



Electronics | OptoElectronics

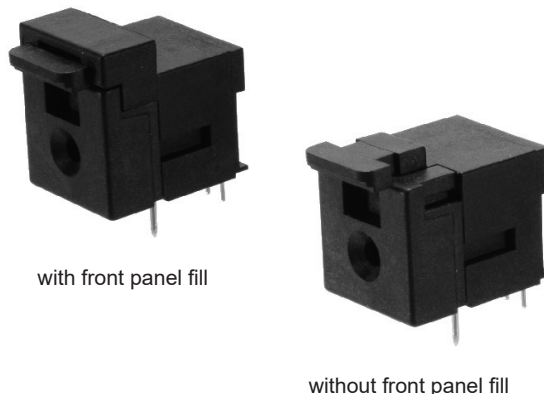
Data Sheet

RPOpto-Clamp
650nm Transmitter

LED 650nm

1 General

The RPOpto-Clamp is especially suitable for applications with standard 1mm plastic optical fiber. Pre-mounted with a fast 650nm LED which has a high digital output signal, the RPOpto-Clamp is a good alternative solution in data transmission systems with plastic optical fibers.



with front panel fill

without front panel fill

Fig. 1

2 Applications

Due to the good optical characteristics and the simple connection technology of the fiber-optic cable, the RPOpto clamp may be used in many applications:

- Optical networks
- Industrial electronics
- Power electronics
- Automotive
- Consumer electronics
- Light barriers

4 Features

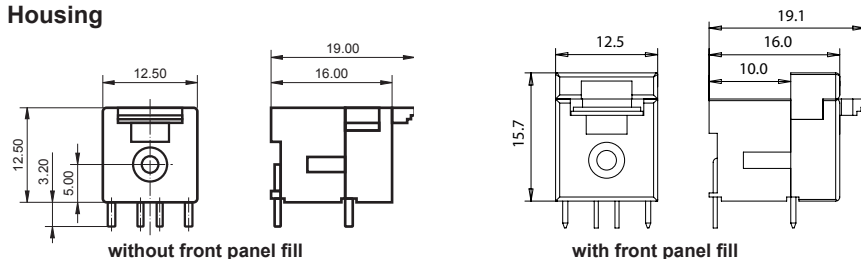
- 650nm LED
- Plugless optical fiber cable assembly
- Suitable for all plastic optical fiber cables with an outside diameter of 2.2 mm and a fiber diameter of 1 mm
- Fast locking mechanism (manual control)
- Plastic housing
- Suitable for automatic assembly
- Reflow-/ wave soldering

3 Ordering Information

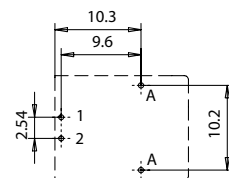
Model	Part Number
650 nm Receiver	905SE650KR001
650 nm Receiver (with front panel fill)	905SE650KR002

5 Technical Drawing

Housing

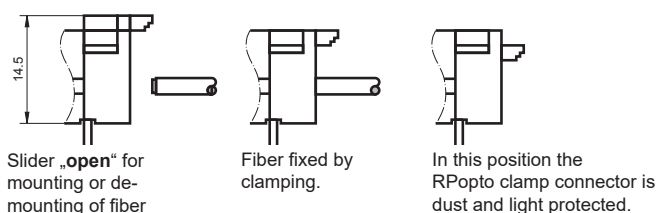


Drilling plan for PCB



View : Component side
 Drill diameter: PIN 1,2 = 0.8 mm
 Fixing pins A = 1 mm

Contingent positions of sliders, locking mechanism



Slider „open“ for mounting or de-mounting of fiber

Fiber fixed by clamping.

In this position the RPOpto clamp connector is dust and light protected.

Schematic diagram

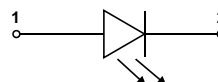


Fig. 2

LED 650nm

6 Maximum Ratings _____

Stresses beyond those listed under 'Maximum Ratings' may cause permanent damage to the device. Listed values are stress limits only and functional operation of the device at these conditions is not recommended. Exposure to maximum rating conditions for extended periods may affect the device reliability.

