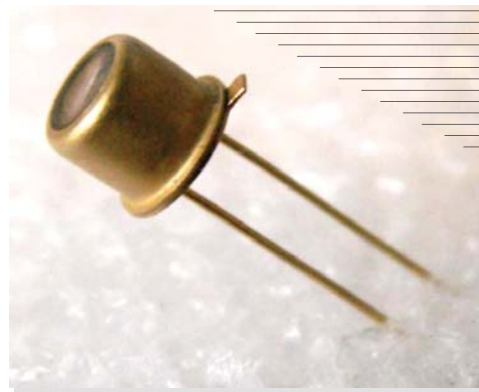




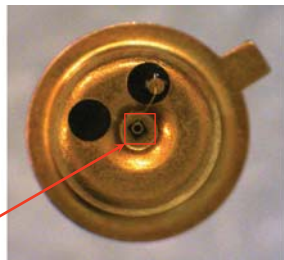
## Features

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



## Applications

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



LED chip

## Options

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

## Description

Light emitting diode **LED46** 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%).

LED chip is mounted in a standard TO-18 package.

LED heterostructure is grown on InAs substrate.

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

## General characteristics

Package	Parameter	Symbol	Value	Unit
TO-18	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	0.26	g
	Size		D	5.5
H			17.7	

\* Quasi-CW SUNSTAR传感与控制 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 $T_a \approx +20^\circ\text{C}$	Min	Max	Unit
Peak emission wavelength	$\lambda_p$	$I_F = 150\text{ mA}$	$\lambda_{\text{typ}} = 4.6$		$\mu\text{m}$
			4.4	4.66	
Spectral FWHM	$\Delta\lambda$	$I_F = 150\text{ mA}$	800	1000	nm
Pulse optical power	$P^*_{\text{QCW}}$	$I_F = 200\text{ mA}$	4	12	$\mu\text{W}$
	$P^{**}_{\text{Pulsed}}$	$I_F = 1000\text{ mA}$	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

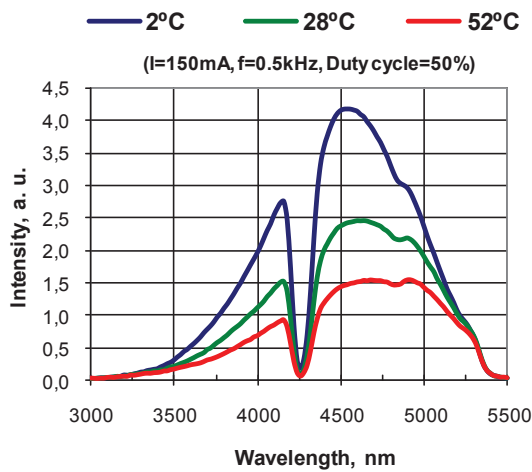
Phone: (707) 568-1642 • FAX: (707) 568-1652

SUNSTAR自动化 <http://www.sensor-ic.com/> TEL: 0755-83376489 FAX: 0755-83376182 E-MAIL: szss20@163.com

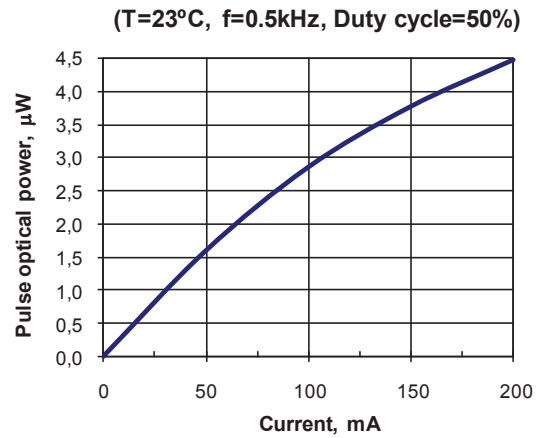
[www.eoc-inc.com](http://www.eoc-inc.com)



