

Lms38LED-CG

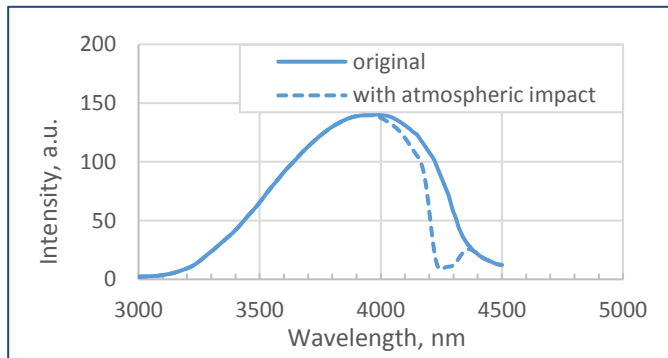


| Device parameters | Symbol | Value | Units |
|---|-----------|--------|--------------------|
| Operating/storage temperature | T_{opr} | 0..+50 | $^{\circ}\text{C}$ |
| Soldering temperature (time < 3 seconds, 3 mm from case) | T_{sol} | +180 | $^{\circ}\text{C}$ |

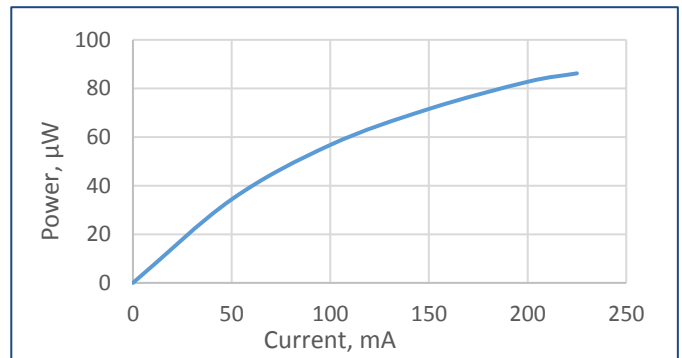
All parameters are for LED operation at 25 $^{\circ}\text{C}$ unless otherwise stated.

| LED parameters | Conditions | Symbol | Value | Units |
|--|----------------------------------|------------------|--------------------|---------------|
| Peak emission wavelength ¹ | qCW mode ³ I = 150 mA | λ_p | 3.70 - 3.94 | μm |
| FWHM of the emission band ¹ | qCW mode ³ I = 150 mA | FWHM | 400 - 700 | nm |
| Average optical power (minimal / typical) ¹ | qCW mode ³ I = 200 mA | P_{qcw} | min 80 / typ 180 | μW |
| Peak optical power (minimal / typical) ² | Pulse mode ⁴ I = 1 A | P_{pul} | min 500 / typ 1500 | μW |
| Maximum operating current | qCW mode ³ | $I_{max\ qcw}$ | 250 | mA |
| | Pulse mode ⁴ | $I_{max\ pulse}$ | 2 | A |
| Forward voltage ¹ | qCW mode ³ I = 200 mA | V | 0.2 - 0.8 | V |

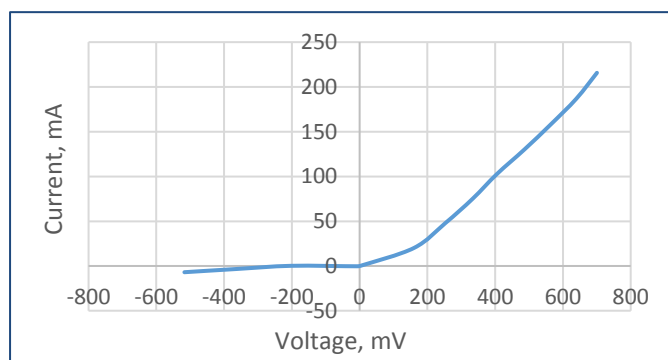
Typical spectrum (qCW³)



Typical optical power characteristic (qCW³)



Typical current-voltage characteristic (qCW³)



¹ Parameter tested for each device.

² Parameter tested for representative sampling.

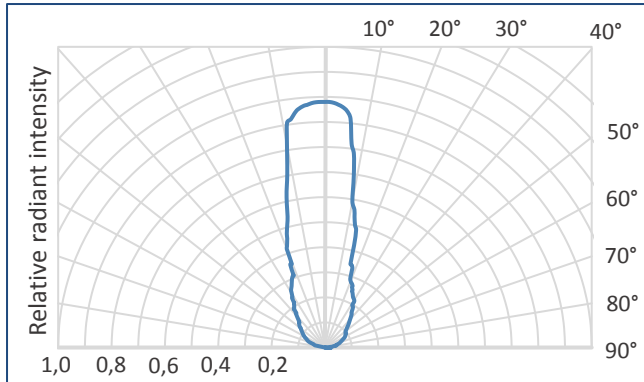
³ qCW mode: repetition rate: 0.5 KHz, pulse duration: 1 ms, duty cycle: 50%.

