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IQ800L

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



Description

IQ800L is a Si photodiode with an active area of 4.8 mm² and integrated transimpedance amplifier with **100 MΩ feedback resistor** and capacitor. It has a range of sensitivity from 400 – 1100 nm, featuring high dynamic range and low noise. **IQ800L** comes in a hermetically sealed **TO-5 Can package with hemispherical glass lens**.

Variants with 1 MΩ (IQ802L) & 10 MΩ (IQ801L) 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

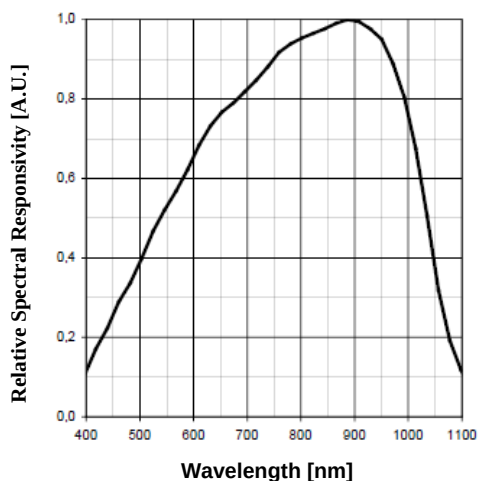
Electro-Optical Characteristics (T_{CASE} = 25°C, U_S = ±15V)

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		100		MΩ
Responsivity @ λ_P	S_{MAX}		100		mV/nW
Dark Offset Voltage	U_F		± 2		mV
Noise Voltage (rms, B = 20 kHz)	U_N		0.5		mV
Bandwidth (- 3 dB)	Δf		10		kHz
Rise Time	t_r		35		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

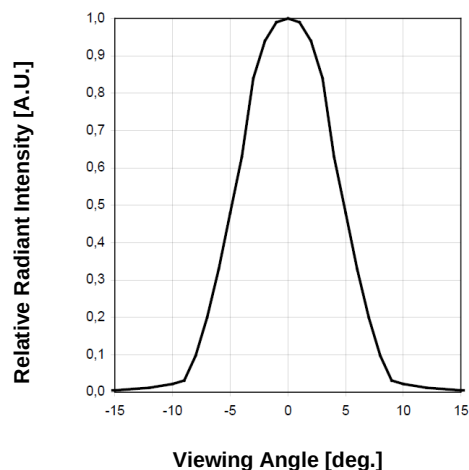


Typical Performance Curves

Rel. Spectral Responsivity vs. Wavelength



Rel. Spectral Responsivity vs. Viewing Angle

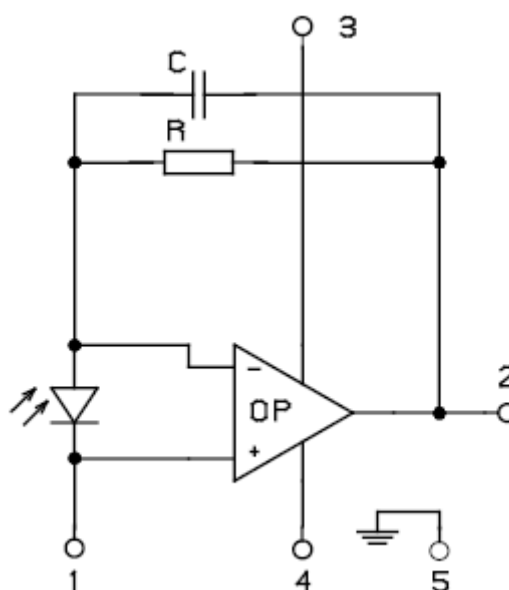


Electrical Connection

Pin Configuration

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

Schematics





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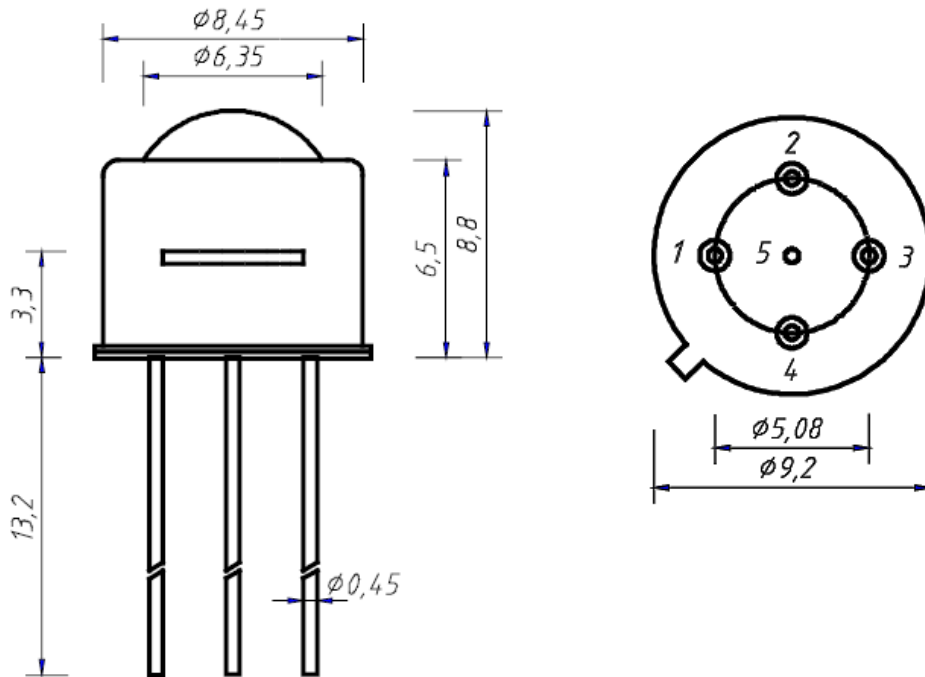
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Outline Dimensions

TO-5

Bottom View



all dimensions in mm

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