Lms34LED-R

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

*LED design for different storage/operating temperature range can be considered under request.

All parameters are for LED operation at 25°C unless otherwise stated.

| LED parameters	Conditions	Symbol	Value	Units
Peak emission wavelength[1]	qCW mode[3] I = 150 mA	λ_p	3.30 - 3.44	µm
FWHM of the emission band[1]	qCW mode[3] I = 150 mA	FWHM	250 - 600	nm
Average optical power (minimal / typical)[1]	qCW mode[3] I = 200 mA	P_{qcw}	min 20 / typ 25	µW
Peak optical power (minimal / typical)[2]	Pulse mode[4] I = 1 A	P_{pul}	min 150 / typ 180	µW
Maximum operating current	qCW mode[3]	$I_{max\ qcw}$	250	mA
Maximum operating current	Pulse mode[4]	$I_{max\ pulse}$	2	A
Forward voltage[1]	qCW mode[3] I = 200 mA	V	0.2 - 1.3	V

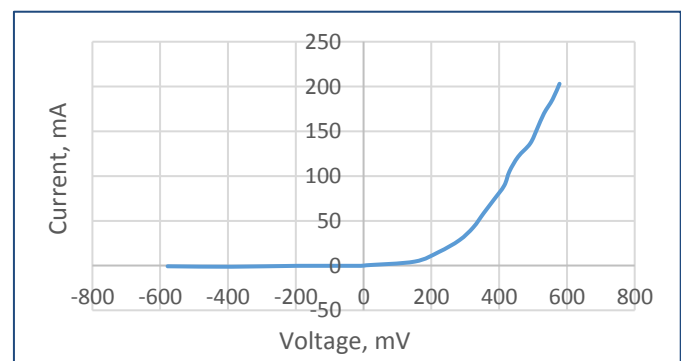### Typical spectra at different currents (qCW[3])
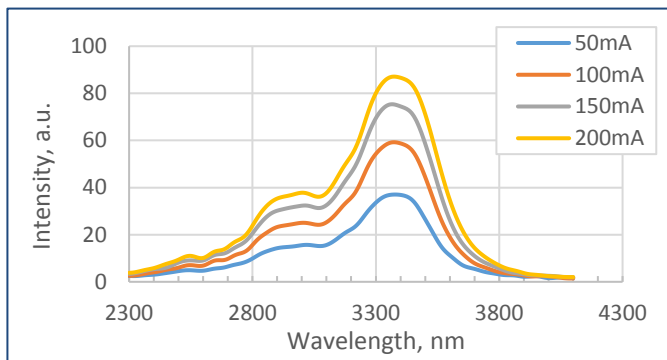
Spectra at different temperatures (qCW[3], 150 mA)
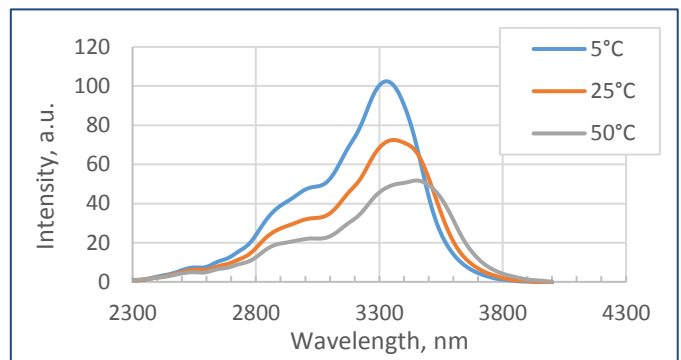
Typical optical power characteristic (qCW[3])
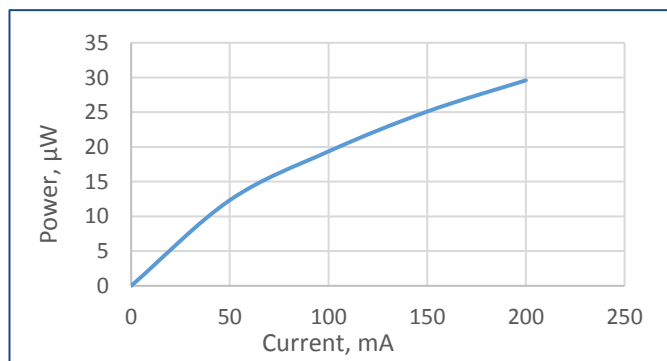
Typical current-voltage characteristic (qCW[3])

[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%.

