

Infrared LED 18-XX



Infrared Light Emitting Diode **LED 18** is designed to emit in the spectral range from 1800 to 1890nm.

Specifications (T = 25 °C):

Parameter	Conditions	Value	Unit
Peak Emission Wavelength	I = 200mA, QCW mode ¹⁾	1.80 - 1.89	µm
Emission Band (FWHM)	I = 200mA, QCW mode ¹⁾	100 - 200	nm
Optical Power	I = 200mA, QCW mode ¹⁾	0.7 - 1.1	mW
	I = 1A, Pulse mode ²⁾	4.5 - 6.5	mW
Maximum Operation Current	QCW mode ¹⁾	250	mA
	Pulse mode ²⁾	2	A
Voltage	I = 200mA	0.5 - 2.5	V
Operating/Storage Temperature		-60 - +90 ³⁾	°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%

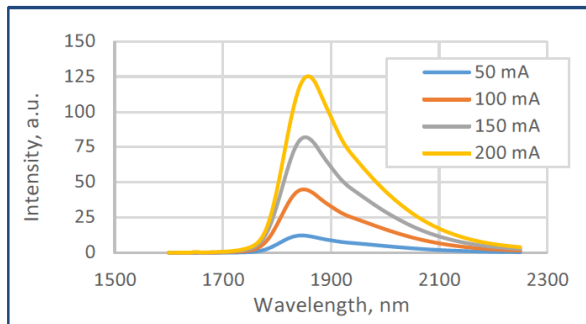
3) Higher operating/storage temperature is available on request

Available Packages:

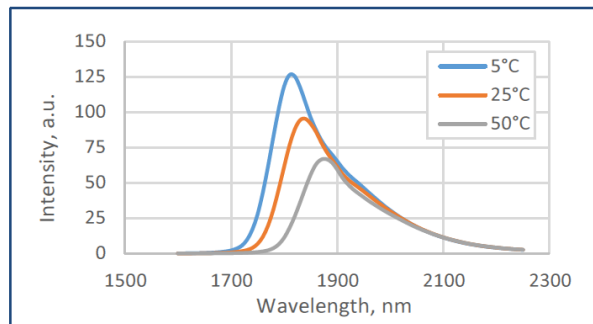
TO-18 with cap / without glass window	Infrared LED 18-TO-18
TO-18 with parabolic reflector / without glass window	Infrared LED 18-TO-18R
TO-18 with parabolic reflector / with glass window	Infrared LED 18-TO-18RW
TO-5 with TEC / with cap / with glass window	Infrared LED 18-TO-5
TO-5 with TEC / with parabolic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

Typical Performance:

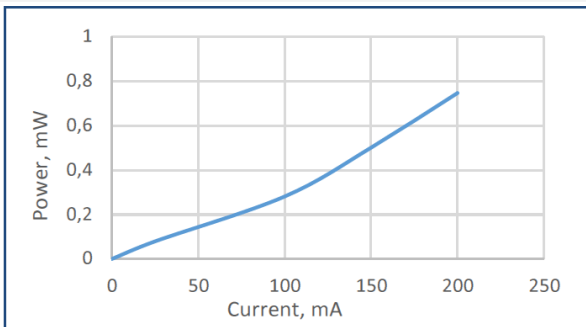
Spectrum at QCW mode



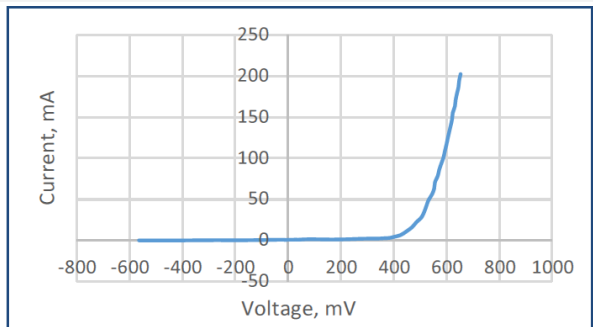
Spectra at different temperatures (QCW)



