



Mid-Infrared (MIR) Light-Emitting Diode

Series with a glass cover

Lms43LED-CG

4,1 - 4.3 μm



Device parameters	Symbol	Value	Units
Storage temperature	T_{stg}	-25..+50	$^{\circ}\text{C}$
Operating temperature	T_{opr}	-25..+50	$^{\circ}\text{C}$
Lead soldering temperature (time < 3 seconds, 3 mm from case)	T_{sol}	+180	$^{\circ}\text{C}$

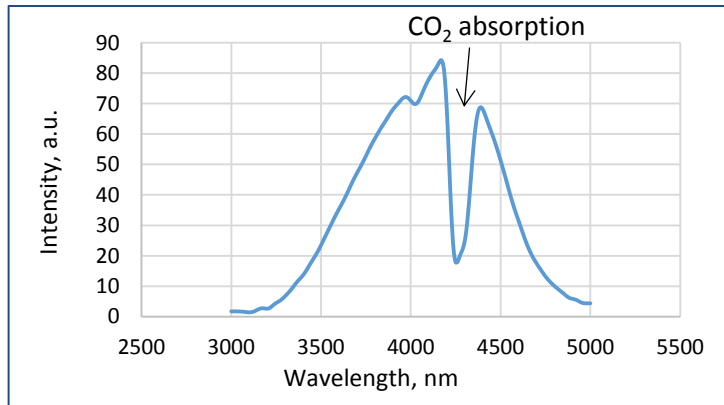
LED parameters	Conditions	Symbol	Value	Units	
Peak emission wavelength	$T = 25^{\circ}\text{C}$, $I = 150\text{ mA qCW}$	λ_p	4.1 - 4.3	μm	
FWHM of the emission band	$T = 25^{\circ}\text{C}$, $I = 150\text{ mA qCW}$	FWHM	600 - 1200	nm	
Output optical power	quasi-CW mode	$I = 200\text{ mA}$, duty cycle 50%	P_{qcw}	min 25	μW
	pulse mode	$I = 1\text{ A}$, $f = 2\text{ kHz}$, duty cycle 0.1%	P_{pulse}	min 500	μW
Forward Voltage	$T = 25^{\circ}\text{C}$; $I = 200\text{ mA qCW}$	V	0.2 - 0.8	V	

Maximum allowable operation current

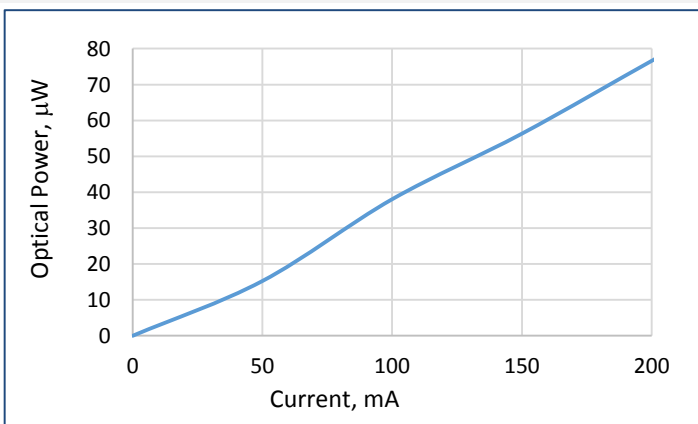
Mode	Frequency	Duty cycle	Pulse duration	Maximum current
quasi- CW	0.5 kHz	50%	1000 μs	250 mA
pulse	2 kHz	0.1%	0.5 μs	1 A

Light-Emitting Diodes Lms43LED series are fabricated from narrow band-gap InAsSbP/InAs-based heterostructures lattice matched to InAs substrate.

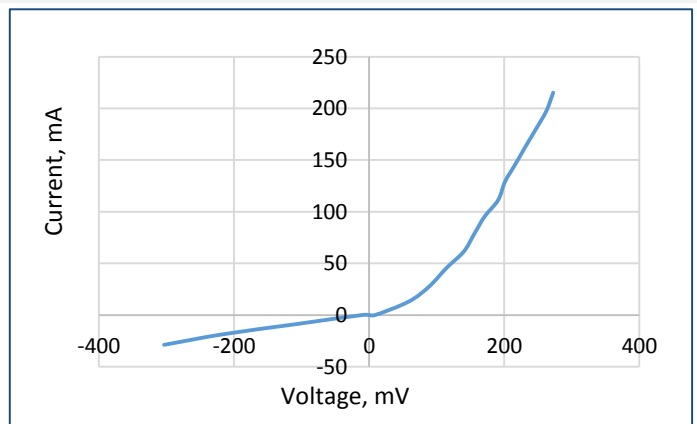
Spectra at 200 mA (qCW, duty cycle 50%, $T=25^{\circ}\text{C}$)



LED Typical Power Characteristic (qCW, $T=25^{\circ}\text{C}$)



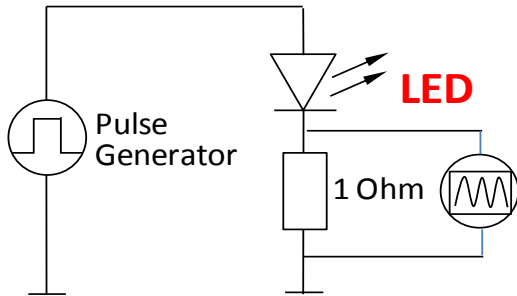
LED Typical Current-Voltage Characteristic (qCW, $T=25^{\circ}\text{C}$)



