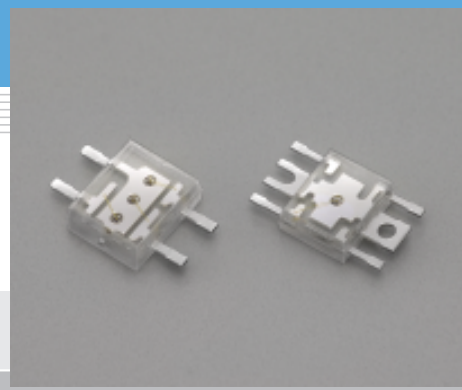


# Infrared LED

## L5128, L5871, L6486

Plastic package LED for camera auto-focus



### Features

- Low forward voltage: 2.4 V ( $I_F=1.0$  A)
- High radiant output power by constant voltage drive
- Small emission spot (reflector size)

### Applications

- Auto-focus

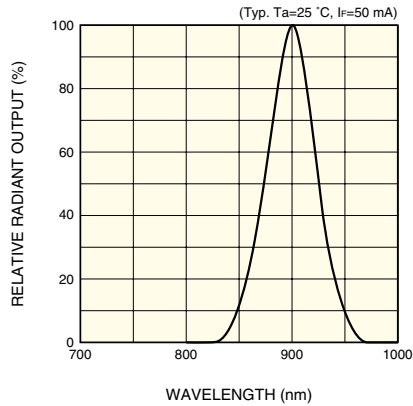
### ■ Absolute maximum ratings ( $T_a=25$ °C)

| Parameter             | Symbol    | Condition                                | Value       | Unit |
|-----------------------|-----------|------------------------------------------|-------------|------|
| Forward current       | $I_F$     |                                          | 80          | mA   |
| Reverse voltage       | $V_R$     |                                          | 3           | V    |
| Pulse forward current | $I_{FP}$  | Pulse width=10 $\mu$ s<br>Duty ratio=1 % | 1.0         | A    |
| Operating temperature | $T_{opr}$ |                                          | -25 to +80  | °C   |
| Storage temperature   | $T_{stg}$ |                                          | -30 to +100 | °C   |

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

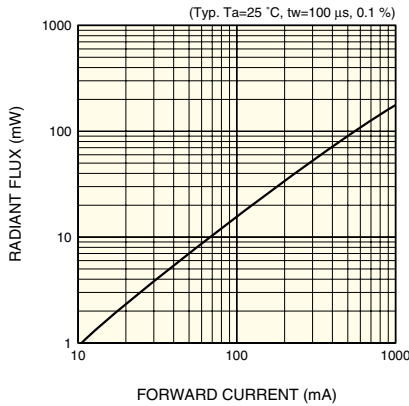
| Parameter                | Symbol          | Condition               | L5128, L5871 |      |      | L6486 |      |      | Unit               |
|--------------------------|-----------------|-------------------------|--------------|------|------|-------|------|------|--------------------|
|                          |                 |                         | Min.         | Typ. | Max. | Min.  | Typ. | Max. |                    |
| Peak emission wavelength | $\lambda_p$     | $I_F=50$ mA             | 880          | 900  | 930  | 880   | 900  | 930  | nm                 |
| Spectral half width      | $\Delta\lambda$ | $I_F=50$ mA             | -            | 60   | -    | -     | 60   | -    | nm                 |
| Forward voltage          | $V_F$           | $I_F=50$ mA             | -            | 1.35 | 1.45 | -     | 1.35 | 1.45 | V                  |
| Pulse forward voltage    | $V_{FP}$        | $I_F=1.0$ A             | -            | 2.4  | 2.8  | -     | 2.4  | 2.8  | V                  |
| Reverse current          | $I_R$           | $V_R=3$ V               | -            | -    | 30   | -     | -    | 30   | $\mu$ A            |
| Radiant flux             | $\phi_e$        | $I_F=50$ mA             | 5.0          | 7.0  | -    | 5.0   | 7.0  | -    | mW                 |
| Radiant illuminance      | $P_E$           | $I_F=50$ mA             | -            | 0.7  | -    | -     | 0.4  | -    | mW/cm <sup>2</sup> |
| Rise time                | $t_r$           | $I_F=50$ mA, 10 to 90 % | -            | 0.45 | 0.7  | -     | 0.45 | 0.7  | $\mu$ s            |
| Fall time                | $t_f$           | $I_F=50$ mA, 90 to 10 % | -            | 0.45 | 0.7  | -     | 0.45 | 0.7  | $\mu$ s            |

