

Lms13LED series

Device parameters	Symbol	Value	Units
Operating/ storage temperature	T _{stg}	-60+90*	°C
Soldering temperature (can be applied for not more than 5 secs)	T _{sol}	+180	°C

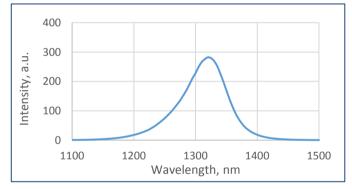


*Temperature range may vary for different packaging types.

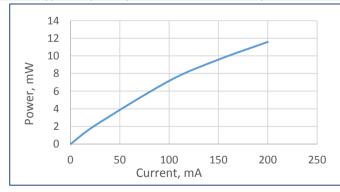
All parameters refer to LEDs in TO18 package with a cavity and operation at ambient temperature 25°C unless otherwise stated.

Conditions	Symbol	Value	Units		
qCW mode ³ l = 25 mA	λ_p	1.25 - 1.33	μm		
qCW mode ³ l = 25 mA	FWHM	70 - 100	nm		
qCW mode ³ l = 200 mA	P _{qCW}	min 10 / typ 12	mW		
Pulse mode ⁴ I = 1 A	P _{pul}	min 25 / typ 29	mW		
qCW mode ³	I _{qCW}	200	mA		
Pulse mode ⁴	I _{pul}	1	А		
DC mode ⁵	I _{DC}	100	mA		
qCW mode ³ I = 200 mA	V	0.9 - 1.2	V		
	qCW mode ³ I = 25 mA qCW mode ³ I = 25 mA qCW mode ³ I = 200 mA Pulse mode ⁴ I = 1 A qCW mode ³ Pulse mode ⁴ DC mode ⁵	qCW modeI = 25 mA λ_p qCW modeI = 25 mAFWHMqCW modeI = 200 mA P_{qCW} Pulse modeI = 1 A P_{pul} qCW modeI = 1 A I_{qCW} Pulse modeI = 1 DDC modeI_{pul}DC modeI_{DC}	$\begin{array}{c c c c c c c c c c c c c c c c c c c $		

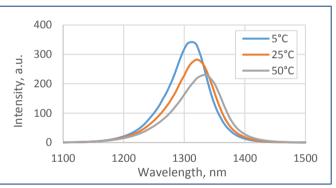
Typical spectrum (qCW³, 25 mA)

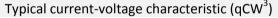


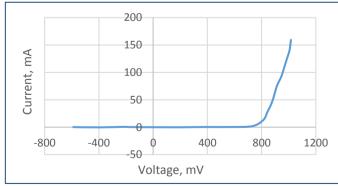
Typical optical power characteristic (qCW³)



Spectra at different temperatures (qCW³, 25 mA)







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 $\mu s,$ duty cycle: 1%.

⁵ DC mode: direct current.

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Near-Infrared (NIR) Light-Emitting Diode

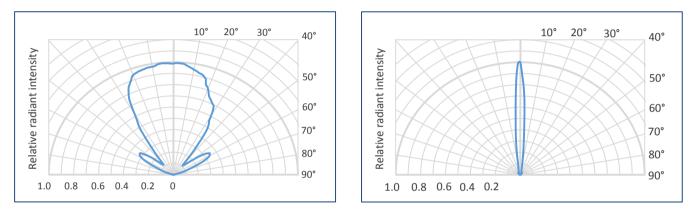
1.25 - 1.33 μm

Packages	Model
TO-18 with a cap with a glass window	Lms13LED
TO-18 with a parabolic reflector without a glass window	Lms13LED-R
TO-18 with a parabolic reflector with a glass window	Lms13LED-RW
TO-5 with a built-in thermocooler and thermoresistor, covered by a cap with a glass window	Lms13LED-TEM
TO-5 with a built-in thermocooler and thermoresistor, covered by a parabolic reflector with a glass window	Lms13LED-TEM-R

Radiant characteristics (far-field pattern)

TO-18 package with a cap

TO-18 package with a parabolic reflector

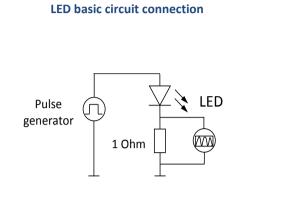


Related products:

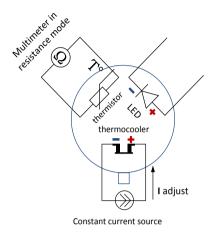
- Photodiodes Lms24PD, Lms25PD series detectors of mid-infrared radiation;
- LED drivers (D-41i, D-51i, minidrivers mD-1c, mD-1p) provide LED power supply in pulse modes.



