

ROITHNER LASERTECHNIK GIRBH

TEL. +43 I 586 52 43 -0. FAX. -44 OFFICE@ROITHNER-LASER.COM



v 2.0 24.11.2014

LED19-PR

- Mid-IR LED
- 1.95 μm, 1 mW qCW
- TO-18, with parabolic reflector
- without window





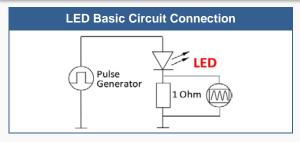
Description

LED19-PR series are fabricated from narrow band-gap GalnAsSb/AlGaAsSb heterostructures lattice matched to GaSb substrate. This Mid-IR LED provides a typical peak wavelength of 1.95 µm and optical power of typ. 1 mW qCW. It comes in TO-18 package, with a parabolic reflector and a without window (on request).

Electro-Optical Characteristics (TCASE = 25°C)

| Parameter | Symbol | Conditions | Values | | | I I m i 4 |
|------------------------------|------------------|--|--------|------|------|-----------|
| | | | Min. | Тур. | Max. | Unit |
| Peak Wavelength *1 | λ_P | I _F =150mA qCW | 1.90 | 1.95 | 1.99 | μm |
| Half Width (FWHM) | $\Delta \lambda$ | I _F =150mA qCW | 100 | 150 | 200 | nm |
| Optical Output Power, qCW | P_0 | I _F =200mA qCW | 8.0 | 1.0 | 1.2 | mW |
| Optical Output Power, pulsed | Po | I _F =1A, f=1kHz, duty cycle 0.1% | 20 | 25 | 30 | mW |
| Operating Voltage | V_{OP} | I _F =200mA qCW | 0.5 | - | 1.5 | V |
| Switching Time | V_F | | 10 | 20 | 30 | ns |
| Operating Temperature | T_{CASE} | | -200 | - | +50 | °C |
| Soldering Temperature | T_{SOLD} | | | | 180 | °C |

Operating Regime

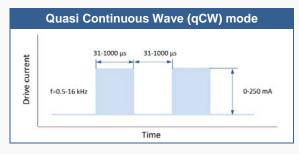


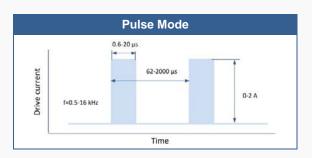
Suitable Drivers And Evaluation Boards

- D-31M
- D-41
- D-51
- mD-1c
- mD-1p

We recommend to use Quasi Continuous Wave (qCW) mode with duty cycle 50% or 25% to obtain maximum average optical power, and short Pulse mode to obtain maximum peak power.

CW (continuous wave) mode is NOT recommended!





1

www.roithner-laser.com

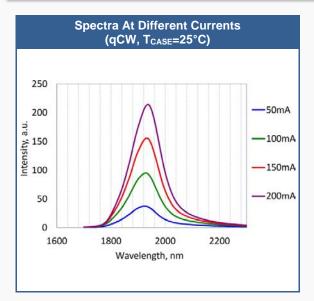


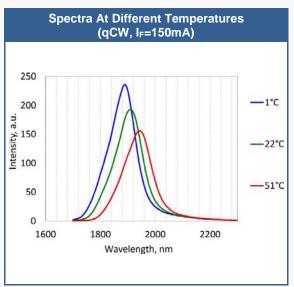
ROITHNER LASERTECHNIK GmbH

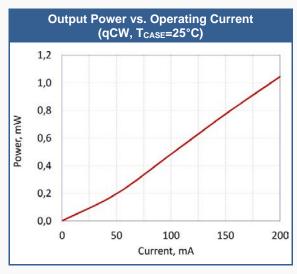
WIEDNER HAUPTSTRASSE 76 IO40 VIENNA AUSTRIA TEL. +43 I 586 52 43 -0. FAX. -44 OFFICE@ROITHNER-LASER.COM

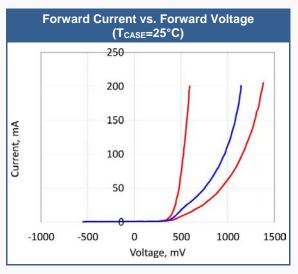


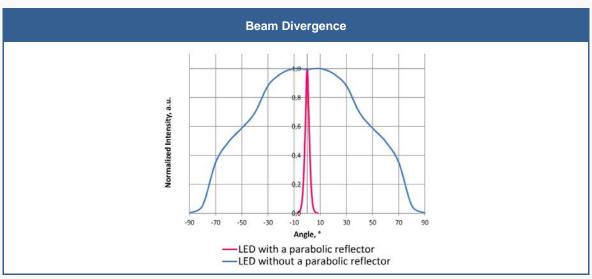
Performance Characteristics





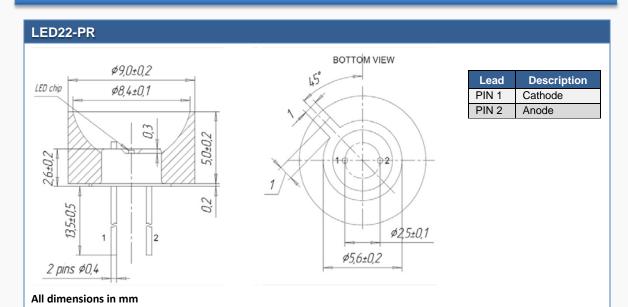






www.roithner-laser.com 2

Outline Dimensions



Parabolic reflector – protects the LED from damage and provides the reduction of the radiation divergence.

Precautions

Cautions:

- Check your connection circuits before turning on the LED.
- Observe the LED polarity: LED anode is marked with a RED dot.
- DO NOT connect the LED to the multimeter!

Soldering:

Do avoid overheating of the LED

Material - kovar, finish - gold/plating

- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering

Static Electricity:

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

Operation:

Do only operate LEDs with a current source.

Running these LEDs from a voltage source will result in complete failure of the device. Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.

© All Rights Reserved

The above specifications are for reference purpose only and subjected to change without prior notice

www.roithner-laser.com 3