

Infrared LED 13-XX



Infrared Light Emitting Diode **LED 13** is designed to emit in the spectral range from 1250 to 1330nm.

Specifications (T = 25 °C):

Parameter	Conditions	Value	Unit
Peak Emission Wavelength	I = 200mA, QCW mode ¹⁾	1.25 - 1.33	μm
Emission Band (FWHM)	I = 200mA, QCW mode ¹⁾	70 - 100	nm
Optical Power	I = 200mA, QCW mode ¹⁾	10 - 18	mW
	I = 1A, Pulse mode ²⁾	25 - 35	mW
Maximum Operation Current	QCW mode ¹⁾	200	mA
	Pulse mode ²⁾	1	A
	DC mode ³⁾	100	mA
Switching Time	I = 20mA, DC mode ³⁾	25 - 45	ns
Voltage	I = 200mA	0.9 - 1.2	V
Operating/Storage Temperature		-60 - +90 ⁴⁾	°C
Soldering Temperature	<5s	+180	°C

1) QCW: repetition rate: 0.5kHz, pulse duration: 1ms, duty cycle: 50%

2) Pulse: repetition rate: 0.5kHz, pulse duration: 20μs, duty cycle: 1%

3) DC: direct current

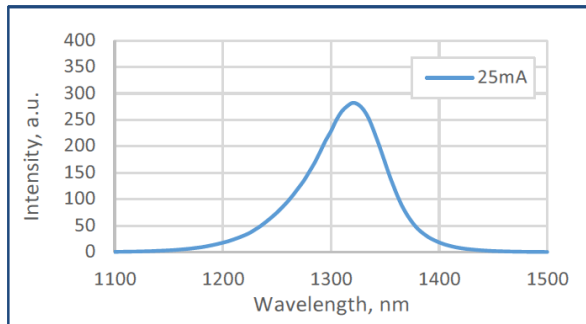
4) Higher operating/storage temperature is available on request

Available Packages:

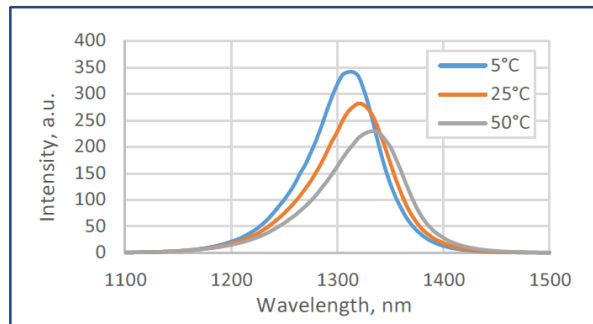
TO-18 with cap / without glass window	Infrared LED 13-TO-18
TO-18 with parabolic reflector / without glass window	Infrared LED 13-TO-18R
TO-18 with parabolic reflector / with glass window	Infrared LED 13-TO-18RW
TO-5 with TEC / with cap / with glass window	Infrared LED 13-TO-5
TO-5 with TEC / with parabolic reflector / with glass window	Infrared LED 13-TO-5R

Typical Performance:

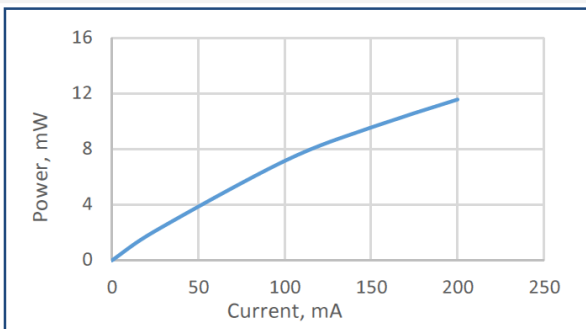
Spectrum at QCW mode



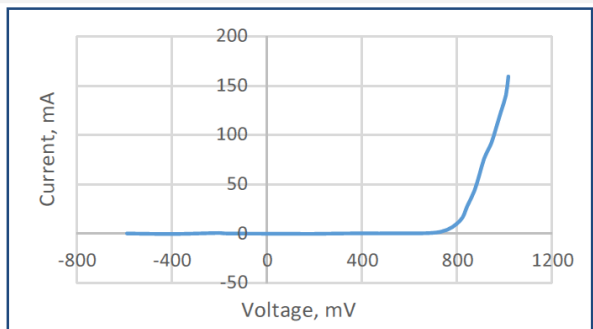
Spectra at different temperatures (QCW)



