

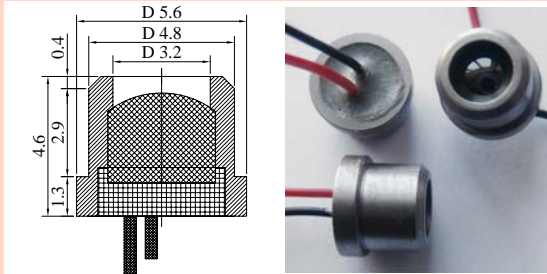
# Optically Immersed 2.15 $\mu\text{m}$ LED in heat-sink optimized housing

# LED21Su, LED21Sr

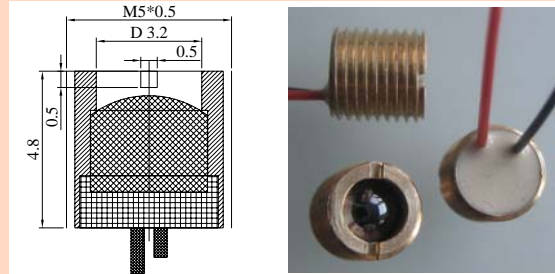
Peak wavelength $\lambda_{\text{max}}$	$\mu\text{m}$	2.15	
Pulse power $P_{\text{pulsed}}$	mW	Drive current 1 A, 2 % duty cycle	10
Quasi-CW power $P_{\text{QCW}}$	mW	Drive current 0.4 A, 50% duty cycle	3
CW power $P_{\text{CW}}$	mW	Drive current 0.2 A	1.2

Code	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg.	Optical power deviation, %	Operation conditions, °C	Lifetime, hrs	Polarity
LED21Su/Sr	$\varnothing$ 3.2	Si	~15	$\leq 5$	$\pm 25$	-25 $\div$ +60	>80 000	Red wire – positive, Black wire – negative

Product view



LED21Su



LED21Sr

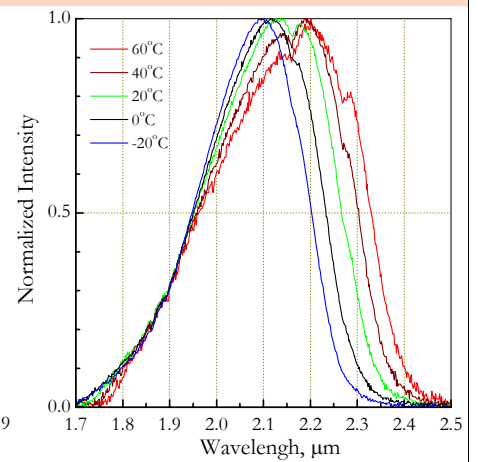
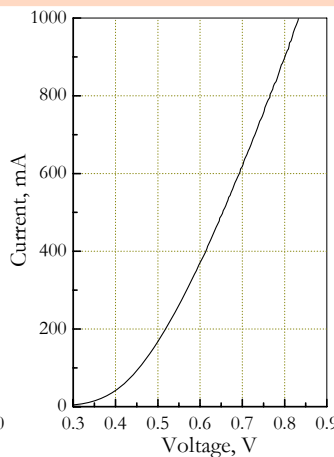
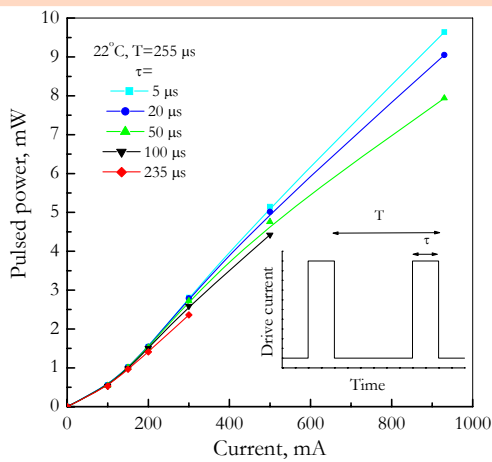
Features

Growth of narrow gap semiconductor alloys onto  $n^+$ -GaSb substrate; Flip-chip design of LEDs; Optical coupling through the use of chalcogenide glasses and Si lenses with antireflection coating

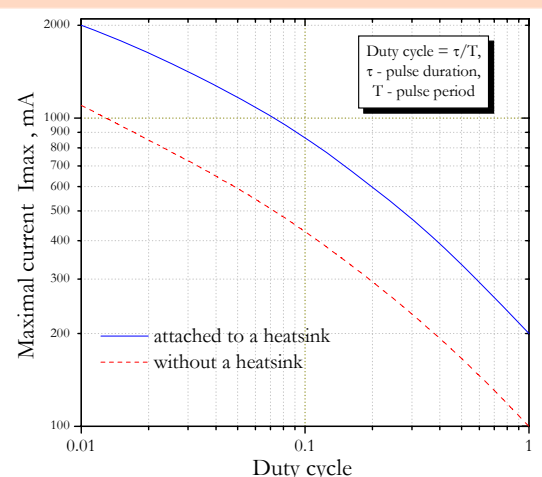
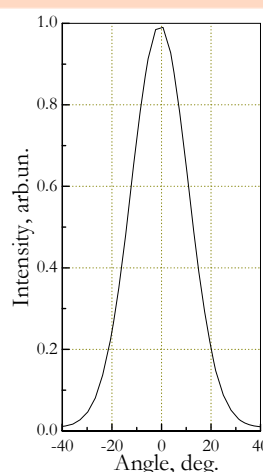
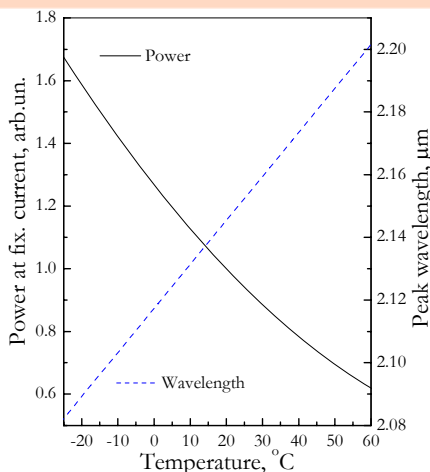
3-fold increased LED output power; Beam collimation within  $\sim 15$  deg; Low serial resistance; Small on-off time (tenths of ns); Low power consumption ( $\leq 0.1$  W)

Emission beam divergence is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices. We recommend if possible using low duty cycle mode of operation with  $I < 0.5 \times I_{\text{max}}$  so that higher efficiency and long term stability of a LED are achieved. **Data are valid for 22°C and LED attached to a heatsink.** Heatsink is important for LED operation especially in the CW mode.

L-I and I-V characteristics and emission spectra



Output power and peak wavelength vs temperature, far-field pattern and maximal current vs operation conditions



Product specifications are subject to change without prior notice due to improvements or other reasons. Updated 14.10.11