## Emission spectrum



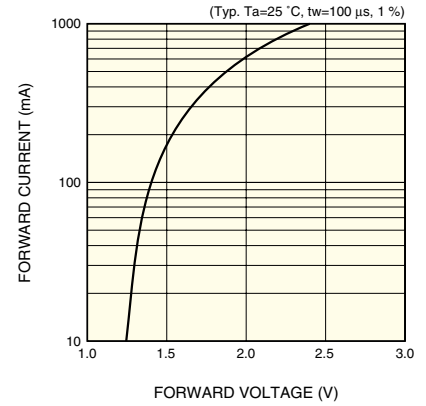
KLEDB0138EB

## Radiant flux vs. forward current



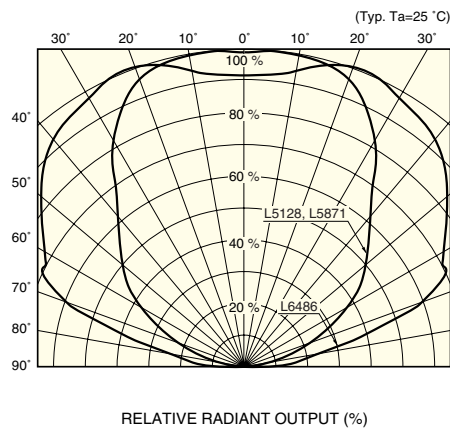
KLEDB0151EA

## Forward current vs. forward voltage



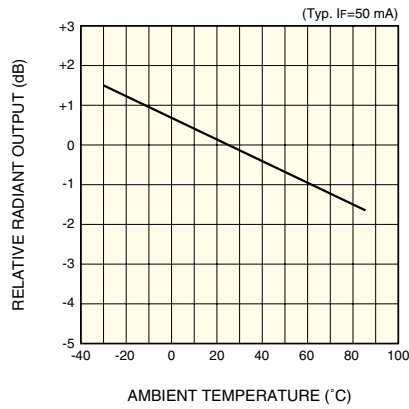
KLEDB0198EA

## Directivity



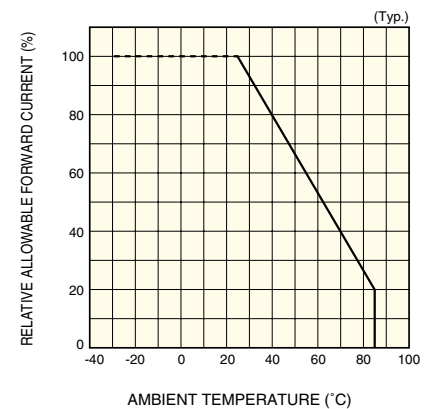
KLEDB0152EA

## Radiant output vs. ambient temperature



KLEDB0200EA

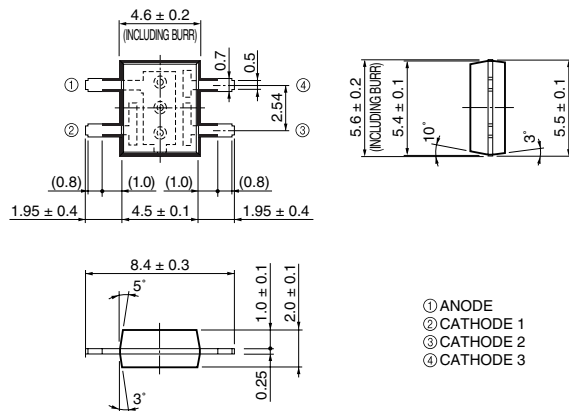
## Allowable forward current vs. ambient temperature



KLEDB0027EB

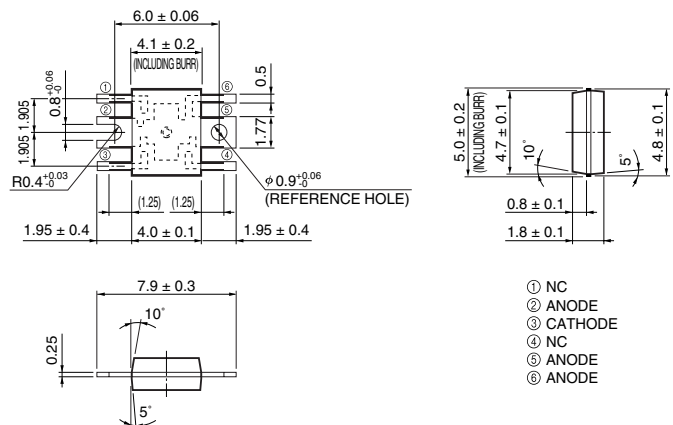
## Dimensional outlines (unit: mm)

### ① L5128



KLEDA0056EA

### ② L5871, L6486



KLEDA0057EA

# HAMAMATSU

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2001 Hamamatsu Photonics K.K.