LED optical power characteristic (QCW)

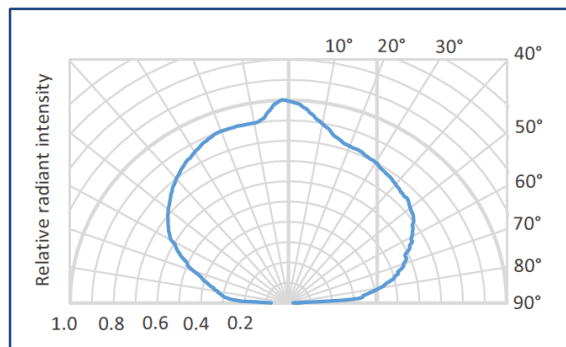


LED typical current-voltage characteristic (QCW)

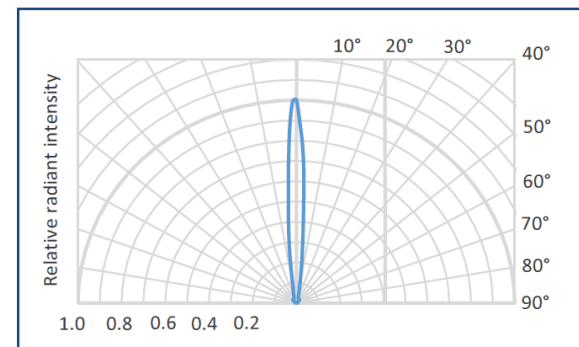


Radiant characteristics (far-field pattern)

TO-18 package

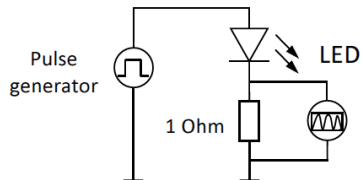


TO-18 package with parabolic reflector

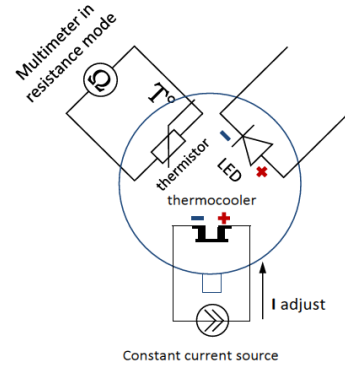


General driver circuit recommended

LED basic circuit connection

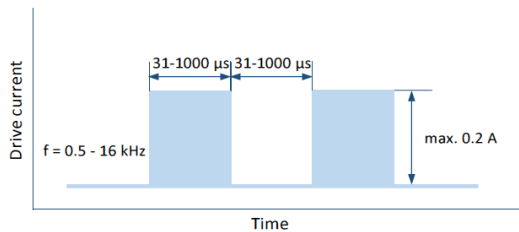


LED with thermoelectric module basic circuit connection

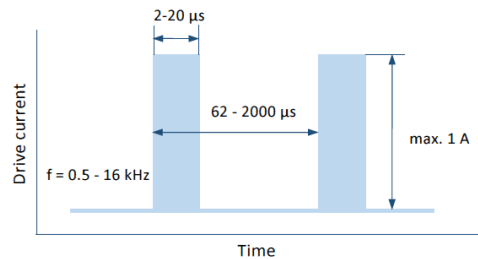


It is recommended using **Quasi Continuous Wave (QCW) mode** with a duty cycle 25% or 50% to obtain maximum average optical power and short **Pulse mode** to obtain maximum peak power. CW (continuous wave) mode above current limit has to be avoided.

