Optical Communications

70 GHz HIGH SPEED PHOTODETECTOR

XPDV3x20R

The XPDV3x20R photodetector consists of a well-established, waveguide-integrated single photodiode chip, designed to exhibit an optimized frequency response in both power and phase. Due to experienced RF packaging, the pulse response shows almost no ringing. The integrated on-chip spot size converter leads to a high responsivity and ensures reliability and robustness of the detector. An advantage of the waveguide structure is the unsurpassed high-power behavior with linear response up to an optical input power of 10 dBm. XPDVs contain a unique on-chip integrated bias network and ensure undisturbed frequency response from DC to the 3 dB cut-off frequency. Besides the standard version optimized for C-band a dual window version supporting O- and C- band is offered.



Picture shows product example, actual product might differ

FEATURES

- 70 GHz typical bandwidth with flat response
- High linearity
- C- band and dual window version
- Unique on-chip integrated bias network
- High Linearity (OIP3 > 30 dBm at 10 GHz)

APPLICATIONS

- Microwave Photonics
- Analog Photonic links
- Radio-over-Fiber

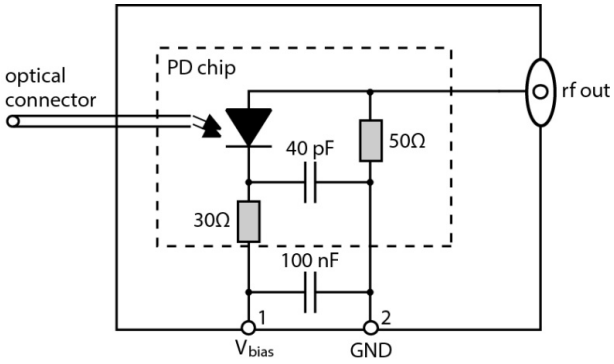
COHERENT

Product Selection

XPDV3x20R -Vy-zz

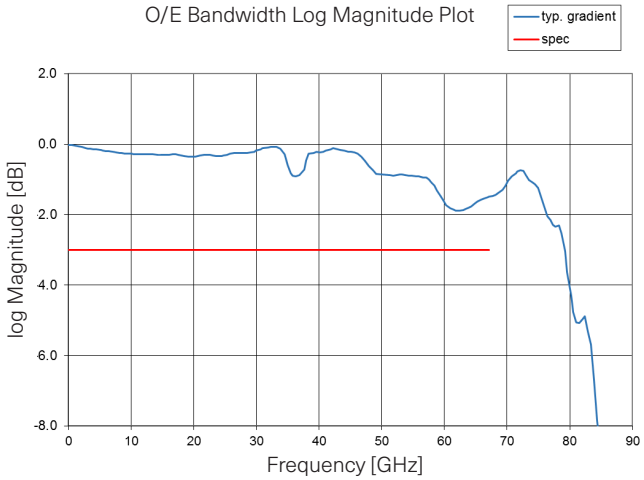
x	1	= C-band version
	3	= Dual window version
Vy	VF	= Female V® connector
	VM	= Male V® connector
zz	FP	= FC/PC connector (standard)
	FA	= FC/APC connector

Block Diagram

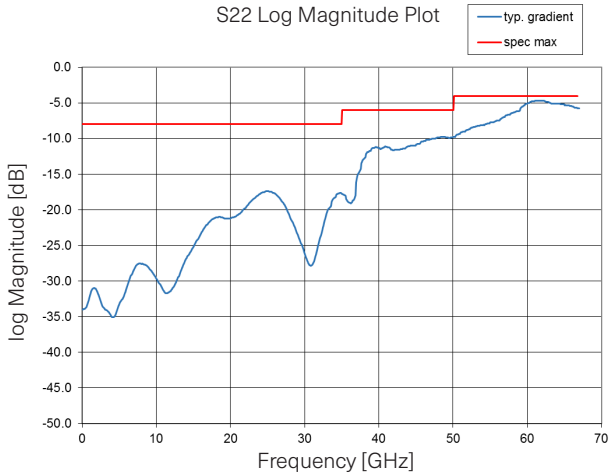


Key Specifications

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	V_{PD}			2.8		V
Average Optical Input Power	P_{OPT_avg}				10	dBm
Photodiode DC Responsivity	R	C-band		0.65		A/W
Polarization-Dependent Loss	PDL	C-band		0.3		nA
Photodiode Dark Current	I_{DARK}	T_{CASE} = 25 °C		5		GHz
3 dB Cut-off Frequency	f_{3dB}	C-band	65			dB
Output Reflection Coefficient	s_{22}				-4	



Typical frequency response s_{21}



Typical backreflection s_{22}

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