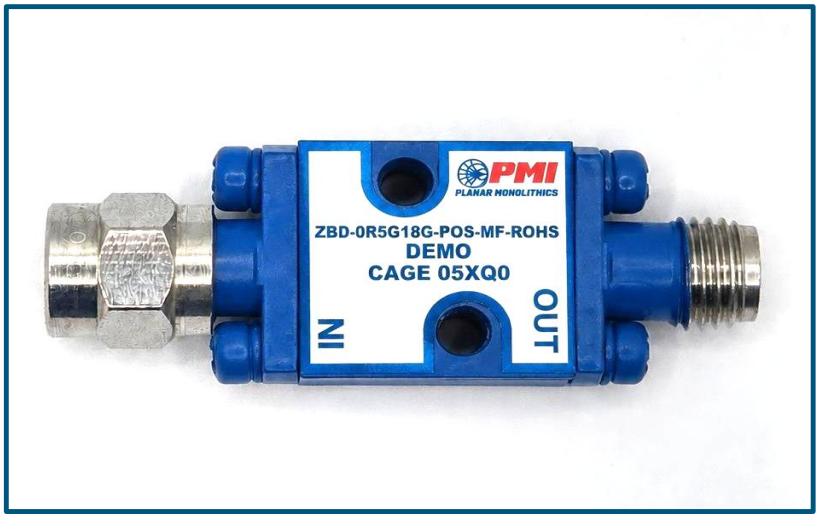
TYPICAL CHARACTERISTICS
ON
ZBD-0R5G18G-POS-MF-ROHS

PMI MODEL NUMBER ZBD-0R5G18G-POS-MF-ROHS IS A ZERO BIAS SCHOTTKY DIODE DETECTOR OPERATING OVER THE 0.5 GHz TO 18.0 GHZ FREQUENCY RANGE.



September 30, 2026

Designed by:

Engineering PMI

Tested and Reported by:

V. Vasquez & V. Pratap

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Email: sales@pmi-rf.com

TYPICAL CHARACTERISTICS ON ZBD-0R5G18G-POS-MF-ROHS

OUTLINE DRAWING

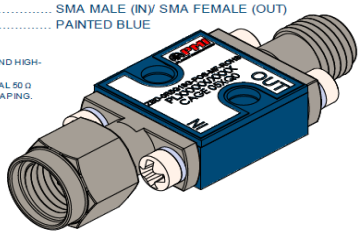
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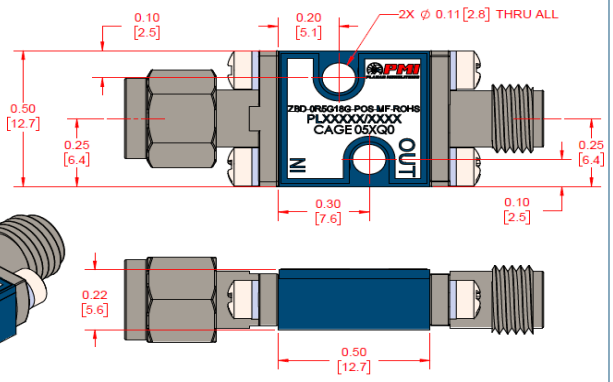
PMI MODEL NUMBER ZBD-0R5G18G-POS-MF-ROHS IS A ZERO BIAS SCHOTTKY DIODE DETECTOR OPERATING OVER THE 0.5 GHz TO 18.0 GHZ FREQUENCY RANGE

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	3/13/2020	

SPECIFICATIONS:

- FREQUENCY RANGE: ..... 0.5 GHz TO 18.0 GHz
- VSWR (INPUT): ..... 1.5 : 1 TYP
  2.0 : 1 MAX
- FREQUENCY FLATNESS: ..... ±3.5 dB MAX
  SQUARE-LAW REGION
  (-25 dBm TO -10 dBm)
- MAX INPUT POWER: ..... 100 mW
- SENSITIVITY: ..... 0.5 ± 0.05 mV/µW TYP
  1 mV/µW MAX
  SQUARE-LAW REGION
  (-25 dBm TO -10 dBm)
- POLARITY: ..... POSITIVE
- CAPACITANCE: ..... 30 pF TYP
  (WITH 50 Ω RG 58 CABLE < 2FT)
- CONNECTORS: ..... SMA MALE (IN)/ SMA FEMALE (OUT)
- FINISH: ..... PAINTED BLUE