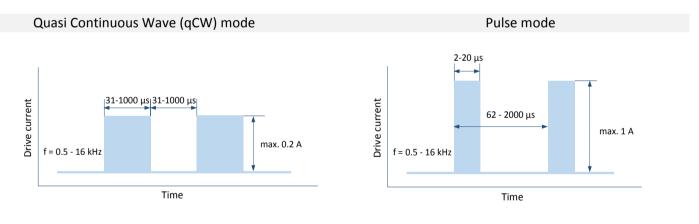
To drive the LED we recommend the following basic circuit connections:



LED with thermoelectric module 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.



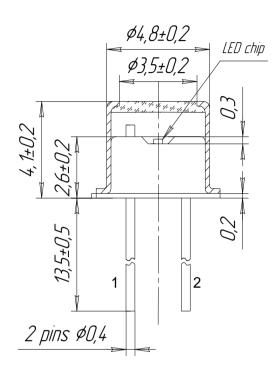
IMPORTANT CAUTIONS:

- 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.

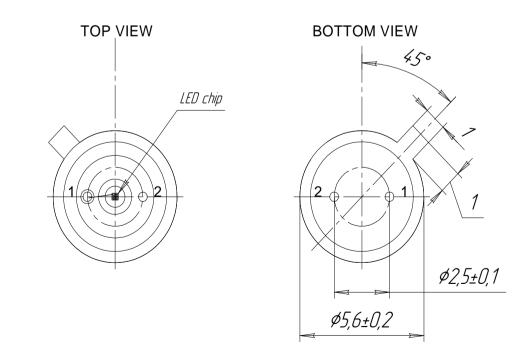


Technical Drawings

Lms13LED



1 – LED anode 2– LED cathode

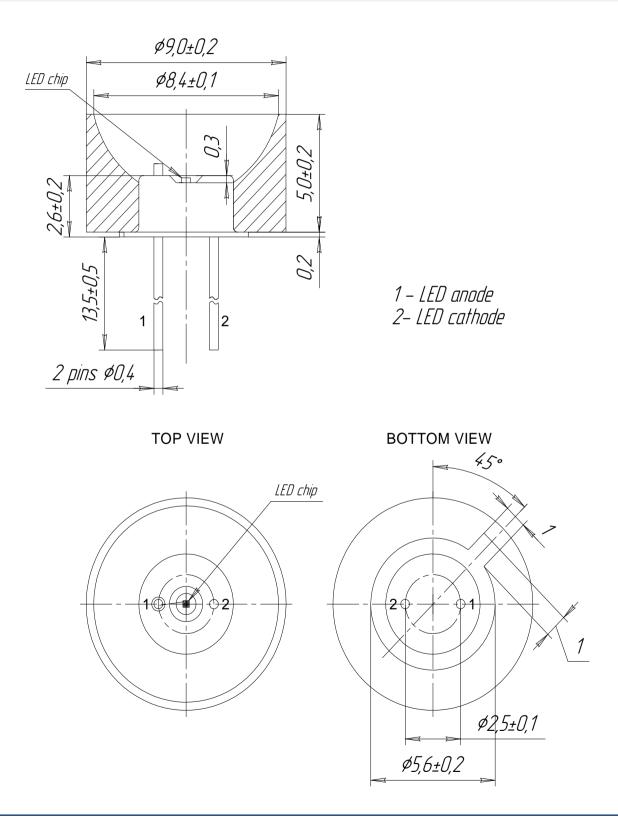


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Technical Drawings

Lms13LED-R

