Optical Communications

18 GHz HIGH GAIN LIMITING PHOTORECEIVER

XPRV2324A

The XPRV2324A photoreceiver is a single-ended front-end with a bandwidth of 18 GHz supporting both optical windows, O-band, and C-band. The module contains a waveguide-integrated PIN-photodiode and a limiting transimpedance amplifier. An integrated feedback loop optimizes the performance in the frequency and/or time domain with respect to different optical input power. Incorporated blocking capacitors enable AC output coupling.
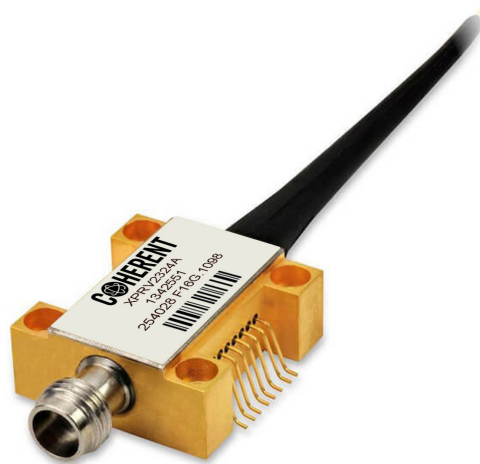
Picture shows product example, actual product might differ

FEATURES

- PIN / TIA photoreceiver module
- 18 GHz typical bandwidth
- High gain, low noise
- SMD package with V® connector
- AC coupled output
- 1310 and 1550 nm window

APPLICATIONS

- 25 Gb/s communication systems
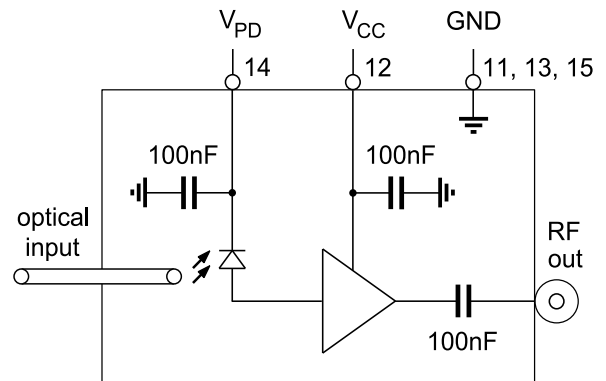- Transponder and line card designs
- Laboratory test equipment

C⊛HERENT

Product Selection

XPRV2324A -Vy-zz

Vy	VF	= Female V® connector
zz	FP	= FC/PC connector (standard)
	FA	= FC/APC connector
		Other customized configurations on request

Block Diagram

Key Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Case Temperature	T_{CASE}		0		75	°C
Storage Temperature	T_{STORE}		-40		85	°C
Wavelength Range	λ	O-band C-band		1310 1550		nm
Photodiode Supply Voltage Amplifier Supply Voltage	V_{PD} V_{CC}			3.3		V
Average Optical Input Power	P_{OPT_avg}				3	dBm
3 dB Cut-off Frequency	f_{3dB}	MGC mode, 100D		18		GHz
Output Reflection Coefficient	s_{22}				-2	dB
Conversion Gain	CG	P_{OPT_avg} = -10 dBm		900		V/W
Output Voltage Swing	V_{OUT}	Maximum gain		150		mV
Power Consumption	P_{CON}	V_{CC} = max			100	mW
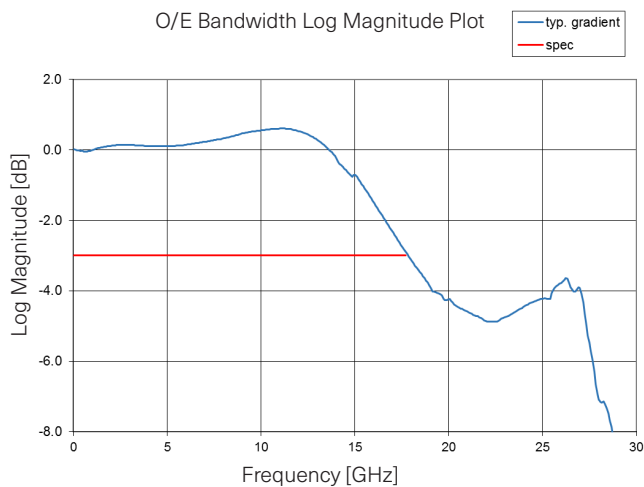
Typical S21 Frequency Response
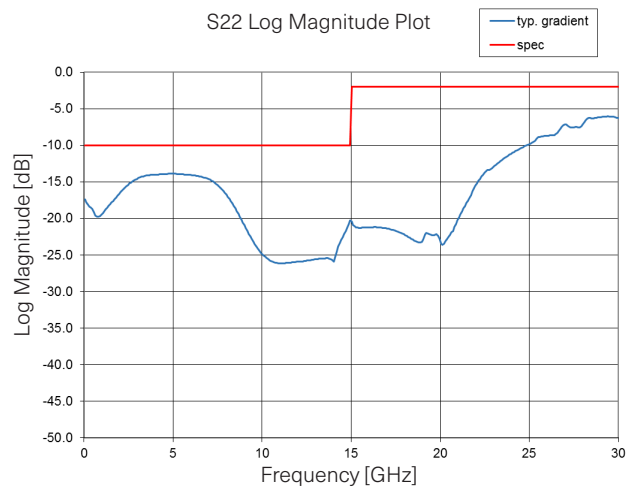
Typical S22 Reflection Coefficient