Quasi Continuous Wave (QCW) mode



Pulse mode

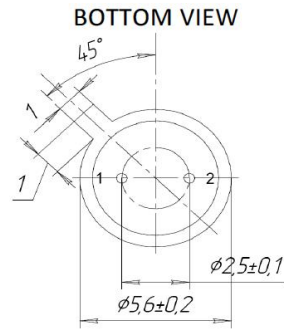
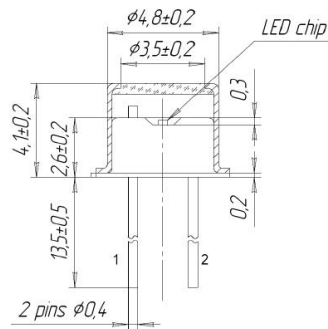
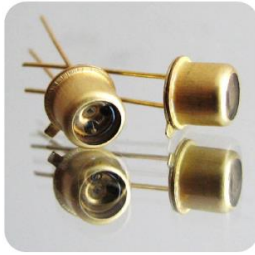


IMPORTANT PRECAUTIONS

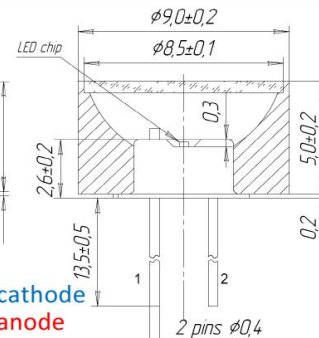
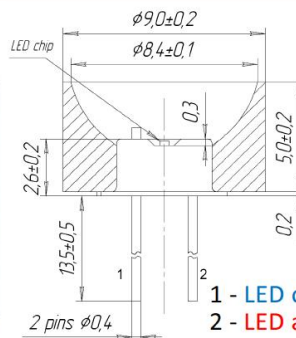
- check circuit connections before turning on the LED
- pay attention to LED polarity: LED anode is marked with RED dot
- never probe LED polarity with a multimeter

Package Drawings:

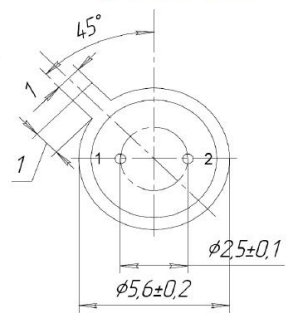
Infrared LED 13-TO-18



1 - LED cathode
2 - LED anode

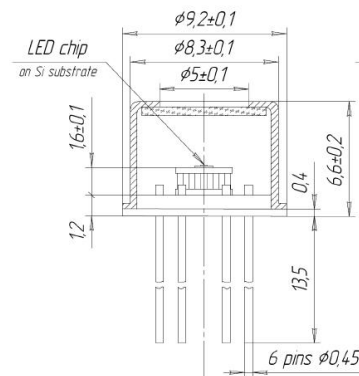
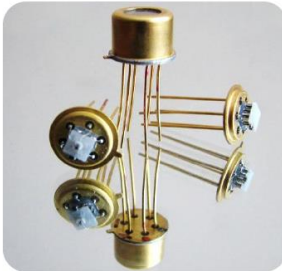
Infrared LED 13-TO-18R
Infrared LED 13-TO-18RW

BOTTOM VIEW

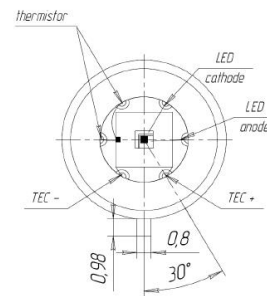


1 - LED cathode
2 - LED anode

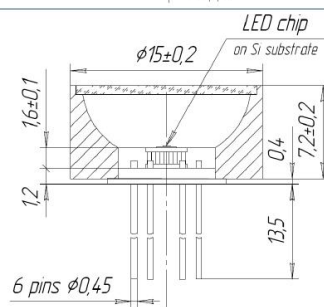
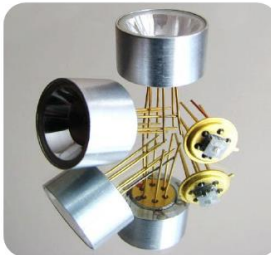
Infrared LED 13-TO-5



TOP VIEW



Infrared LED 13-TO-5R



TOP VIEW

