



ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -O, FAX. -44

1040 VIENNA AUSTRIA
OFFICE@ROITHNER-LASER.COM



IQ802L

- Si Photodiode with integrated TIA
- Range of Sensitivity 400 – 1100 nm
- High Dynamic range
- Hermetically Sealed TO-5 Can
- Hemispherical Glass Lens



Description

IQ802L is a Si photodiode with an active area of 4.8 mm² and integrated transimpedance amplifier with **1 MΩ feedback resistor** and capacitor. It has a range of sensitivity from 400 – 1100 nm, featuring high dynamic range and low noise. **IQ802L** comes in a hermetically sealed **TO-5 Can package with hemispherical glass lens**.

Variants with 10 MΩ (IQ801L) & 100 MΩ (IQ800L) feedback resistor or with flat window glass cap are available on request.

Maximum Ratings*

Parameter	Symbol	Values		Unit
		Min.	Max.	
Supply Voltage	U_S		±18	V
Operating Temperature	T_{OP}	- 25	+ 85	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Lead Solder Temperature ($t_{max. 3s}$)	T_{SLD}		+ 260	°C

* Operating close to or exceeding these parameters may damage the device

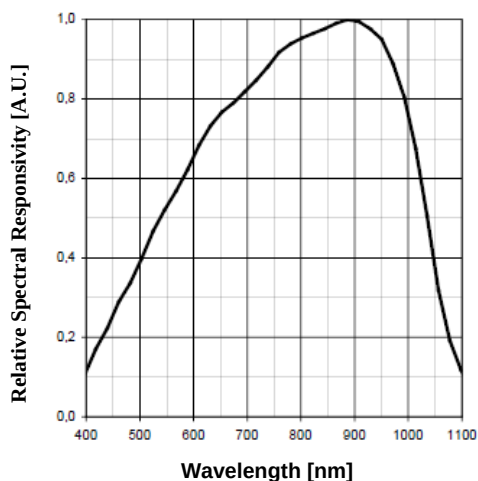
Electro-Optical Characteristics (T_{CASE} = 25°C, U_S = ±15V)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Active Area	A		4.8		mm ²
Range of Sensitivity ($S = 0.1 \cdot S_{MAX}$)	λ		400 ... 1100		nm
Peak Sensitivity Wavelength	λ_P		850		nm
Feedback Resistor	R		1		MΩ
Responsivity @ λ_P	S_{MAX}		1		mV/nW
Dark Offset Voltage	U_F		± 0.5		mV
Noise Voltage (rms, B = 20 kHz)	U_N		0.2		mV
Bandwidth (- 3 dB)	Δf		120		kHz
Rise Time	t_r		3		μs
Viewing Angle (FWHM)	$2\theta_{1/2}$		10		deg.
Supply Voltage	U_S	± 5		± 15	V
Saturation Voltage ($U_S = \pm 15V$ $R_L = 2$ kΩ)			- 14.8	- 14.5	V
Short Current	I_{SC}		± 45		mA
Current Consumption	I_S		2.2	2.6	mA

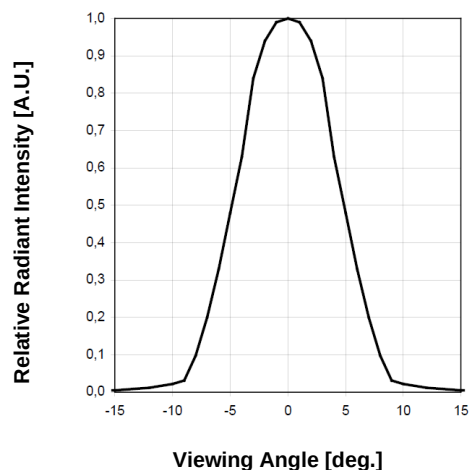


Typical Performance Curves

Rel. Spectral Responsivity vs. Wavelength



Rel. Spectral Responsivity vs. Viewing Angle

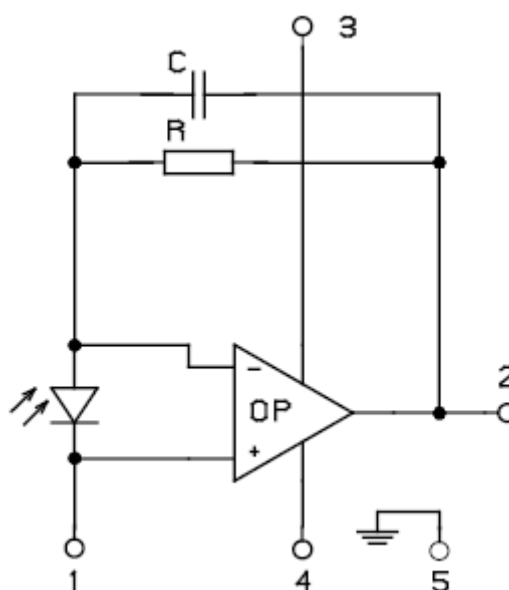


Electrical Connection

Pin Configuration

Pin #	Function
Pin 1	GND
Pin 2	U_o
Pin 3	+ U_s
Pin 4	- U_s
Pin 5	Case

Schematics





ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76

1040 VIENNA

AUSTRIA

TEL. +43 1 586 52 43 -O. FAX. -44

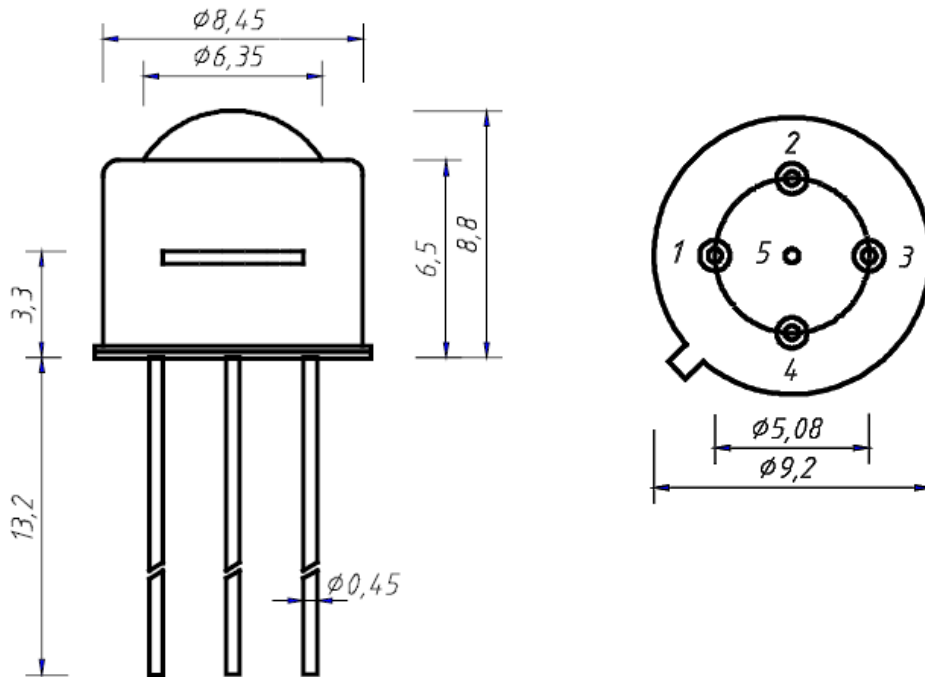
OFFICE@ROITHNER-LASER.COM



Outline Dimensions

TO-5

Bottom View



all dimensions in mm

© All Rights Reserved

The above specifications are for reference purpose only and subjected to change without prior notice