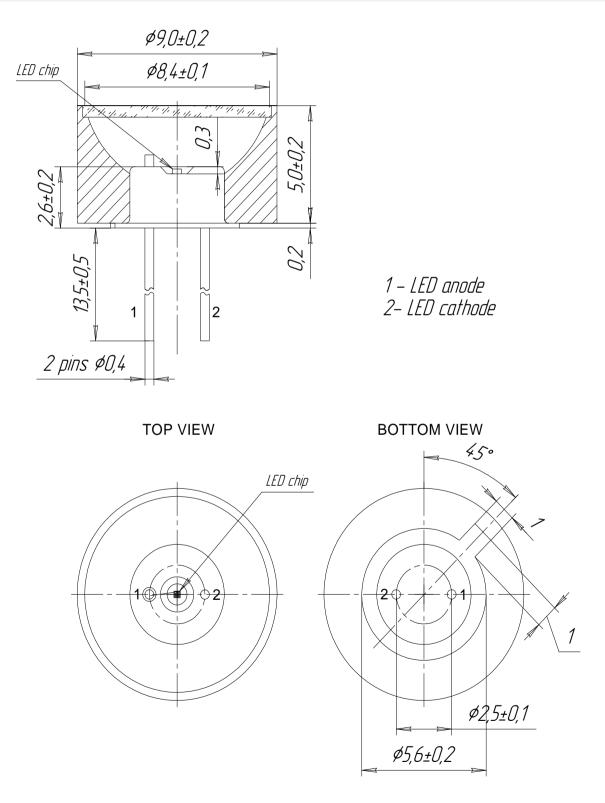


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Technical Drawings

Lms13LED-RW

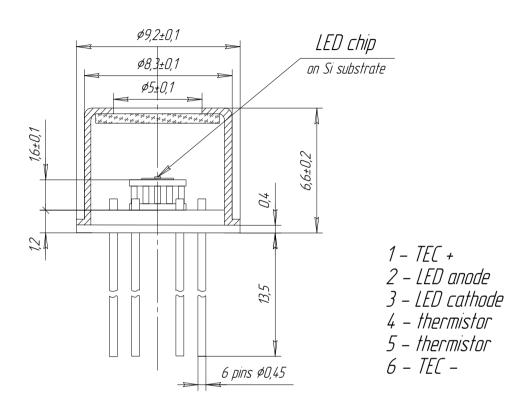


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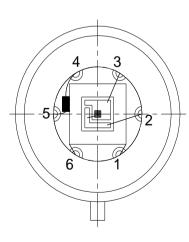


Technical Drawings

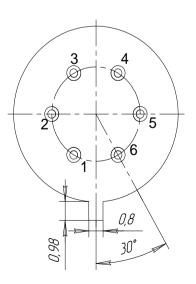
Lms13LED-TEM



TOP VIEW



BOTTOM VIEW

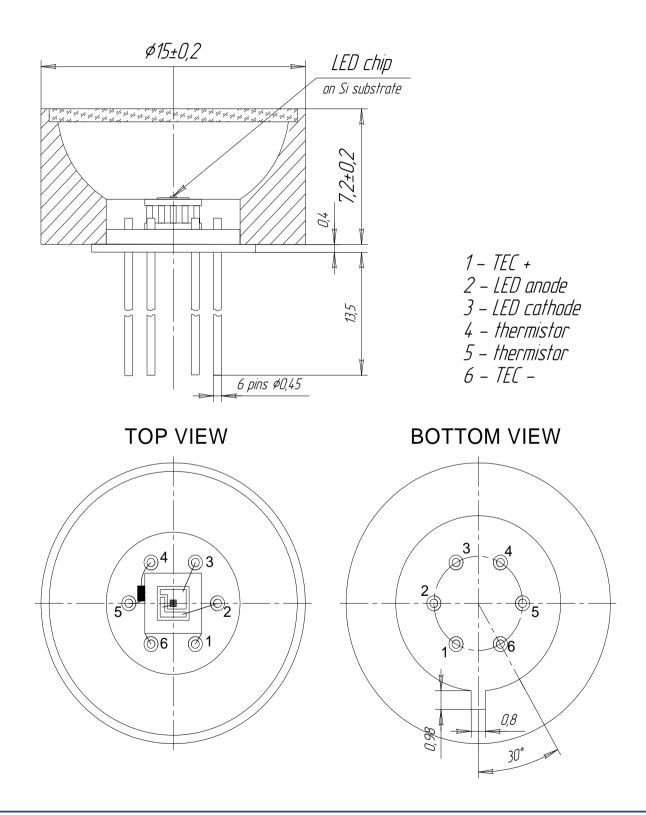


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Technical Drawings

Lms13LED-TEM-R



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