NOTE 1: CW MEASUREMENTS PERFORMED WITH 50 Ω RF SOURCE AND HIGH-IMPEDENCE OUTPUT LOAD
NOTE 2: PULSED MEASUREMENTS PERFORMED USING AN EXTERNAL 50 Ω TERMINATION THROUGH A T-CONNECTOR FOR PROPER PULSE SHAPING. OUTPUT VOLTAGE MEASURED AT 1MΩ OSCILLOSCOPE INPUT

ENVIRONMENTAL RATINGS:

- TEMPERATURE: ..... -54°C TO +85°C (OPERATING)
  -65°C TO +125°C (STORAGE)
- HUMIDITY: ..... MIL-STD-202, METHOD 103 COND. B
- SHOCK: ..... MIL-STD-202, METHOD 213 COND. B
- VIBRATION: ..... MIL-STD-202, METHOD 204 COND. B
- ALTITUDE: ..... MIL-STD-202, METHOD 105 COND. B
- TEMPERATURE CYCLE: ..... MIL-STD-202, METHOD 107 COND. A

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE
DRAWN VP	3/13/2020
REDRAWN	
ISSUED	

PLANAR MONOLITHICS INDUSTRIES

TITLE: OUTLINE
ZBD-0R5G18G-POS-MF-ROHS

SIZE	FSCM NO.	DWG NO.	REV.
B	05XQ0	27054260	A1

SCALE 4:1 SHEET 1 OF 1

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TYPICAL CHARACTERISTICS
ON
ZBD-0R5G18G-POS-MF-ROHS

TECHNICAL SPECIFICATIONS

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA QC
			+25°C	-54°C	+85°C	
1	Frequency Range:	0.5 to 18 GHz	**0.5 to 18 GHz**	**0.5 to 18 GHz**	**0.5 to 18 GHz**	
2	VSWR (Input):	1.5:1 Typ. 2.0:1 Max.	**1.8:1** **See Graph**	**1.72:1** **See Graph**	**1.84:1** **See Graph**	
3	Polarity	POSITIVE	**POSITIVE**			
4	Flatness	±3.5 dB Max. Square-law region (-25 to -10 dBm)	**±0.4 dB** **See Graph**	**±0.56 dB** **See Graph**	**±0.41 dB** **See Graph**	
5	Sensitivity	0.5 ± 0.05 mV/µW Typ. 1.0 mV/µW Max. Square-law region (-25 to -10 dBm)	**0.89 mV/µW (Max).**	**0.94 mV/µW (Max).**	**0.79 mV/µW (Max).**	
			0.74 mV/µW (Min).	**0.78 mV/µW (Min).**	**0.68 mV/µW (Min).**	
			See graph	**See graph**	**See graph**	
6	Maximum Input Power:	100 mW (+20 dBm)	**Pass 100 mW** **See Graphs**	**Pass 100 mW** **See Graphs**	**Pass 100 mW** **See Graphs**	
7	Pulse Response:	Not specified	**Rise Time: 16.73 ns.** **Fall Time: 3.2 ns.** **See Plots**			
8	Tangential Sensitivity (TSS):	Not specified	**-50 dBm** **See plot**			
9	Capacitance	30 pf Typ. (With 50 Ω RG58 Cable ≤ 2 FT)	**Pass**	**Pass**	**Pass**	

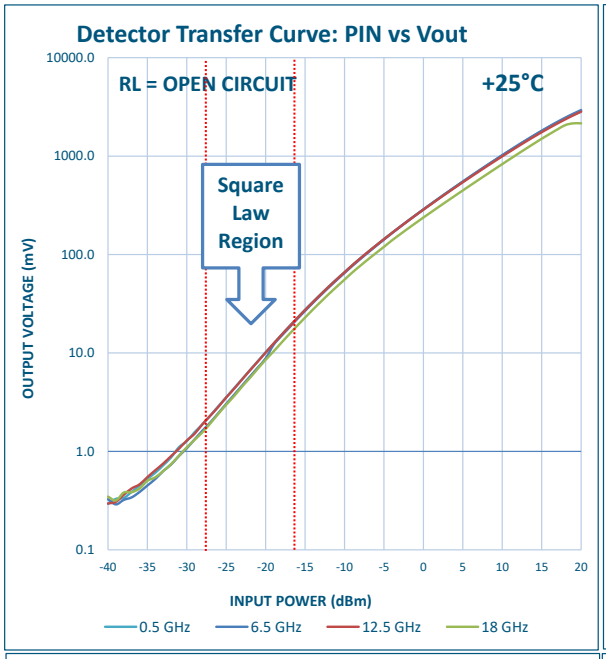
Note 1: CW measurements performed with 50 Ω RF source and high-impedance output load.

