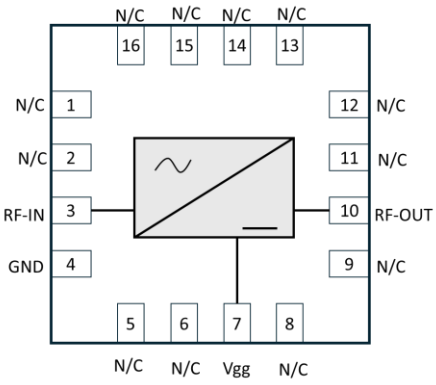
Voltage Detector

PRE-RELEASE DATASHEET RFTSSI28

Features:

- RF Frequency: 24-28 GHz
- Input Return Loss: 13 dB
- Detecting Voltage: 0.36 to 6.1 V
- Input Power Detection: -20 to 20 dBm
- Diode Bias: 1.3 V
- 0.1um GaAs pHEMT Technology
- Die Size: 1.2 mm * 1.02 mm

Functional Block Diagram



Description:

RFTSSI28 is a Voltage Detector that operates at 24 – 28 GHz. The Voltage Detector provides Input Power Detection from -20 dBm to 20 dBm. The input and output are matched to 50 Ohms with on-chip DC blocking capacitors.

The device is specifically designed for 24 – 28 GHz frequency in 5G Wireless Communication, Radar Systems, WiFi, Fixed Wireless Access (FWA), Imaging and Sensing, and SATCOM Applications.

The Technology used to design the Voltage Detector is a 0.1um GaAs pHEMT Process.

Pin Configuration

Pin No.	Pin Name	Description
3	RF-IN	RF Input
10	RF-OUT	RF Output
7	VGG	Gate Voltage
4	GND	Ground
1,2,5,6,8,9,11,12,13,14,15,16	N/C	Not Connected

Applications:

- 5G Wireless Communication.
- SATCOM
- Radar Systems
- Fixed Wireless Access (FWA)
- Imaging and Sensing

Deliverables:

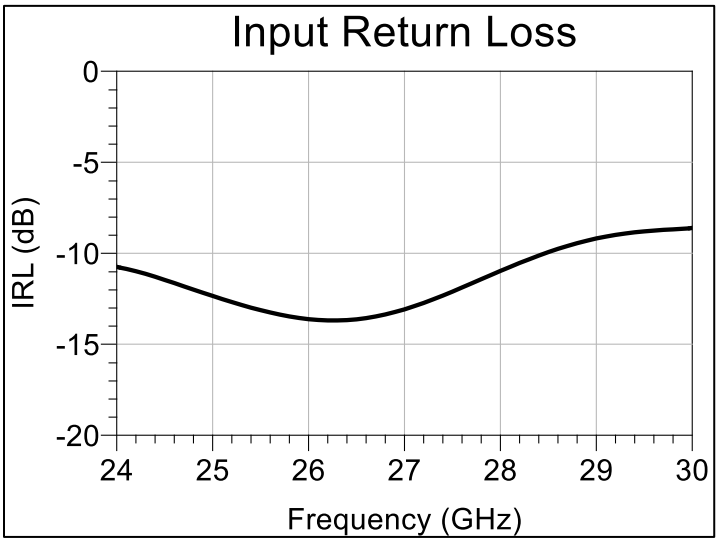
- Sample Ready Packaged Die
- Test Results
- Product Datasheet

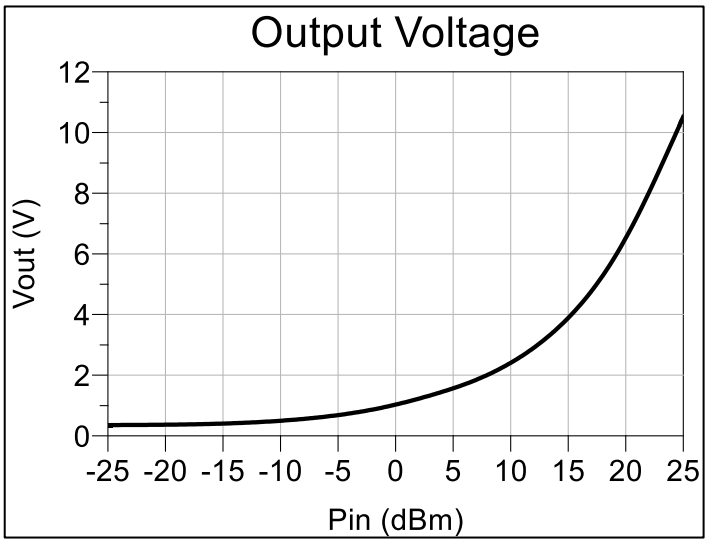
Electrical Specification:

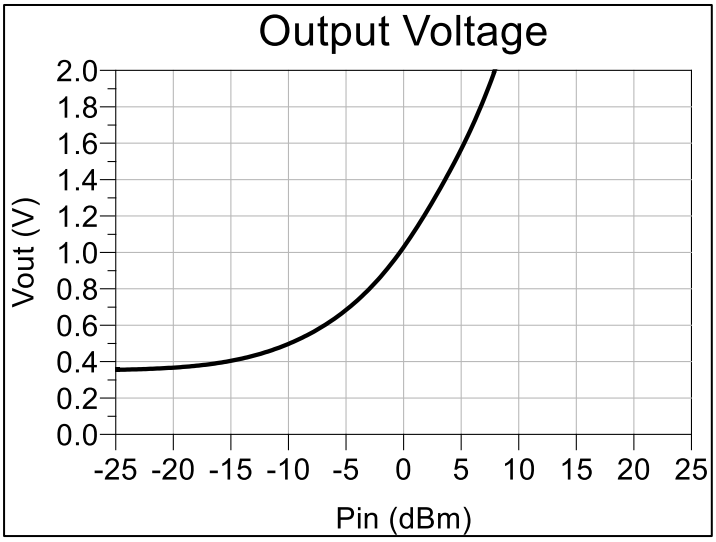
Freq= 24 - 28GHz, VDD = 1.2V, ID= 175 uA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Input Return Loss	24 GHz	dB	10.7
	27 GHz		13
	30 GHz		8.6
Output Voltage	Pin @ -20	V	0.36
	Pin @ 0		1
	Pin @ 20		6.5
Operating Bias Conditions			
Drain Current (Id)	-	uA	175
Drain Voltage (VDD)	-	V	1.3
Gate Voltage (VGG)	-	V	_

Typical Performance Curves:







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