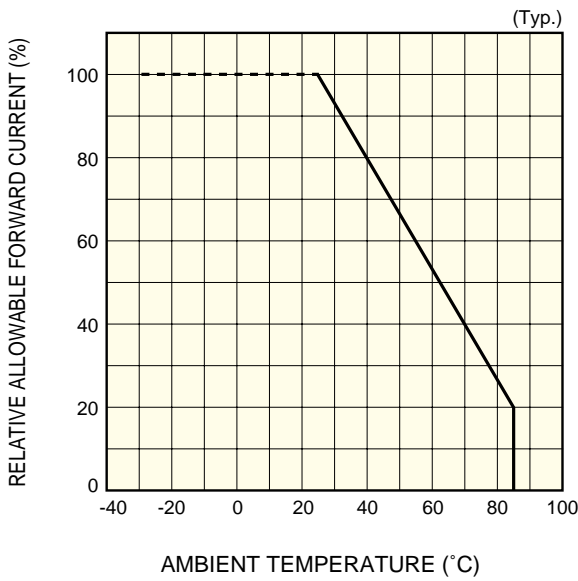
KLEDB0206EA

## Radiant output vs. ambient temperature



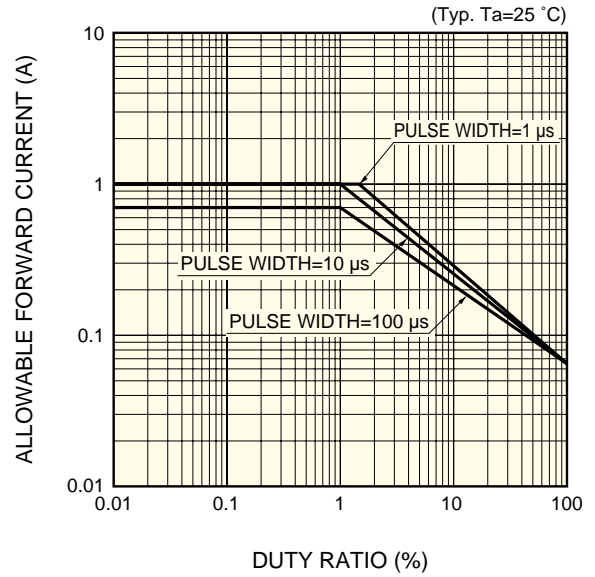
KLEDB0207EA

## Allowable forward current vs. ambient temperature



KLEDB0027EB

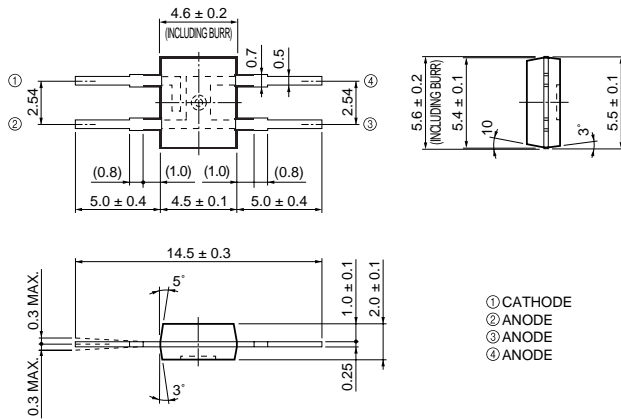
## Allowable forward current vs. duty ratio



KLEDB0208EA

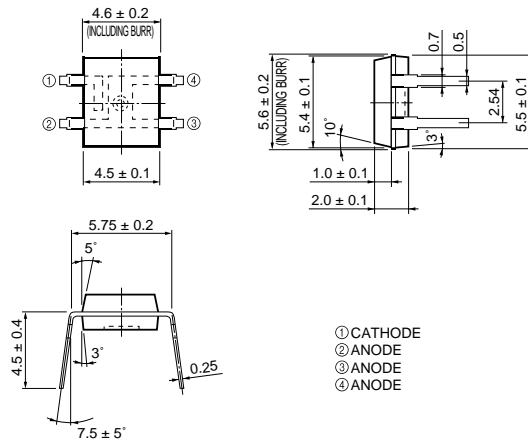
■ Dimensional outlines (unit: mm)

## L2204, L2402, L3458



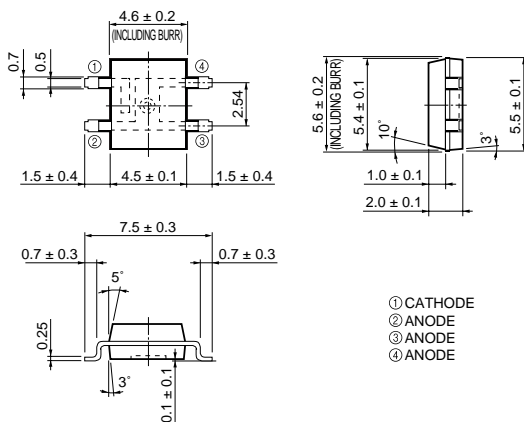
KLEDA0016EB

## L2204-01, L2402-01, L3458-01



KLEDA0017EB

## L2204-03, L2402-02, L3458-03



KLEDA0054EB

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