LED optical power characteristic (QCW)

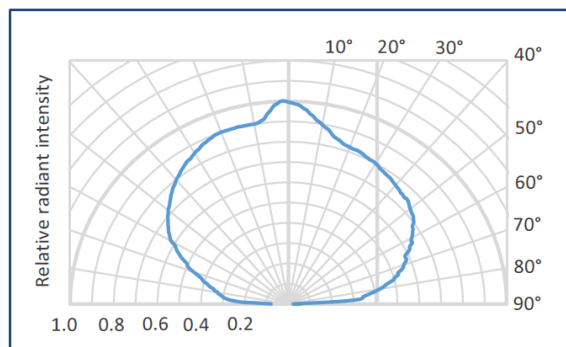


LED typical current-voltage characteristic (QCW)

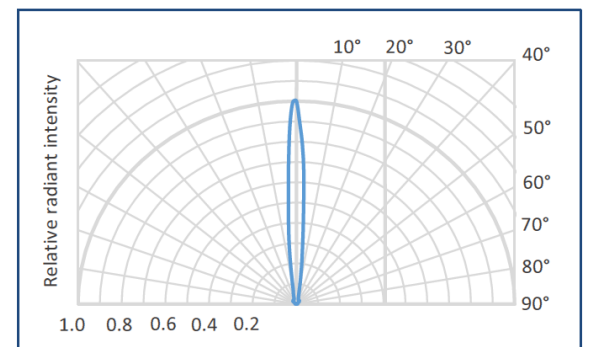


Radiant characteristics (far-field pattern)

TO-18 package

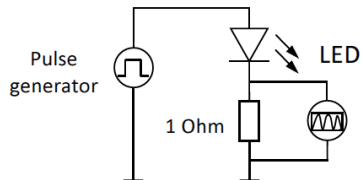


TO-18 package with parabolic reflector

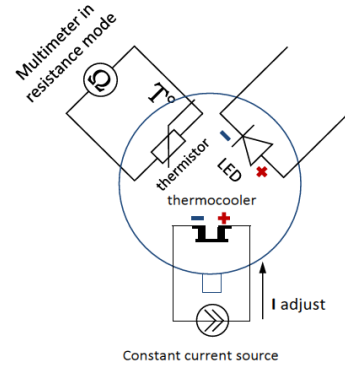


General driver circuit recommended

LED basic circuit connection

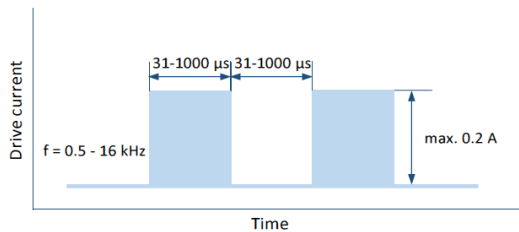


LED with thermoelectric module basic circuit connection

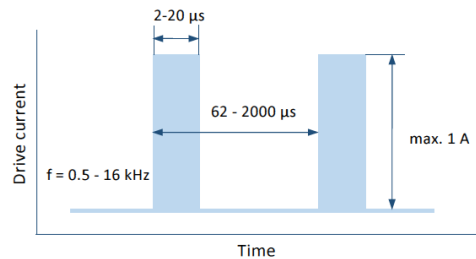


It is recommended using **Quasi Continuous Wave (QCW) mode** with a duty cycle 25% or 50% to obtain maximum average optical power and short **Pulse mode** to obtain maximum peak power. CW (continuous wave) mode above current limit has to be avoided.