⁴ Pulse mode: repetition rate: 0.5 KHz, pulse duration: 20 μs , duty cycle: 1%.

| Packages | Model |
|------------------------|-------------|
| TO-18 with glass cover | Lms38LED-CG |

Radiant characteristic (far-field pattern)

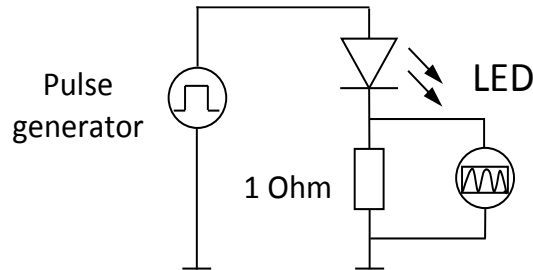
TO-18 package with glass cover



Related products:

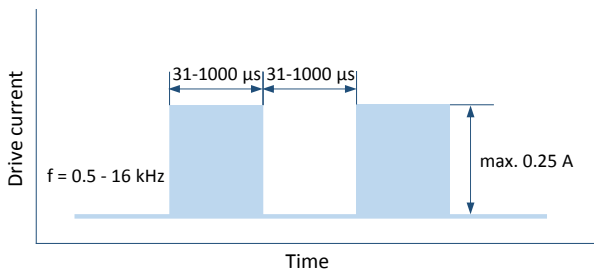
- **Photodiodes Lms41PD, Lms43PD series** - detectors of mid-infrared radiation;
- **LED drivers (D-41i, D-51i, minidrivers mD-1c, mD-1p)** - provide LED power supply in pulse modes.

To drive the LED we recommend the following basic circuit connection:

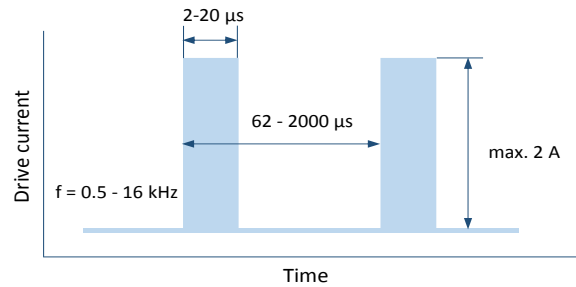


We recommend using **Quasi Continuous Wave (qCW) mode** with a duty cycle 50% or 25% to obtain maximum average optical power and short **Pulse modes** to obtain maximum peak power. Hard CW (continuous wave) mode is NOT recommended.

Quasi Continuous Wave (qCW) mode



Pulse mode

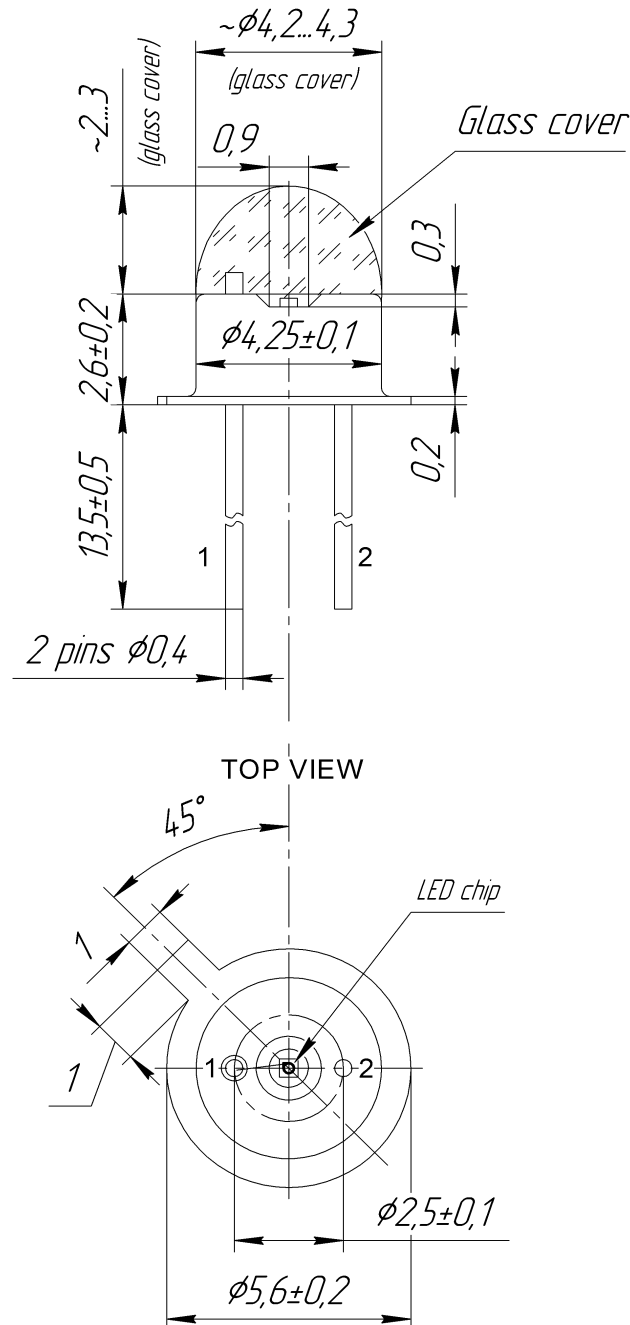


IMPORTANT CAUTIONS:

- please check your connection circuit before turning on the LED;
- please mind the LED polarity: anode is marked with a RED dot; REVERSE voltage applying is FORBIDDEN;
- please do not connect the LED to the multimeter;
- please control the CURRENT applied to the LED in order NOT to EXCEED the maximum allowable values;
- please do not touch glass covering and do not apply any force to it;
- please observe the operating and storage temperature, exceeding the allowable range may cause irreparable damage of glass covering.

Technical Drawing

Lms38LED-CG



NOTE: LED anode is marked with a RED dot.

All dimensions are pointed in mm.