

Photo Receiver 660 nm 5 MBd

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.

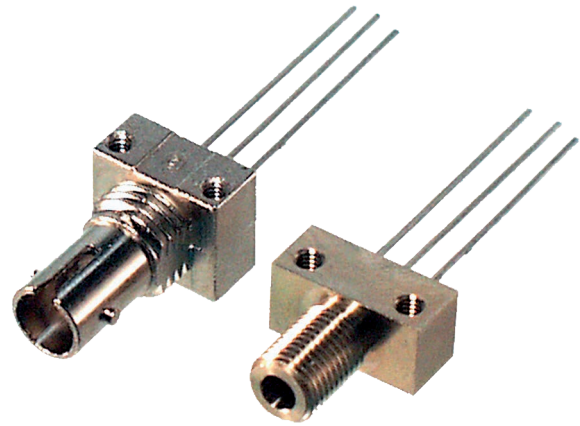
2 Application

Due to the high data transfer rate of 5MBd, 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

Specification	Part number
F-SMA	905 EM 660 SM 101
F-SMA incl. fixing parts	905 EM 660 SM 1Z1
F-ST	905 EM 660 ST 101
F-ST incl. fixing parts	905 EM 660 ST 1Z1

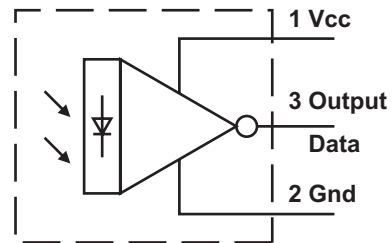
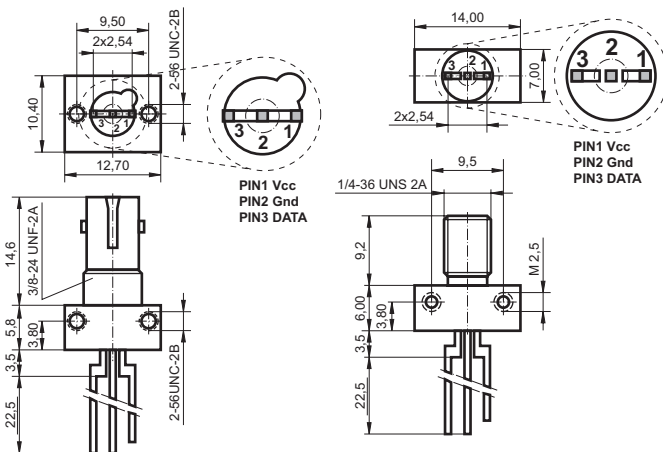


Pic. 1 ST, SMA Metal receptacle

4 Features

- 660nm Photoreceiver
- open-collector output
- 5MBd
- SMA port
- ST port
- Suitable for all plastic optical fiber with outer diameter up to 1mm and PCF fiber
- Metal receptacle
- Reflow-/ wave soldering

5 Drawings



Fixing parts:
 Nut, washer, screws for PCB mounting

Pic. 2 Drawing ST, SMA Metal receptacle

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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

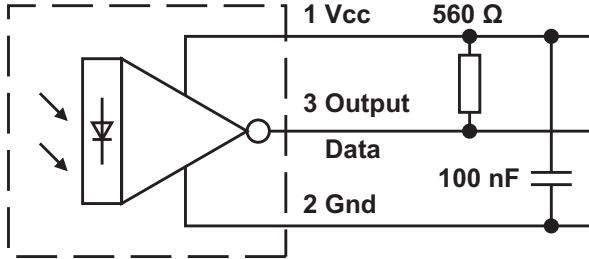
7 Technical Data (T_A=40° to 85°C; V_{CC}=4.75 to 5.25V) _____

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 _____



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

Pic. 3 *Circuitry*

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