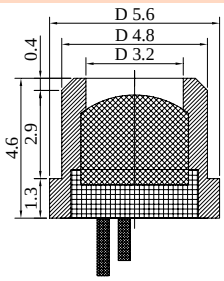
Optically Immersed 3.8 μm LED in heat-sink optimized housing — LED38Su, LED38Sr

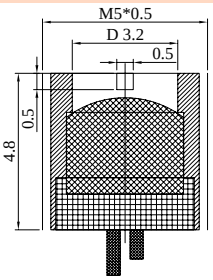
Peak wavelength λ_{max}	μm	3.75÷3.85	
Pulse power P_{pulsed}	mW	Drive current 1 A, 2 % duty cycle	0.23
Quasi-CW power P_{QCW}	mW	Drive current 0.4 A, 50% duty cycle	0.12
CW power P_{CW}	mW	Drive current 0.2 A	0.08

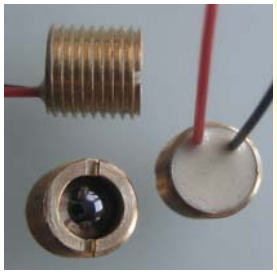
Code	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg.	Optical power deviation, %	Operation conditions, ^{0}C	Lifetime, hrs	Polarity
LED38Su/Sr	∅ 3.2	Si	~15	≤5	±25	-25÷+60	>80 000	Red wire – positive, Black wire – negative

Product view



LED38Su





LED38Sr

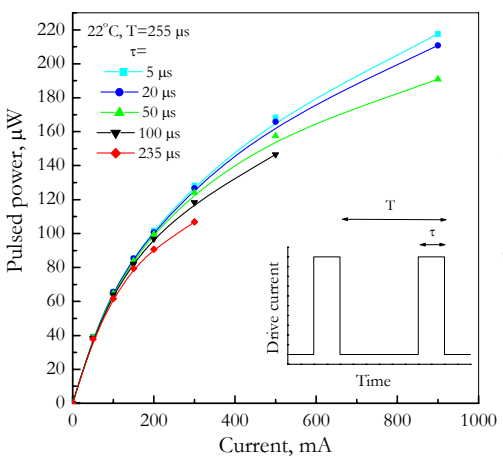
Features

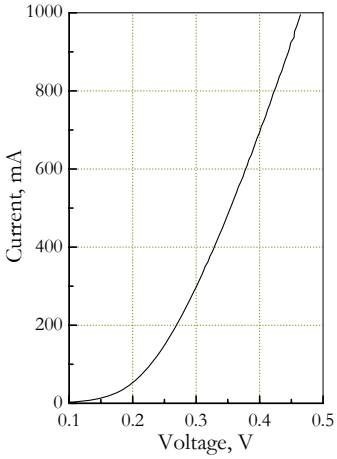
Growth of narrow gap semiconductor alloys onto n^+-InAs substrate; Flip-chip design of LEDs; Optical coupling through the use of chalcogenide glasses and Si lenses with antireflection coating

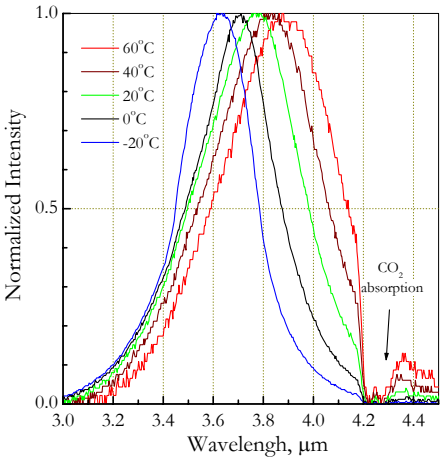
3-fold increased LED output power; Beam collimation within ~15 deg; Low serial resistance; Small on-off time (tenths of ns); Low power consumption (≤0.1 W)

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×Imax so that higher efficiency and long term stability of a LED are achieved. **Data are valid for 22ºC and LED attached to a heatsink**. Heatsink is important for LED operation especially in the CW mode.

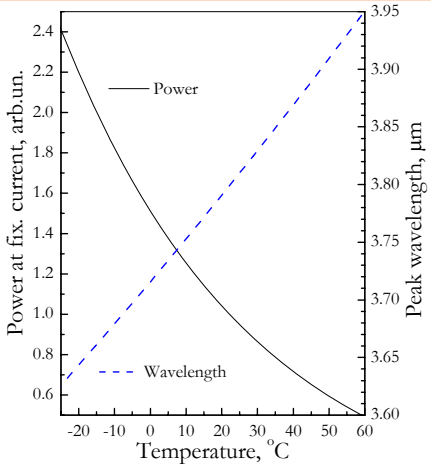
L-I and I-V characteristics and emission spectra

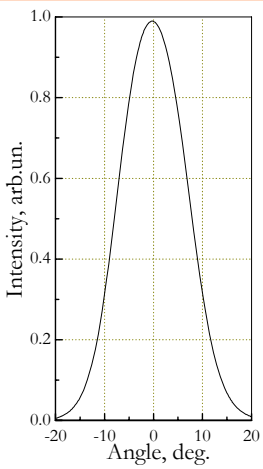


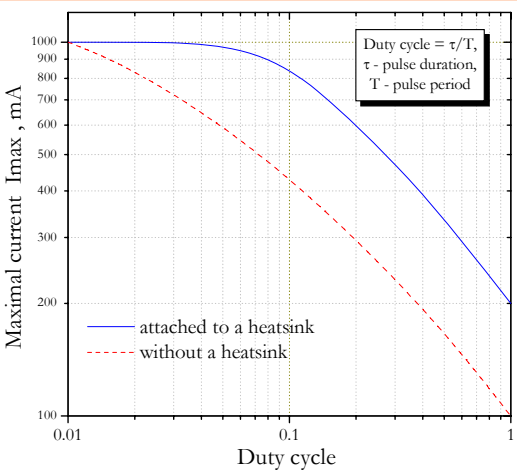




Output power and peak wavelength vs temperature, far-field pattern and maximal current vs operation conditions







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

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