Parameter	Value	Unit
Operating temperature range	-40 ... +85	°C
Storage temperature range	-40 ... +100	°C
Junction temperature	100	°C
Soldering temperature 2mm from case bottom, t ≤ 5s	260	°C
Reverse voltage	3	V
Forward current	50	mA
Power dissipation	120	mW
Thermal resistance (Junction/Air)	450	K/W

7 Technical Data (T_A = 40°C bis +85°C) _____

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward voltage	V _F	I _{LED_DC} = 50mA, T _A = 25°C		2.0	2.6	V
Optical output power	P _{OPT}	I _{LED_DC} = 10mA, T _A = 25°C, Wert _{dBm} = 10 * log(Wert _{meas} / 1mW), 1mm POF, Länge 1m, NA=0.5	-10.5	-6.2	-2.5	dBm
Peak wavelength	λ _P		630	650	685	nm
Spectral bandwidth	Δ _λ			20	30	
Switching times	t _r (10%...90%)	R _{ILED} = 100Ω, T _A = 25°C, Wert _{dBm} = 10 * log(Wert _{meas} / 1mW)		14	20	ns
	t _f (90%...10%)			16	24	
Capacitance	C _S	f _{meas} = 1MHz; V _f = 0V		52		pF
Temperature coefficient	T _{POPT}	LED 10mA-50mA T _{POPT} bei T _A = -40°C bis +25°C		0		%K
		LED 10mA-50mA; T _{POPT} bei T _A = +25°C bis +85°C		-0.4		
	T _{VF}			-1.8		mV/K
	T _λ			0.16		nm/K

LED 650nm

8 Characteristics

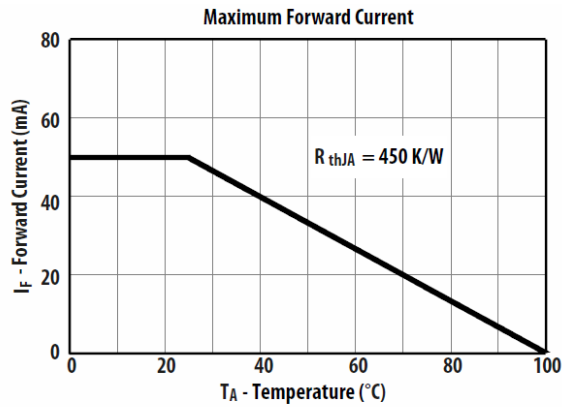


Figure 1. Maximum Forward Current

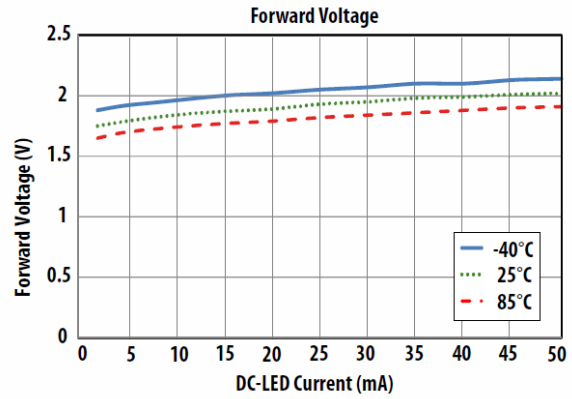


Figure 4. Typical Forward Voltage

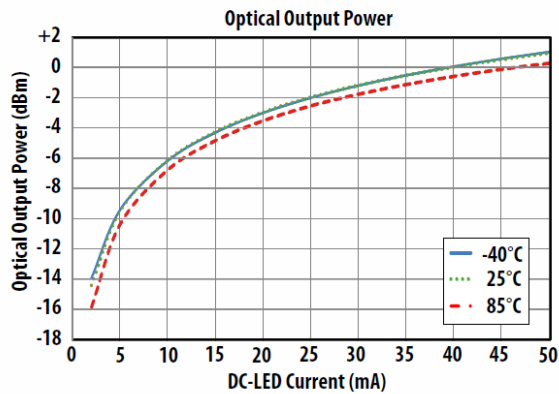


Figure 3. Typical Optical Output Power

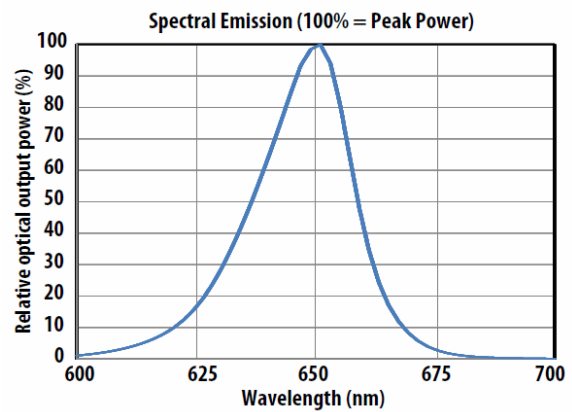


Figure 5. Typical Spectral Emission

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