



The D123 is an amplified extended InGaAs photoreceiver for the detection of light in the spectral range 900–2500nm. An integrated temperature controller maintains the D123 temperature at -25°C for low noise operation. Three mounting holes allowing pure rotation of the diode, eliminating unwanted translation during mounting.

The D123 has 8-32 tapped mounting holes. The European version has M4 mounting holes.

Features	Low noise photoreceiver with extended InGaAs-PIN diode	
Applications	General Opto-Electronic Measurements Spectroscopy, OEM applications	
Specifications	Parameter	Value
Detector	Material	Extended InGaAs-PIN
	Diameter	0.3 mm
	Spectral Response	900-2500 nm
	Conversion	0.9 A/W
Gain	Fixed	5x10 ⁴ V/A
Frequency response	DC - 100 MHz	
On / Off switch	Toggle switch	
Input	NEP	Down to 15 pW/√Hz at the highest gains
	Max. Input Power	20 mW CW
Output	Impedance	50 Ω
	Noise (RMS)	Less than 15 mV
	Offset	Adjustable externally
	Voltage	0-3 V at 50 Ω load. High impedance can cause oscillations.
	Connector	SMB
Dimensions	W x H x D	50.8 x 50.8 x 80.0 mm
Weight	300 g	
Power supply	Cable with banana plug	± 15 V @ 200 mA; +5 V @ 1.5 A
Storage Temp	-20 to 80 °C	
Operating Temp	0 to 40 °C	

Power supply requirements

We recommend using a linear regulated power supply for optimal results. Switched power supplies are known to have significant ripple, which could deteriorate the D123 performance. The banana plugs for the power supplies have the following colours:

Black:	- 15 V
Green:	Ground
Blue:	+ 5 V
Red:	+ 15 V

The D123 can use power supplies between +/- 12 V and +/-16 V without performance degradation.

If using a +5 V power supply for high current operation, voltage should not exceed 6 V. Above 6 V, the temperature control circuit will produce too much heat load for successful temperature stabilisation.

Temperature stabilisation

The TEC status LED is located on the back panel of the D123. The LED can show one of the three colours: green, yellow and red. Colour assignments are specified below:

Green:	Diode temperature too low and outside the allowable temperature range
Yellow:	Diode temperature locked to set point and within the allowable temperature range
Red:	Diode temperature too high and outside the allowable temperature range

If the LED does not show yellow within one minute , the D123 should be returned for repair.