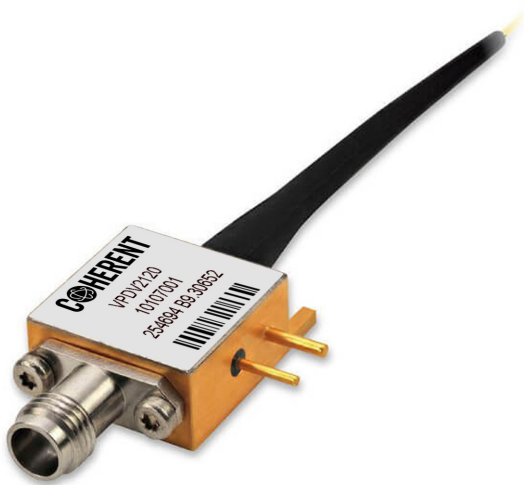


20 GHz ULTRA-HIGH-POWER PHOTODETECTOR

VPDV2120

The VPDV2120 is a very compact, hermetically packaged, optical detector module with an ultra-high RF output power of >22 dBm at a frequency of 10 GHz. It offers a high responsivity of 0.55 A/W (1550 nm) and a very high saturation photocurrent of 120 mA at 10 GHz. The device exhibits a high linearity, with typical OIP3 values above 30 dBm at a frequency of 10 GHz and does not require any cooling. The device is using a modified uni-travelling carrier (MUTC) photodetector chip. The VPDV2120 is not matched to 50 Ω . For applying a bias voltage of -6 V, an external Bias-Tee is required.



Picture shows product example, actual product might differ

FEATURES

- Ultra-High RF Output Power of ≥ 22 dBm at 10 GHz
- High Linearity (OIP3 > 30 dBm at 10 GHz)
- High Saturation Photocurrent of 120 mA at 10 GHz
- No cooling required
- Operational up to 20 GHz and beyond

APPLICATIONS

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

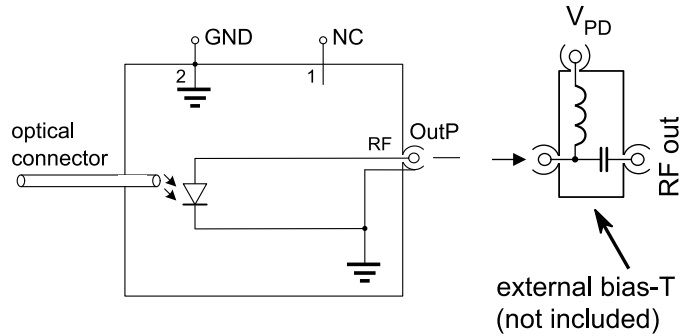
20 GHz ULTRA-HIGH-POWER PHOTODETECTOR

Product Selection

VPDV2120R-VF-zz

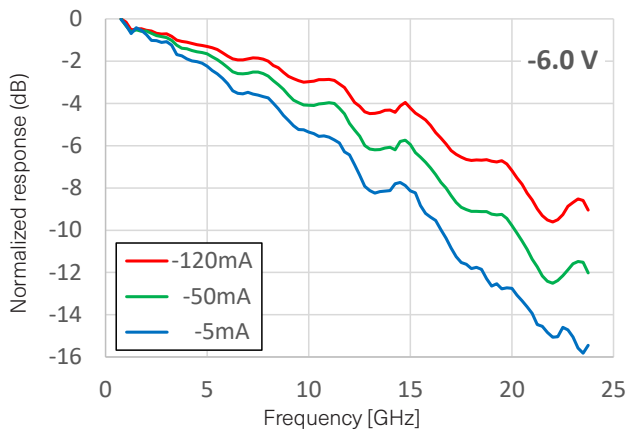
VF	VF	= Female V [®] connector
zz	FP	= FC/PC connector (standard)
	FA	= FC/APC connector

Block Diagram

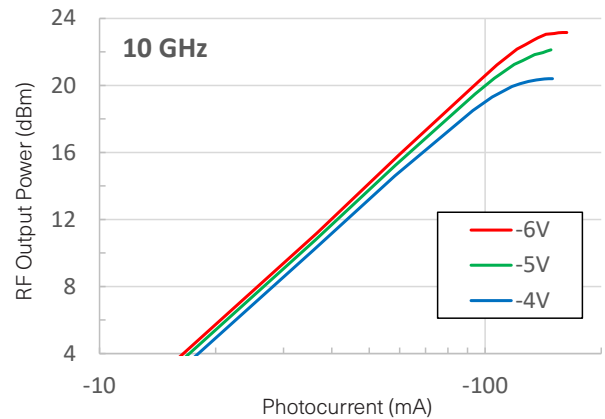


Key Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Case Temperature	T_{CASE}		0		50	°C
Storage Temperature	T_{STORE}		-40		85	°C
Wavelength Range	λ	C-band		1550		nm
Photodiode Supply Voltage	V_{PD}			-5.0		V
Average Optical Input Power	P_{OPT_avg}				23.5	dBm
Photodiode DC Responsivity	R	Optimum polarization	0.4			A/W
Photodiode Dark Current	I_{DARK}	$T_{CASE} = 25\text{ °C}$		-10		nA
RF output power	P_{out}	1)		22		dBm
Output 3 rd order intercept point	OIP3	1)		33		dBm



Frequency response of the VPDV2120 measured with a heterodyne signal



RF output power as a function of the photocurrent