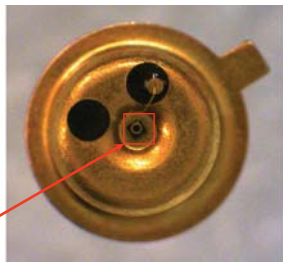
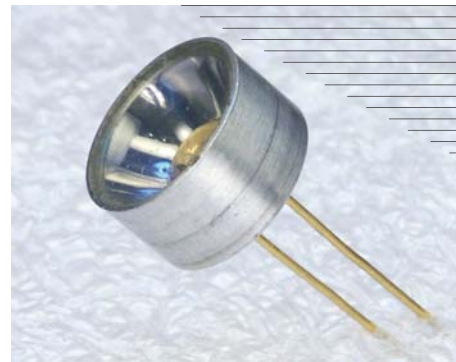




## Features

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



LED chip

## Applications

- Measuring equipment
- Gas analysis (CO, N<sub>2</sub>O, HCN)
- Analytical spectral devices

## Options

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

## Description

Light emitting diode **LED46-PRW** demonstrates typical maximum of emitting wavelength of  $\lambda_P = 4.6 \mu\text{m}$  ( $I = 150 \text{ mA}$ ,  $f = 0.5 \text{ KHz}$ , duty cycle: 50%).

Light emitting diode **LED46-PRW** is equipped with sapphire window. The components is mounted in a standard 5.5 mm TO-18 package with parabolic reflector (PR).

LED heterostructure is grown on InAs substrate.

Related products: **LED46-PRW** can be used in optical pair with our [PD48-05-WS](#) photodiodes.

## General characteristics

Package	Parameter	Symbol	Value	Unit
TO-18 with PRW	Maximum operating current	$I^*_{\text{QCW}}$	220	mA
		$I^{**}_{\text{Pulsed}}$	2000	
	Soldering temperature	$T_s$	+ 230	°C
	Operating temperature	$T_{\text{opr}}$	- 30...+ 50	°C
	Storage temperature	$T_{\text{stg}}$	- 55...+ 60	°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%  
SUNSTAR自动化 http://www.sensor-ic.com/ TEL: 0755-83376549 FAX: 0755-83376182 E-MAIL: szss20@163.com

\*\* Pulse mode: Repetition rate: 0.5 kHz, pulse duration: 2  $\mu\text{s}$ , duty cycle: 0.1%



## Electrical and optical characteristics

Parameter	Symbol	Condition	Min	Max	Unit
Peak emission wavelength	$\lambda_p$	$I_F = 150 \text{ mA}$	$\lambda_{typ} = 4.6$		$\mu\text{m}$
			4.4	4.66	
Spectral FWHM	$\Delta\lambda$	$I_F = 150 \text{ mA}$	800	1000	nm
Pulse optical power	$P^*_{OCW}$	$I_F = 200 \text{ mA}$	4	12	$\mu\text{W}$
	$P^{**}_{Pulsed}$	$I_F = 1000 \text{ mA}$	20	55	
Forward voltage	$V_F$	(*)	0.3	0.8	V
Switching time	$\tau$		10	30	ns

\* Quasi-CW mode: repetition rate: 0.5 kHz, pulse duration: 1 ms, duty cycle: 50%, current: 200 mA

\*\* Pulse mode: repetition rate: 0.5 kHz, pulse duration: 2  $\mu\text{s}$ , duty cycle: 0.1%, current: 1 A



**Electro Optical Components, Inc.**

5460 Skylane Boulevard, Santa Rosa, CA 95403

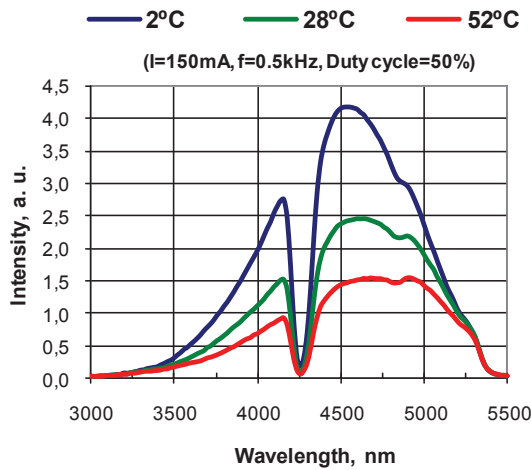
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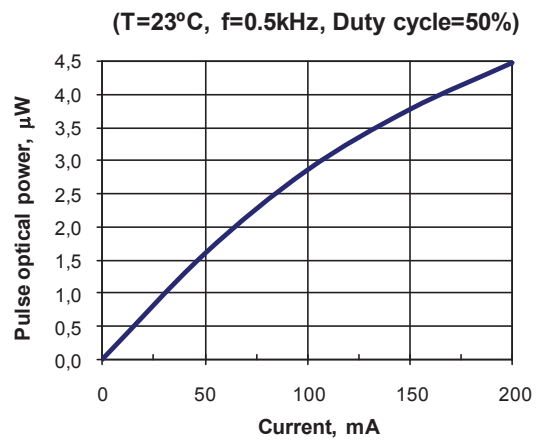
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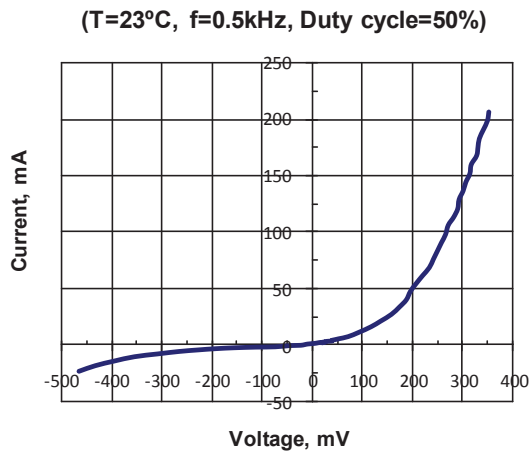
### Electroluminescence spectra