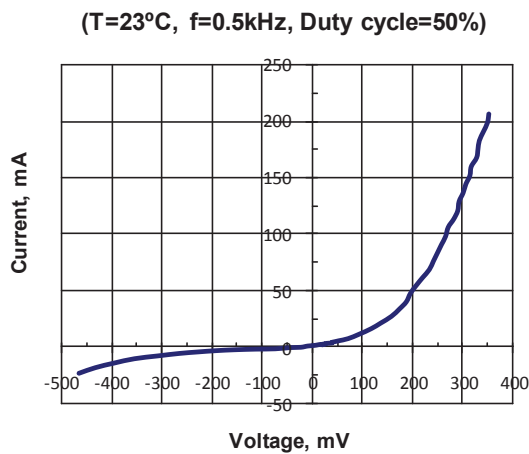
Electroluminescence spectra



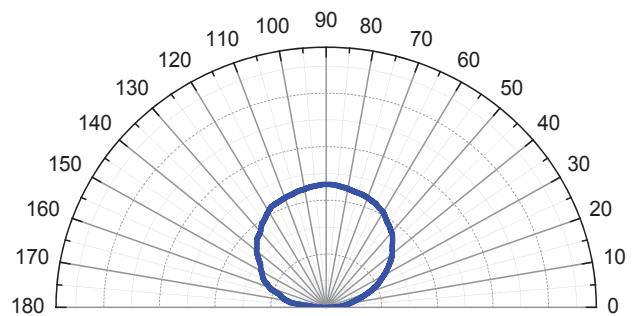
Pulse optical power vs. current



Current vs. voltage



Field pattern



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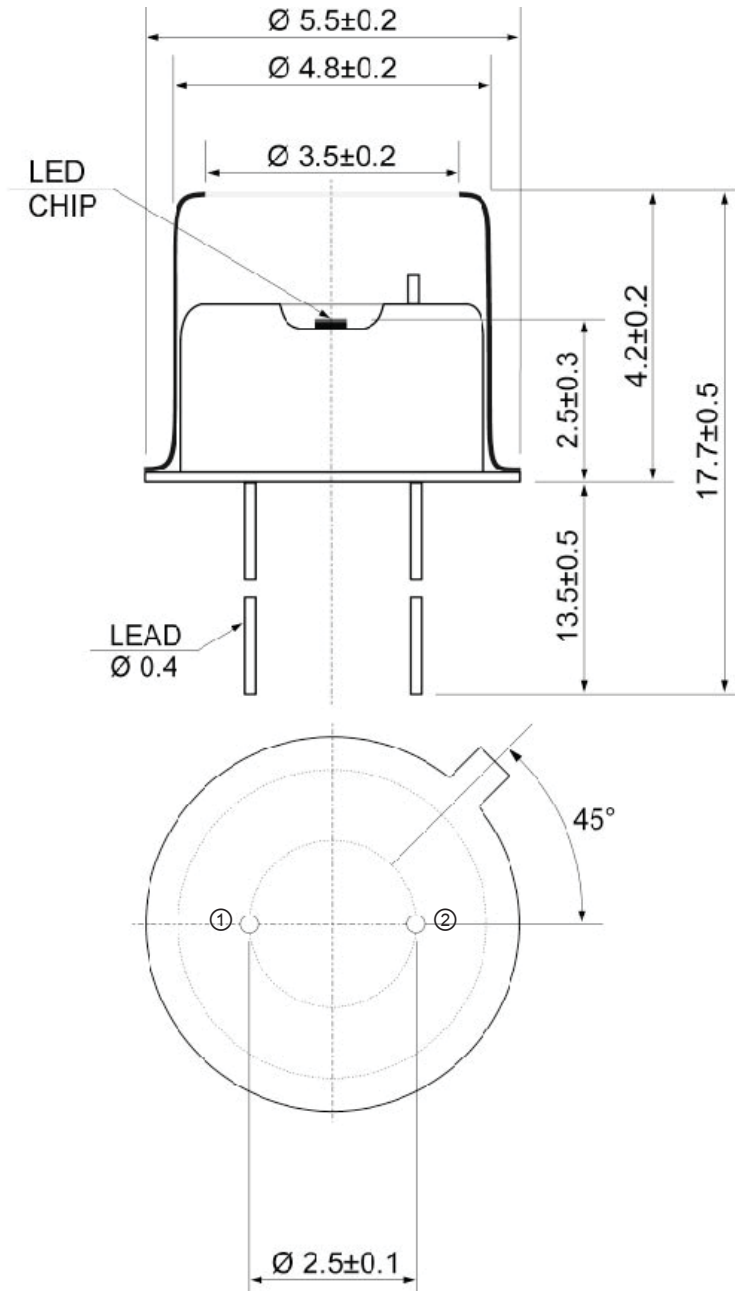
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▼ TO-18 package dimensions (mm)



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

\* **Attention:** Pin polarity can be changed.



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