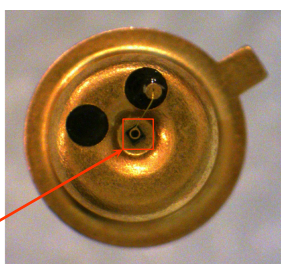


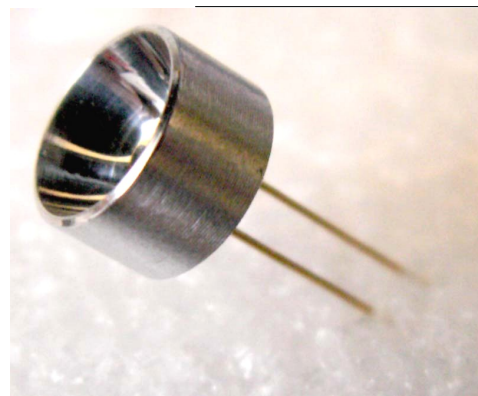


Features

- High reliability
- Spectral Selectivity
- Easy to use in lock-in circuits
- Parabolic reflector



LED chip



Applications

- Measuring equipment
- Gas analysis (H_2O)
- Analytical spectral devices

Options

- Power supply: [LED Driver D-31M](#)

Description

Light emitting diode **LED10HP-PR** demonstrates typical maximum of emitting wavelength of $\lambda_P = 1.05 \mu\text{m}$ ($I = 100 \text{ mA}$, $f = 0.5 \text{ KHz}$, duty cycle: 50%).

The components is mounted in a standard 5.5 mm TO-18 package with parabolic reflector (PR).

Related products: **LED10HP-PR** can be used in optical pair with our [PD24](#) photodiodes.

General characteristics

| Package | Parameter | Symbol | Value | Unit |
|------------------|---------------------------|--------------------------|-------------|--------------------|
| TO-18 with PR | Maximum operating current | I^*_{QCW} | 150 | mA |
| | | I^{**}_{Pulsed} | 1500 | |
| | Soldering temperature | T_s | + 230 | $^{\circ}\text{C}$ |
| | Operating temperature | T_{opr} | - 30...+ 50 | $^{\circ}\text{C}$ |
| | Storage temperature | T_{stg} | - 55...+ 60 | $^{\circ}\text{C}$ |
| | Weight | m | 0.68 | g |
| | Size | D | 9.0 | mm |
| H | | 18.5 | | |

* Quasi-CW mode: Repetition rate: 0.5 kHz, pulse duration: 1 ms, duty cycle: 50%

** Pulse mode: Repetition rate: 0.5 kHz, pulse duration: 2 μs , duty cycle: 0.1%

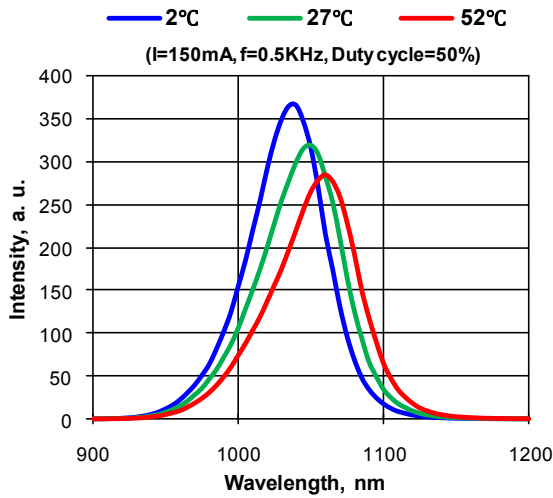
Electrical and optical characteristics

| Parameter | Symbol | Condition | Min | Max | Unit |
|--------------------------|-------------------|-------------------------|------------------------|------|---------------|
| Peak emission wavelength | λ_p | $I_F = 100 \text{ mA}$ | $\lambda_{typ} = 1.05$ | | μm |
| | | | 1.02 | 1.07 | |
| Spectral FWHM | $\Delta\lambda$ | $I_F = 100 \text{ mA}$ | 60 | 80 | nm |
| Pulse optical power | P^*_{QCW} | $I_F = 100 \text{ mA}$ | 3.5 | 6.0 | mW |
| | P^{**}_{Pulsed} | $I_F = 1000 \text{ mA}$ | 20 | 45 | |
| Forward voltage | V_F | (*) | 0.9 | 1.3 | V |
| Switching time | τ | | 10 | 30 | ns |

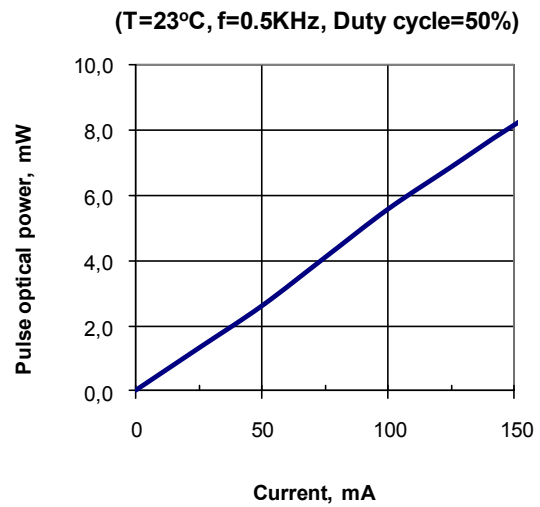
* Quasi-CW mode: repetition rate: 0.5 kHz, pulse duration: 1 ms, duty cycle: 50%, current: 100 mA