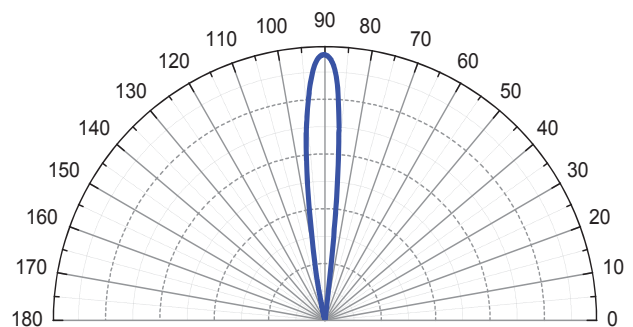
### Pulse optical power vs. current



### Current vs. voltage



### Field pattern



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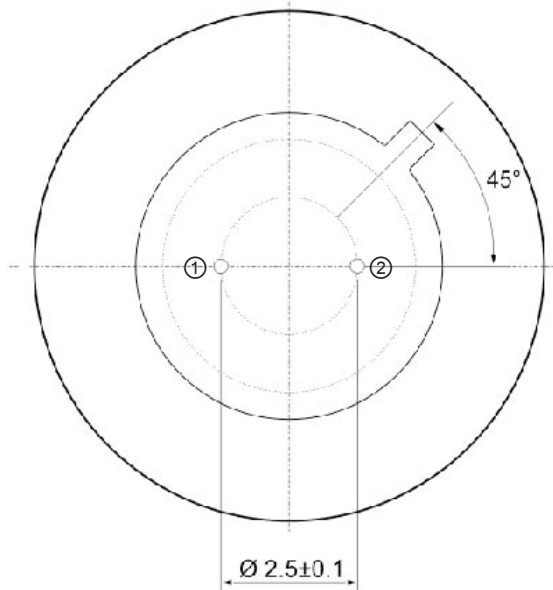
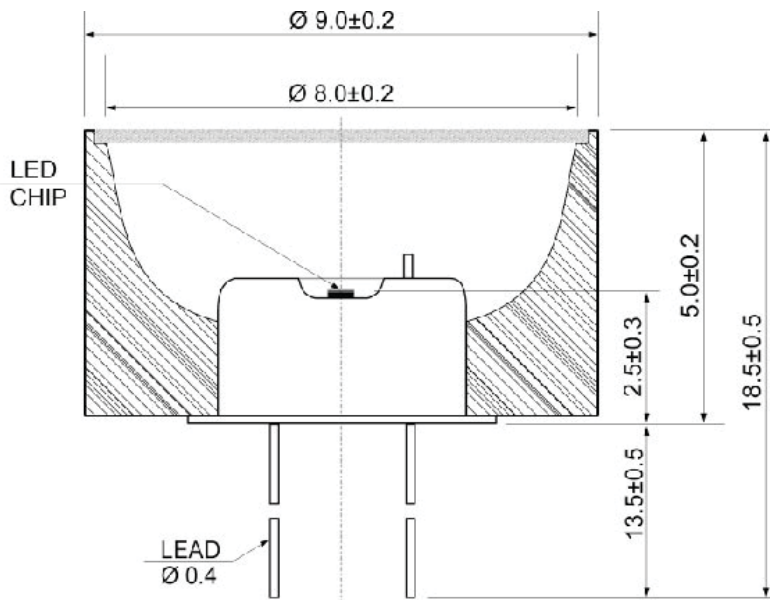
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LED46-PRW

TO-18 package with PR - dimensions (mm)



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

\* Attention: Pin polarity can be changed.



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