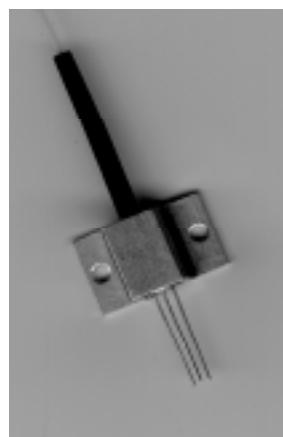


## Optical Receiver Module (Photodiode with Preamplifier)

**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 k $\Omega$  transimpedance
- DC-restore function with 350  $\mu$ A threshold
- Single output with 3  $\Omega$  impedance
- Excellent noise immunity due to internal blocking and filtering capacitors
- SRP00265x with flange for easy mounting

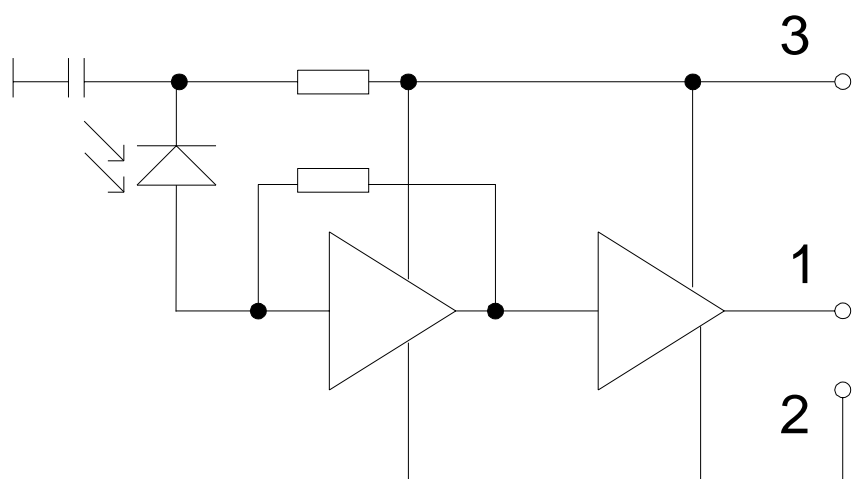


### Maximum Ratings

Optical power ratings refer to the SM fiber input.

Module	Symbol	Values	Unit
Operating temperature range at case	$T_C$	- 40... +85	$^{\circ}\text{C}$
Storage temperature range	$T_{\text{stg}}$	- 40... +85	$^{\circ}\text{C}$
Soldering temperature <small>t<sub>max</sub> = 10 s, 2 mm distance from bottom edge of case</small>	$T_S$	260	$^{\circ}\text{C}/\text{min}$
Maximum Voltage	$V_{CC}$	6	V
Optical Overload	$P_{\text{max}}$	900	$\mu\text{W}$

## Principal function:



## Characteristics

at  $T_A = 25^\circ\text{C}$ , 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 ( $\text{BER} \leq 10^{-9}$ )	S		-30		dBm
Linear Bandwidth (-3dB)	BW	0.8	1.0		GHz
Optical overload	$P_{\text{max}}$		900		$\mu\text{W}$
Transresistance					
$P_{\text{opt}} > 500 \mu\text{W}$	$R_T$	0.4			$\text{k}\Omega$
$P_{\text{opt}} < 100 \mu\text{W}$	$R_T$	1.6	2.0	2.4	$\text{k}\Omega$
DC-Restore Time Constant	TDC		1		$\mu\text{s}$
DC-Restore Threshold	$P_T$	300	400	500	$\mu\text{W}$
Supply Voltage	$V_{CC}$	4.5	5	6	V
Supply Current	$I_{CC}$		55	75	mA
Gain	G	1.2	1.8	2.4	$\text{mV}/\mu\text{W}$

## Description

The SRP00264x / SRP00265x is an optical receiver module which uses a high-speed PIN photodiode 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  $\mu\text{m}$ .

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 50 $\Omega$  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)**