Quasi Continuous Wave (QCW) mode



Pulse mode

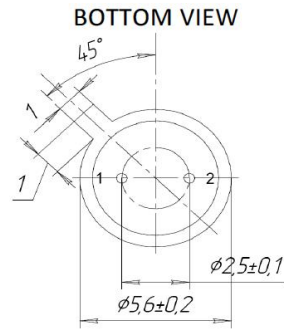
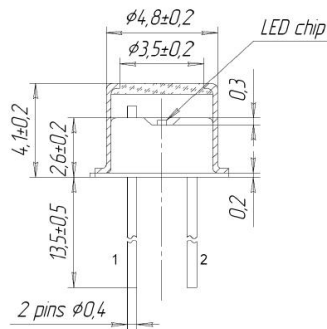
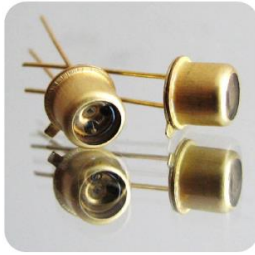


IMPORTANT PRECAUTIONS

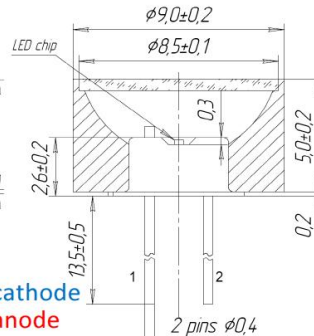
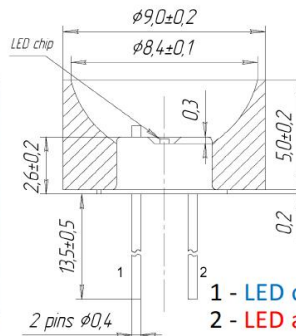
- check circuit connections before turning on the LED
- pay attention to LED polarity: LED anode is marked with RED dot
- never probe LED polarity with a multimeter

Package Drawings:

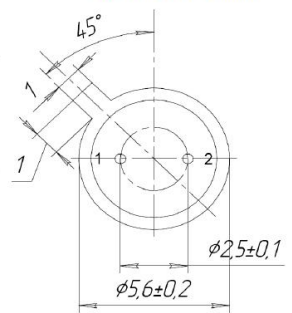
Infrared LED 18-TO-18



1 - LED cathode
2 - LED anode

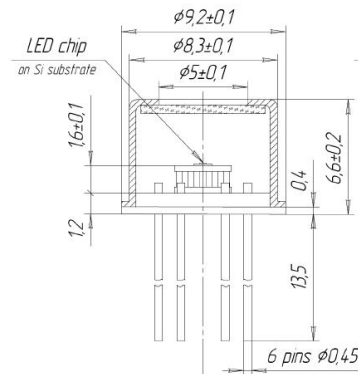
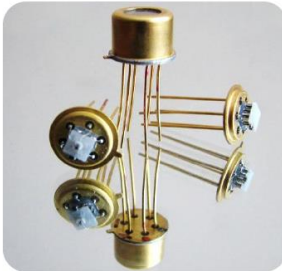
Infrared LED 18-TO-18R
Infrared LED 18-TO-18RW

BOTTOM VIEW

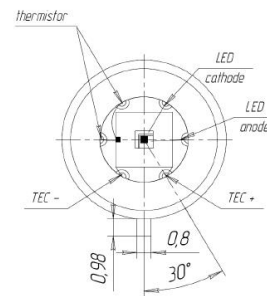


1 - LED cathode
2 - LED anode

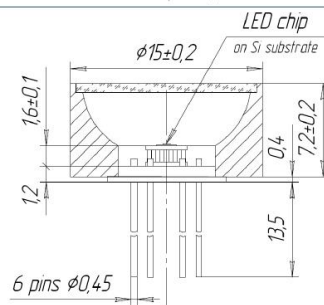
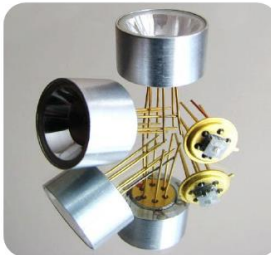
Infrared LED 18-TO-5



TOP VIEW



Infrared LED 18-TO-5R



TOP VIEW

