Ratioplast
Electronics | OptoElectronics

Data sheet **Clamp housing 660nm Receiver**

Photoreceiver 660nm 5MBit/s

1 General

The device 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.

2 Application

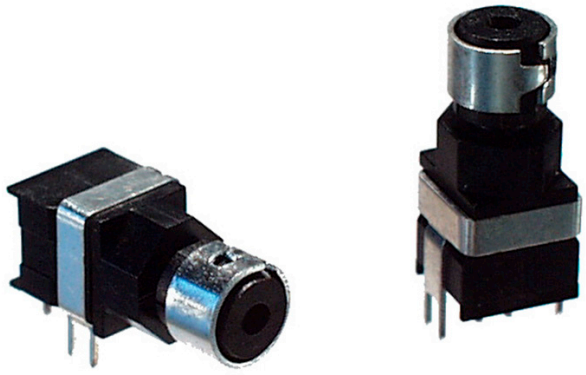
Due to the high data transmission rate of 5MBit/s, the good optical characteristics and the simple connection technology of the fiber optic cable, the device may be used in many applications:

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

3 Ordering information

Receiver 5MBit/s, 660nm

Specification	Part number
horizontal assembly version	905EM660KM001
vertical assembly version	905EM660KM002

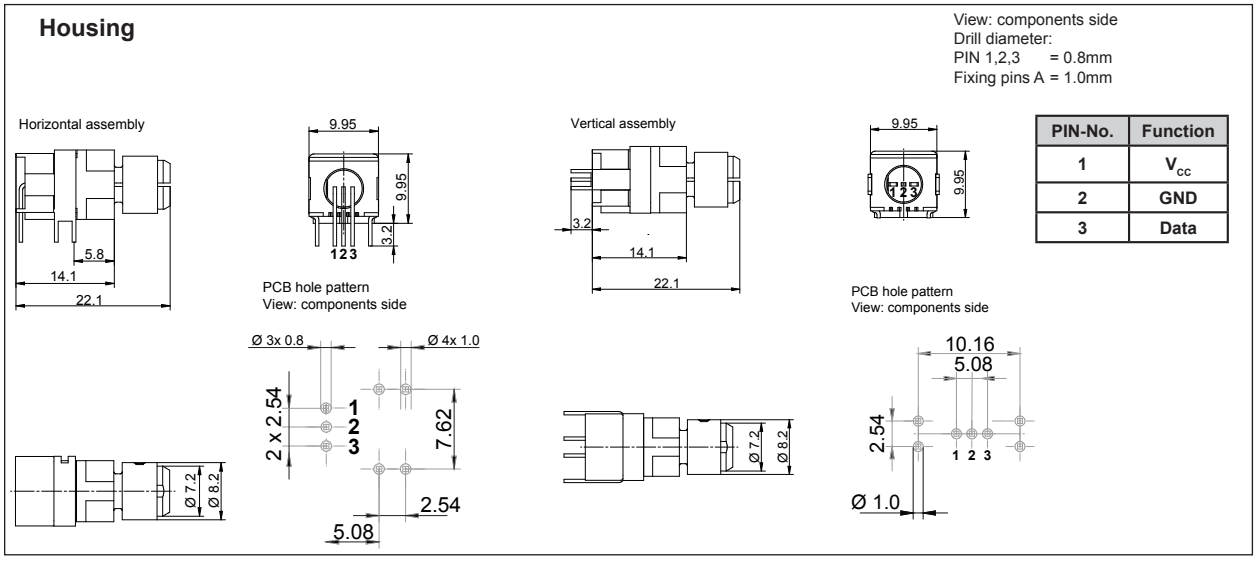


Pic. 1 Pre-mounted clamp receptacles

4 Features

- 660nm Photoreceiver
- open-collector output
- 12µW input sensitivity
- 5MBit/s
- Plugless fiber optic cable assembly
- Suitable for all plastic optical fiber cable with an outside diameter of 2.2mm and a fiber diameter of 1mm
- Fast locking mechanism (clamp ring)
- Plastic housing
- Suitable for automatic assembly
- Reflow-/ wave soldering

5 Drawings



Pic. 2 Drawings

Photoreceiver 660nm 5MBit/s

5 Maximum ratings

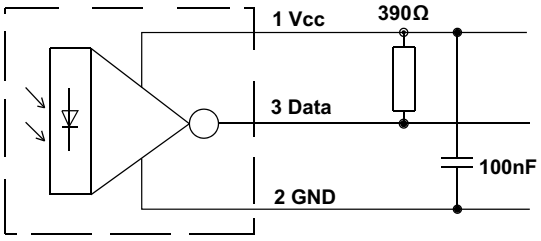
Stresses beyond those listed under «Maximum Ratings» may cause permanent damage to the electronic component. The maximum ratings represent the stress limits of the electronic component. Operation of the electronic component at these values is not recommended over an extended period as this may adversely affect the reliability of the component.

Parameter	Symbol	Value	Unit
Operating voltage	V_{CC} max.	-0.5 to 15	V
Output voltage	V_{oh} max.	-0.5 to 15	V
Min. supply voltage for function	V_{CC} min.	4	V
Output current	Io	50	mA
Minimum pullup resistance (V_{CC} = 5V)	R_{OUT} min.	330	Ω
Soldering temperature t ≤ 5s	T_{Sol}	260	°C
Operating temperature	T_{Opr}	-40 to +85	°C
Storage temperature	T_{Stg}	-40 to +100	°C

6 Technical data

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating voltage	V_{CC}		4.75	-	5.25	V
Data rate	f_D		DC	-	5	MBit/s
Current consumption	I_{CC}	no output current	-	-	4	mA
Min. input power	P_{In} min.	λ = 660nm	-	-	12	µW
Max. photosensitivity wavelength	λ_{Smax}		-	700	-	nm
Photosensitivity spectral range	Δλ	S = 80% S_{max}	600	-	780	nm
Propagation delay	t_{PHL} t_{PLH}		-	120 270	-	ns ns

8 Application note



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