Packages	Model
TO-18 with a glass cover	Lms MIR LED-CG

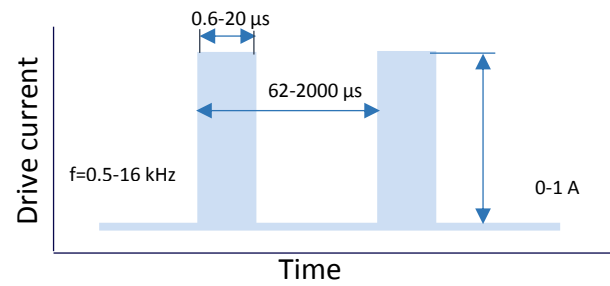
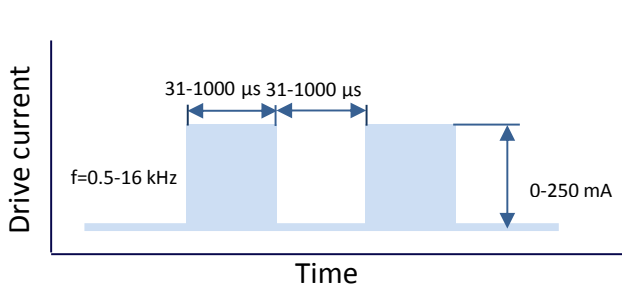
To drive the LED we recommend using:

• LED basic circuit connection



• LED drivers and evaluation boards designed by LED Microsensor NT

We recommend to use **Quasi Continuous Wave (qCW) mode** with duty cycle 50% or 25% to obtain maximum average optical power and short **Pulse modes** to obtain maximum peak power. Hard CW (continius wave) mode is NOT recommended.

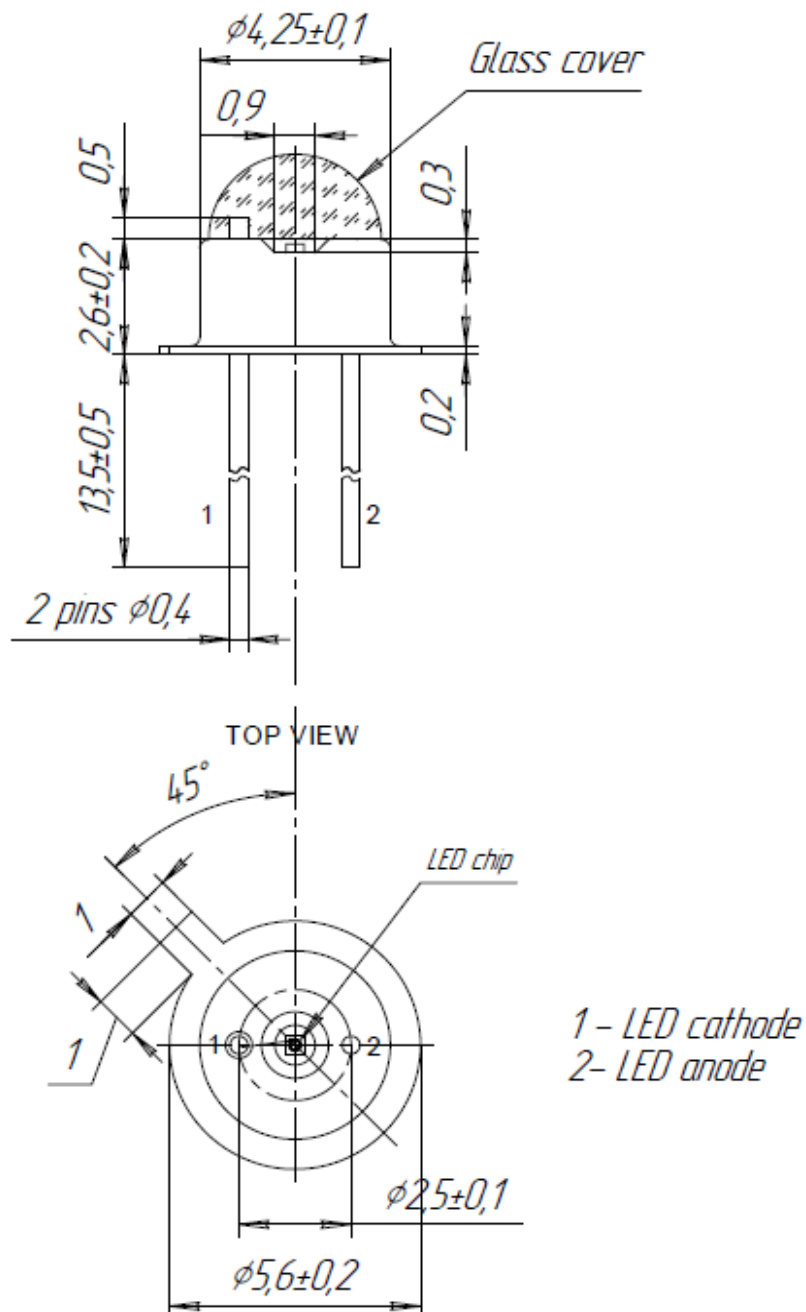


IMPORTANT CAUTIONS:

- check your connection circuit before turning on the LED;
- mind the LED polarity: LED anode is marked with a RED dot;
- do not connect the LED to the multimeter;
- do not touch the glass covering and do not apply any force to it;
- observe the allowable operating temperature range, exceeding this eange may cause irreparable damage of the glass cover

Technical Drawing

Lms MIR LED-CG



Related Products

- **Photodiodes (Lms43PD-XX series)** - spectrally matched detectors of mid-infrared radiation
- **D-41/D-51 LED drivers** - devices for LED driving with adjustable parameters
- **mD-1p/mD-1c minidrivers** - devices for LED driving with fixed parameters