Production and Quality Control
Datasheet Schottky Receiver

1.0 General

Order Number	VB.21.02659
Institute/Company	Oklahoma State University
Production Date	08.02.2022

2.0 Components

Schottky Diode	Receiver SCHOTTKY-FD-RX-1	SN 43-41
	Zero-bias Schottky diode, high-responsivity model	
Package	Lens: Si lens, ∅ 12 mm	
	Electrical connector: SMA	
	Output impedance: 50 Ω	
Typical NEP	7 pW/sqrt(Hz) @ 100 GHz	
	100 pW/sqrt(Hz) @ 1 THz	
Typical Responsivity	22000 V/W @ 100 GHz	
	1100 V/W @ 1 THz	
Amplifier	Integrated transimpedance amplifier,	
	Gain factor: 10^5 V/A	
	Bandwidth 10 Hz – 1 MHz	

CAUTION!	**Schottky diodes are electrostatic-discharge sensitive devices!** **We recommend to always wear a high-impedance grounding strap for handling.**

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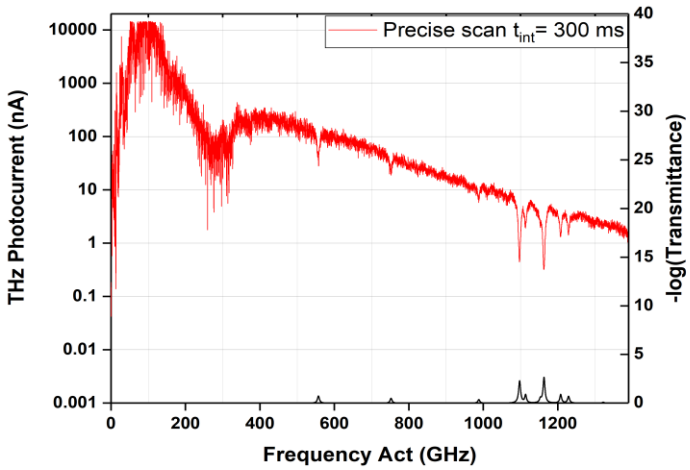
3.0 Measurements

Laser Heads	DFB pro BFY THz L heads, SN 33369 + 33362			
	Wavelengths: 1550 nm + 1545 nm			
	Optical power before mating sleeve: 33 mW			
Electronics	DLC smart, SN 015163			
Lock-in Detection Settings	Emitter Bias: -0.4 V DC ± 0.9 V AC (Offset ± Modulation Amplitude)			
	Modulation Frequency: 39.7 kHz			
	Lock-in Phase: 95.3 deg			
	Integration Time: 3 ms / 300 ms			
Terahertz Emitter	PCA-FD-1550-100-TX-1, InGaAs photodiode photomixer, SN TC211009			
Receiver Characteristics	Noise:			
	• 40 pA @ 3 ms lock-in integration time			
	• 4.3 pA @ 300 ms lock-in integration time			
Terahertz Characteristics	Frequency	100 GHz	500 GHz	1000 GHz
	Receiver photocurrent	2880 nA	121 nA	12 nA

Terahertz Spectrum



4.0 Instructions and Comments

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5.0 Quality Control

Production	**Cansu Arpacioglu**	**Date**	**08.02.2022**
Final Check		**Date**	**08.02.2022**

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