

Photoreceiver 660nm, 5MBd

1 General

The RPOpto-Clamp is especially suitable for applications with standard 1mm plastic fiber optical cable. The receiver consists of a photo diode with integrated TIA and a TTL compatible „open collector“ output. The receiver is fully DC coupled and does not require an encoded input signal. The receiver is especially appropriate for fiber optic applications up to 1mm fiber diameter. The RPOpto-Clamp is a good solution in data transmission systems with plastic fiber optical cable.

2 Applications

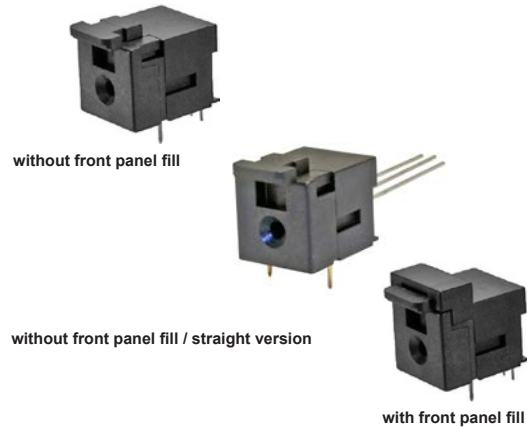
Due to the good optical and mechanical features, this receiver may be used in many applications:

- Optical networks
- Consumer / power / industrial electronic
- Automotive
- Photo electric barriers

3 Ordering Information

Style	Part number
660nm Receiver	905EM660KR001
660nm Receiver (with front panel fill)	05EM660KR002
660nm Receiver (straight pin version)	905EM660KR003

5 Technical Drawing



Pic. 1 Fiber optic receiver

4 Features

- 660nm photo receiver
- open-collector output
- 5MBd
- 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

Housing

without front panel fill without front panel fill / straight version with front panel fill

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.

Drill drawing for PCB

Schematic diagram

View : Component side
 Drill diameter:
 PIN 1,2,3 (angled) = 0.8mm
 Fixing pins A = 1.0mm

Pic 2 Case drawing

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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	-40 ... +85	°C
Storage temperature	-40 ... +100	
Soldering temperature 2mm from receptacle, t ≤ 5s	260	°C
Supply-/ output voltage without damage	-0.5 to 15	V
Operating/minimum voltage for function	≤ 4	
Pullup resistance V _{CC} =5V	330	Ω
Output current	50	mA
Power dissipation	100	mW

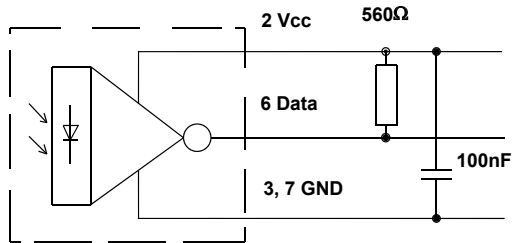
7 Technical Data (T_A=40° to 85°C; V_{CC}=4.75 to 5.25V) _____

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Spectral bandwidth	λ _{80%}		600		780	nm
Peak sensitivity wavelength	λ _{Smax}			700		
Overload threshold	P _{IN(max)}	λ=650nm	252	1000		μW
Max. Sensivity	P _{IN(L)}	POF, λ=650nm	20	6.3		
Propagation delay	t _{PHL}	Input: pattern 1010, 5MBd			120	ns
	t _{PLH}				270	
Output voltage	V _{OH}	at Logic „1“, R=330Ω	V _{CC} -0.6	V _{CC} -0.3		V
	V _{OL}	at Logic „0“, R=330Ω		0.2	0.6	
Switching times 10%-90% 90%-10%	t _r	Input: pattern 1010, 5MBd		14	30	ns
	t _f			4	15	
Current consumption	I _{CC}	Input: pattern 1010, 5MBd	8	14	20	mA
	I _{CCH}	at Logic „1“, Light OFF	1.5	3.5	6.5	
	I _{CCL}	at Logic „0“, Light ON	13	17.5	23	



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8 Application Note



Pic. 3 External circuitry

Note:

- Avoid unwanted signals on the supply voltage.
- Place an 100nF decoupling capacitor as close as possible to the receiver. Keep PCB traces as short as possible. Avoid extraneous light.
- Protect the receiver against dirt.

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