** Pulse mode: repetition rate: 0.5 kHz, pulse duration: 2 μs , duty cycle: 0.1%, current: 1 A

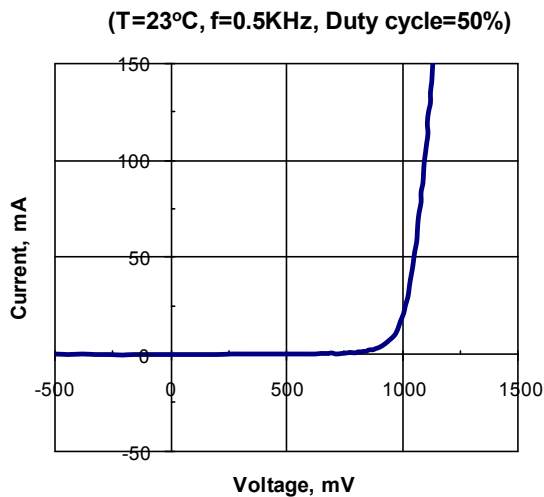
Electroluminescence spectra



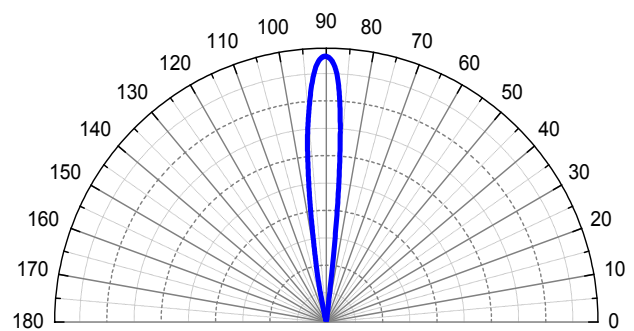
Pulse optical power vs. current



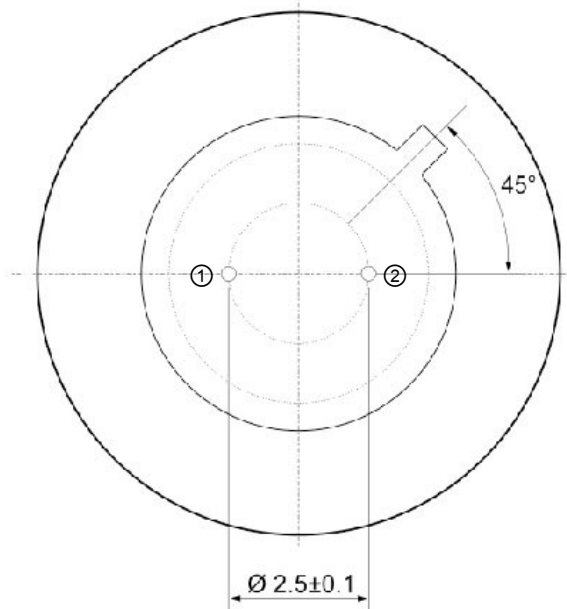
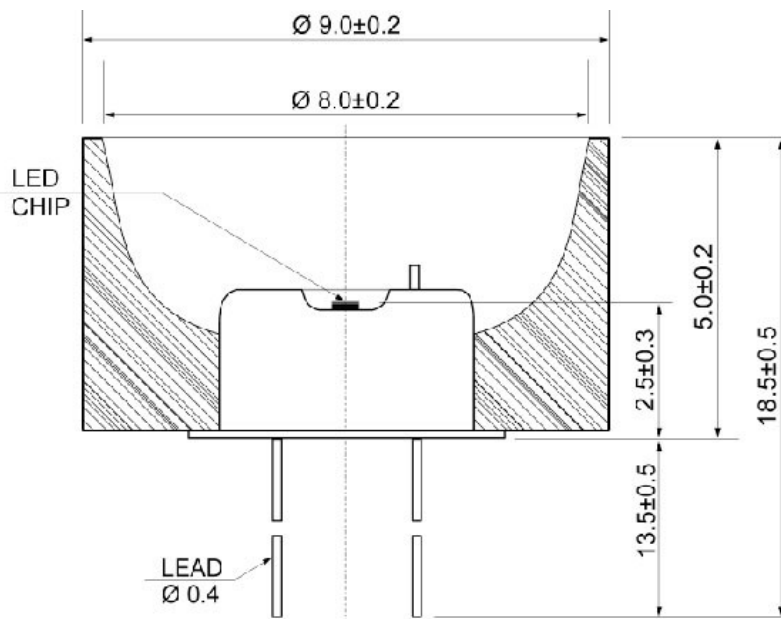
Current vs. voltage



Field pattern



▼ TO-18 package with PR - dimensions (mm)



| Pin | Description |
|----------------|---------------------|
| ① Common to | Diode (cathode)* |
| ② | Diode (anode)* |

* Attention: Pin polarity can be changed.