

LED 660nm 10MBit/s

1 General

The RPopto clamp is especially suitable for applications with standard 1mm plastic optical fiber. Pre-mounted with a fast 660nm LED which has a high output signal, the RPopto clamp is a good alternative solution in data transmission systems with plastic optical fibers.

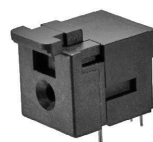
2 Applications

Due to the high data rate of 10MBit/s, the good optical characteristics and the simple connection technology of the fiber optic cable, the RPopto clamp may be used in many applications:

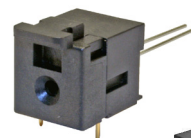
- Optical networks
- Industrial electronics
- Power electronics
- Automotive
- Consumer electronics
- Photo electric barriers

3 Ordering Information

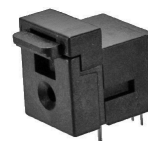
Model	Part Number
660 nm LED	905SE660KR001
660 nm LED (with front panel fill)	905SE660KR002
660 nm LED (straight pin version)	905SE660KR003



without front panel filling



without front panel filling / straight version



with front panel filling

Pic. 1 Fiber optic transmitter

5 Features

- 660nm LED
- 200 μ W output power at 10mA
- 10MBit/s (with suitable driver circuit)
- 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

4 Technical Drawing

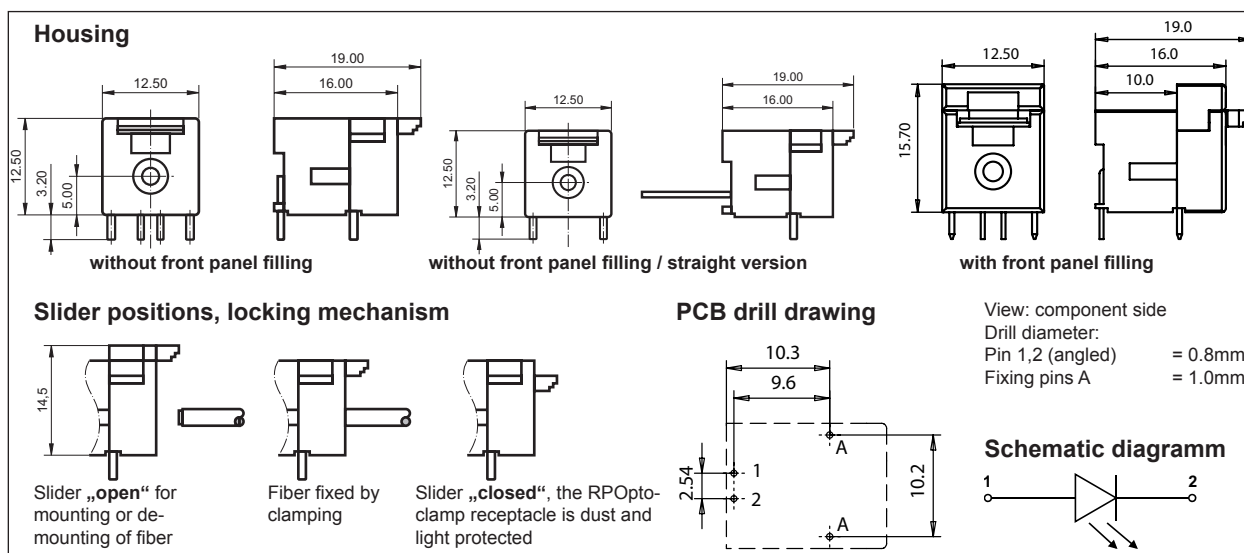


Fig. 2

LED 660nm 10MBit/s

6 Maximum Ratings

Stresses beyond those listed under `Maximum Ratings` may cause permanent damage to the device. Maximum ratings represent stress limits of the device.

Operation of the electronic component at these values is not recommended over an extended period as this may adversely affect the reliability of the component.

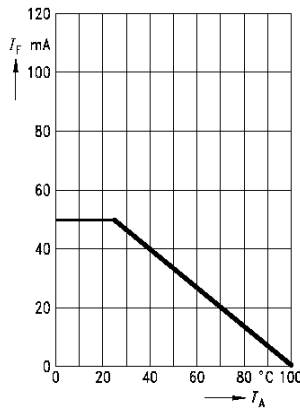
Parameter	Value	Unit
operating temperature	-40 ... +80	°C
storage temperature	-55 ... +100	°C
junction temperature	100	°C
soldering temperature 2mm from housing, t ≤ 5s	260	°C
reverse voltage	3	V
forward current	50	mA
surge current t ≤ 10µs, D=0	1	A
power dissipation	120	mW
thermal resistance	450	K/W

7 Technical Data

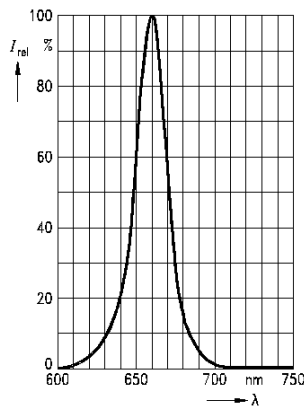
Parameter	Value	Unit
wavelength λ	660	nm
spectral bandwidth $\Delta\lambda$	25	nm
switching times ($I_F=50\text{mA}$)	t_R	100 ns
	t_F	100 ns
capacitance C_J ($V_R=0\text{V}$)	30	pF
forward voltage V_F ($I_F=20\text{mA}$)	2.1 (<2.8)	V
output power P_{OUT} coupled into 1mm plastic fiber ($I_F=10\text{mA}$)	200 (>100)	µW
temperature coefficient P_{OUT}	-0.4	%/K
temperature coefficient V_F	-3	mV/K
temperature coefficient λ	0.16	nm/K

8 Characteristics

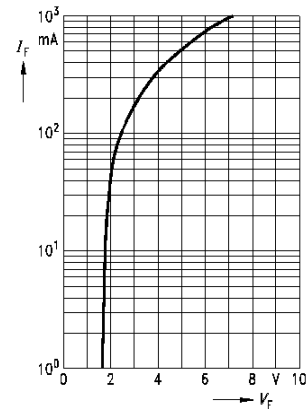
Maximum permissible forward current
 $I_F = f(T_A)$, $R_{thJA} = 450 \text{ K/W}$



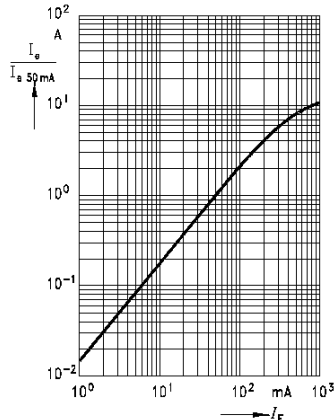
Relative spectral emission $I_{rel} = f(\lambda)$



**Forward current $I_F = f(V_F)$,
single pulse, duration = 20 µs**



**Relative output power $I_e/I_e(50 \text{ mA}) = f(I_F)$
single pulse, duration = 20 µs**



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