Mid-Infrared (MIR) Light-Emitting Diode

3.30 - 3.44 µm

| Packages	Model
TO-18 with a cap without a glass window	Lms34LED
TO-18 with a parabolic reflector without a glass window	Lms34LED-R
TO-18 with a parabolic reflector with a glass window	Lms34LED-RW
TO-5 with a built-in thermocooler and thermoresistor, covered by a cap with a glass window	Lms34LED-TEM
TO-5 with a built-in thermocooler and thermoresistor, covered by a parabolic reflector with a glass window	Lms34LED-TEM-R

Radiant characteristic (far-field pattern)

TO-18 package with a parabolic reflector
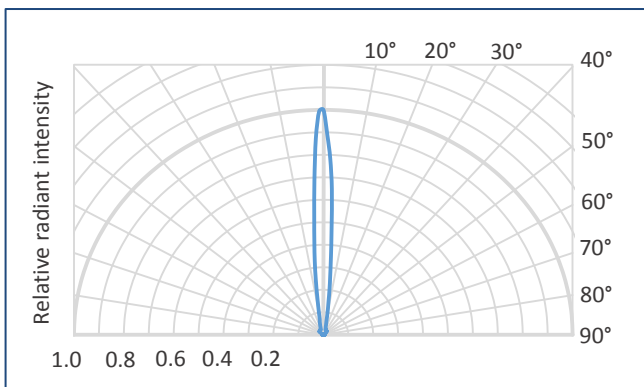
Related products:

- **Photodiodes Lms36PD series** - detectors of mid-infrared radiation;
- **LED drivers (D-41i, D-51i, minidrivers mD-1c, mD-1p)** - provide LED power supply in pulse modes.

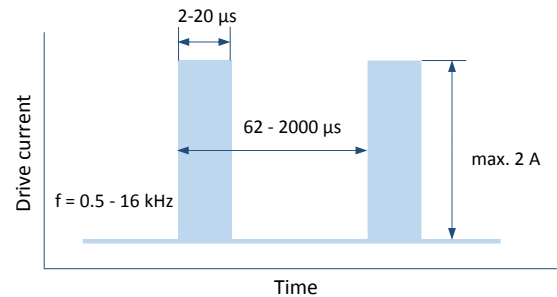To drive the LED we recommend the following basic circuit connection:
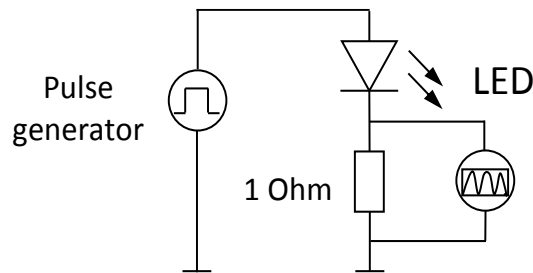
We recommend using **Quasi Continuous Wave (qCW) mode** with a duty cycle 50% or 25% to obtain maximum average optical power and short **Pulse modes** to obtain maximum peak power. Hard CW (continius wave) mode is NOT recommended.
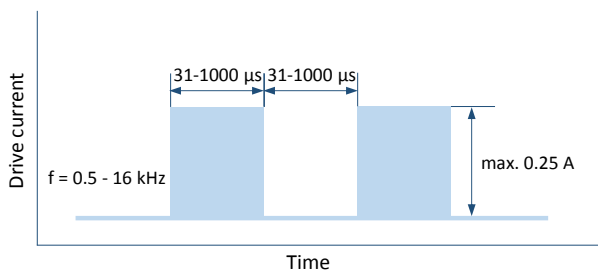
Quasi Continuous Wave (qCW) mode　　　　　　　　　　　Pulse mode

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.

Technical Drawing

Lms34LED-R

LED chip

$\phi 9,0 \pm 0,2$

$\phi 8,4 \pm 0,1$

$0,3$

$5,0 \pm 0,2$

$2,6 \pm 0,2$

$13,5 \pm 0,5$

$0,2$

1   2

2 pins $\phi 0,4$
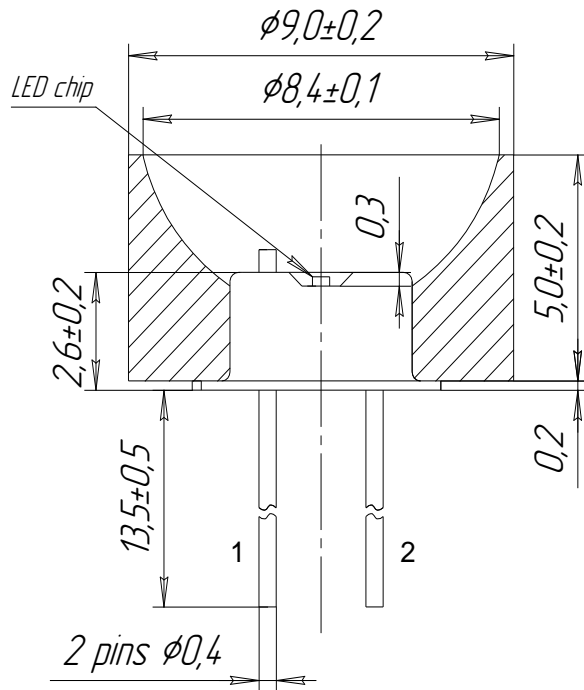
1 – LED cathode
2– LED anode

TOP VIEW   BOTTOM VIEW

LED chip

1   2

$45°$

2   1

1

$\phi 2,5 \pm 0,1$

$\phi 5,6 \pm 0,2$