



LED19-PR

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



Description

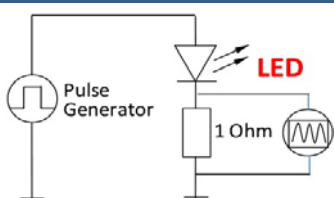
LED19-PR series are fabricated from narrow band-gap GaInAsSb/AlGaAsSb heterostructures lattice matched to GaSb substrate. This Mid-IR LED provides a typical peak wavelength of **1.95 μm** and optical power of typ. **1 mW qCW**. It comes in TO-18 package, with a parabolic reflector and a without window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

Electro-Optical Characteristics ($T_{\text{CASE}} = 25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Peak Wavelength ^{*1}	λ_P	$I_F=150\text{mA}$ qCW	1.90	1.95	1.99	μm
Half Width (FWHM)	$\Delta\lambda$	$I_F=150\text{mA}$ qCW	100	150	200	nm
Optical Output Power, qCW	P_O	$I_F=200\text{mA}$ qCW	0.8	1.0	1.2	mW
Optical Output Power, pulsed	P_O	$I_F=1\text{A}$, $f=1\text{kHz}$, duty cycle 0.1%	20	25	30	mW
Operating Voltage	V_{OP}	$I_F=200\text{mA}$ qCW	0.5	-	1.5	V
Switching Time	V_F		10	20	30	ns
Operating Temperature	T_{CASE}		-200	-	+50	$^{\circ}\text{C}$
Soldering Temperature	T_{SOLD}				180	$^{\circ}\text{C}$

Operating Regime

LED Basic Circuit Connection



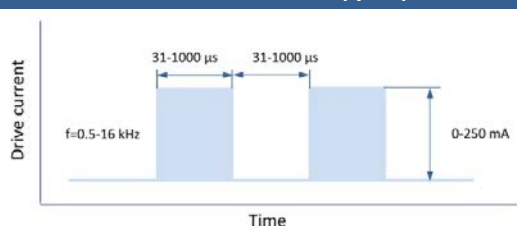
Suitable Drivers And Evaluation Boards

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

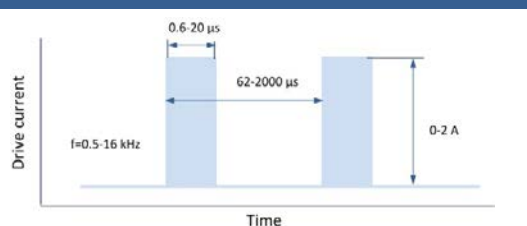
We recommend to use **Quasi Continuous Wave (qCW) mode** with duty cycle 50% or 25% to obtain maximum average optical power, and short **Pulse mode** to obtain maximum peak power.

CW (continuous wave) mode is NOT recommended!

Quasi Continuous Wave (qCW) mode



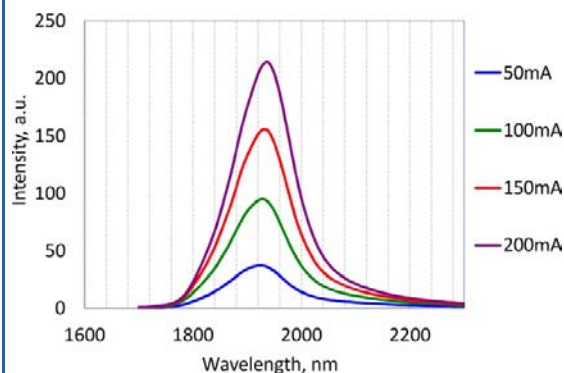
Pulse Mode



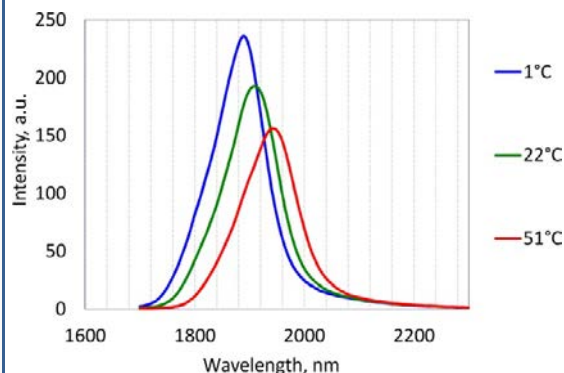


Performance Characteristics

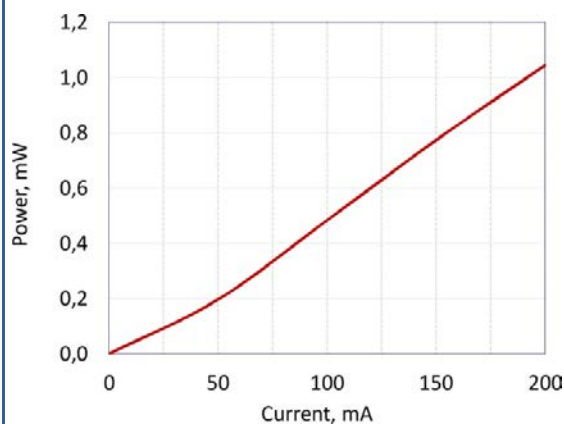
Spectra At Different Currents
(qCW, $T_{CASE}=25^{\circ}C$)



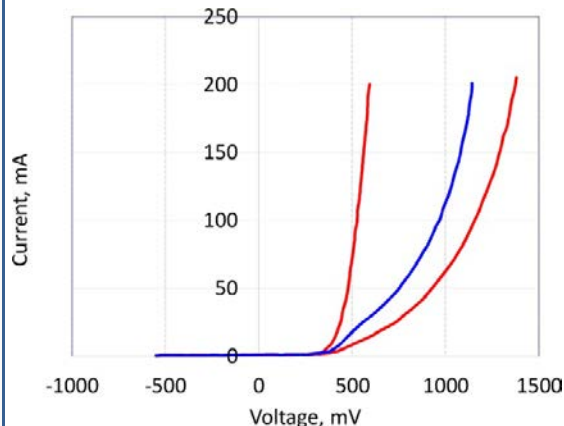
Spectra At Different Temperatures
(qCW, $I_F=150mA$)



Output Power vs. Operating Current
(qCW, $T_{CASE}=25^{\circ}C$)



Forward Current vs. Forward Voltage
($T_{CASE}=25^{\circ}C$)



Beam Divergence

