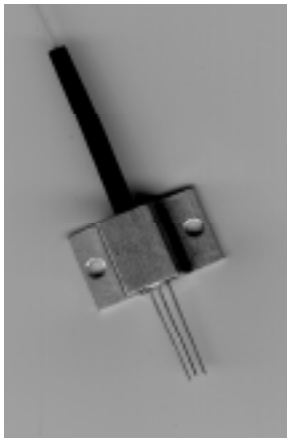
SIEMENS

Optical Receiver Module
(Photodiode with Preamplifier)

SRP00264x
SRP00265x

Preliminary Data



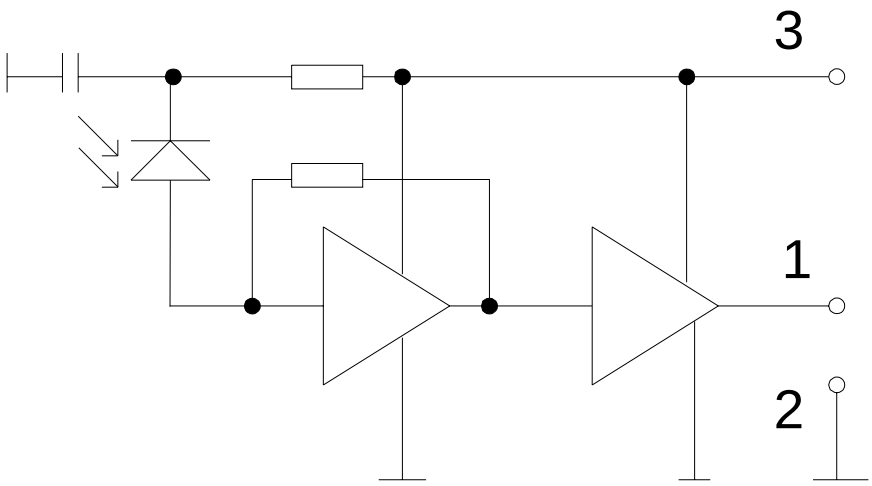
- InGaAs/InP-PIN-photodiode with Preamplifier-IC
- Designed for **SONET/SDH** and Fiber Channel applications in fiber-optic communication systems with lower sensitivity
- Hermetically sealed TO46 coaxial package
- MMF-pigtail with different plugs
- Sensitive in both opt. windows (1300 and 1550 nm)
- 3dB-Bandwidth 1.0 GHz
- Module with optical sensitivity -30 dBm
- 25 dB dynamic range with 2 kΩ transimpedance
- DC-restore function with 350 µA threshold
- Single output with 3 Ω impedance
- Excellent noise immunity due to internal blocking and filtering capacitors
- SRP00265x with flange for easy mounting

Maximum Ratings

Optical power ratings refer to the SM fiber input.

Module	**Symbol**	**Values**	**Unit**
Operating temperature range at case	T_C	- 40... +85	°C
Storage temperature range	T_{stg}	- 40... +85	°C
Soldering temperature tmax = 10 s, 2 mm distance from bottom edge of case	T_S	260	°C/min
Maximum Voltage	V_{CC}	6	V
Optical Overload	P_{max}	900	µW

Principal function:



Characteristics
at T_A= 25°C, unless otherwise specified. Optical power data refer to SM fibre as optical port. Typical values, if not otherwise specified.

	Symbol	**Min.**	**Typ.**	**Max.**	**Unit**
Optical Sensitivity (BER≤ 10^{-9})	S		-30		dBm
Linear Bandwidth (-3dB)	BW	0.8	1.0		GHz
Optical overload	P_{max}		900		µW
Transresistance P_{opt}> 500 µW P_{opt}< 100 µW	 R_T R_T	 0.4 1.6	 2.0	 2.4	 kΩ kΩ
DC-Restore Time Constant	TDC		1		µs
DC-Restore Threshold	P_T	300	400	500	µW
Supply Voltage	V_{CC}	4.5	5	6	V
Supply Current	I_{CC}		55	75	mA
Gain	G	1.2	1.8	2.4	mV/µW

Description
The SRP00264x / SRP00265x is an optical receiver module which uses a high-speed PIN photodetector coupled with a hybrid low noise transimpedance amplifier (TIA) for 1300 nm or 1550 nm optical communications. The PIN-Photodiode is made of InGaAs/InP and has an active diameter of 75 µm.
The function of the PIN-TIA module is to detect input optical power, to transduce the incident radiation into current and then to convert the current into a voltage and drive 50Ω line.

The low input noise current density of the transimpedance amplifiers provides the optical receiver module, when used with appropriate filtering, with ample sensitivity for realizing minimum input power requirements.
Designers of optical receivers can use the module in any application that benefits from integration of the photodiode and TIA into a TO coaxial package. Typical for such applications are receivers for digital crossconnects, digital loop carriers, add/drop-multiplexers and optical network units.
The SRP00264x / SRP00265x is also beneficial because it operates from a single +5 volt supply and is packaged in a compact, hermetically sealed module. In addition, the SRP00264x / SRP00265x, which has three isolated leads, requires fewer electrical connections and no additional shielding compared with discrete implementations of the photodetection / TIA-function. These features make the SRP00264x / SRP00265x an excellent optical receiver module of benefit in other fiber optic receiver applications.

Pinout of the Receiver Module:
(Bottom view)