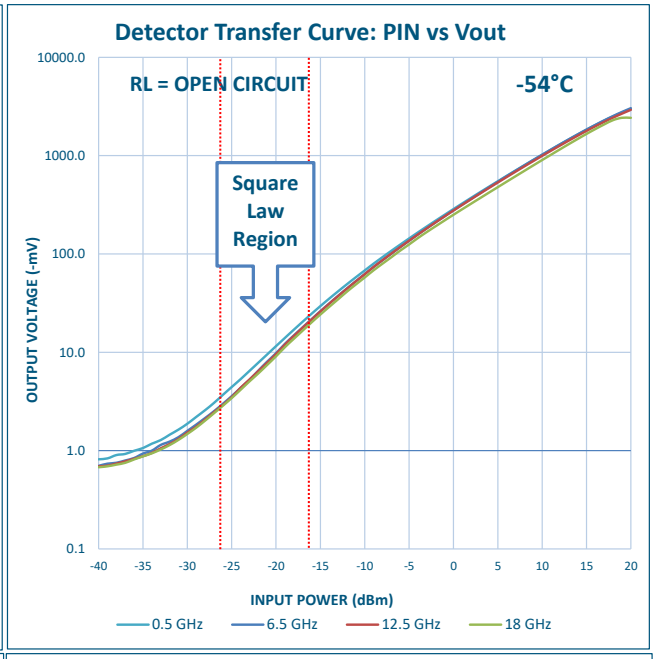
Note 2: Pulsed measurements performed using an external 50 Ω termination through a T-connector for proper pulse shaping. Output voltage measured at 1 MΩ oscilloscope input.

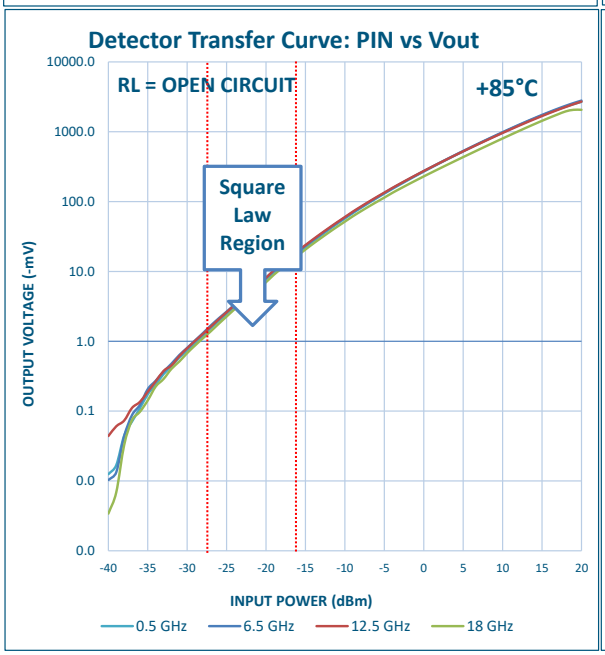
Note 3: TSS is measured with a 200 MHz VBW and 2 dB NF LNA with 20 to 30 dB Gain

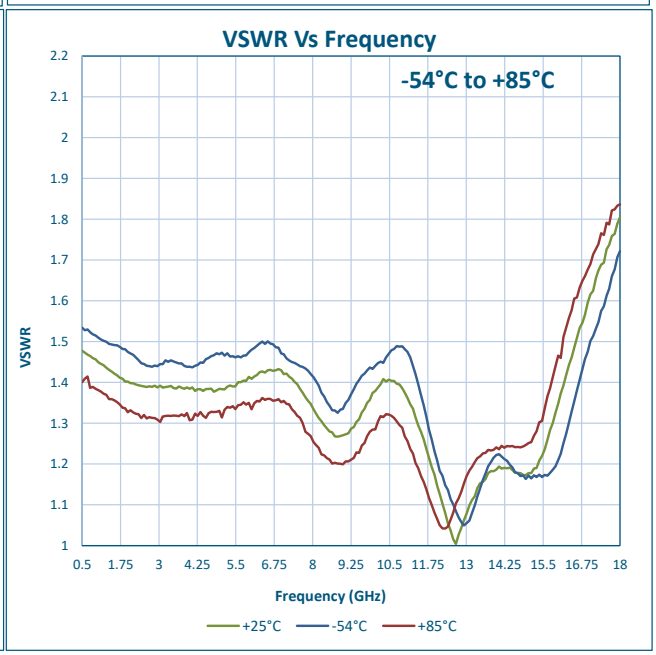
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TYPICAL CHARACTERISTICS
ON
ZBD-0R5G18G-POS-MF-ROHS



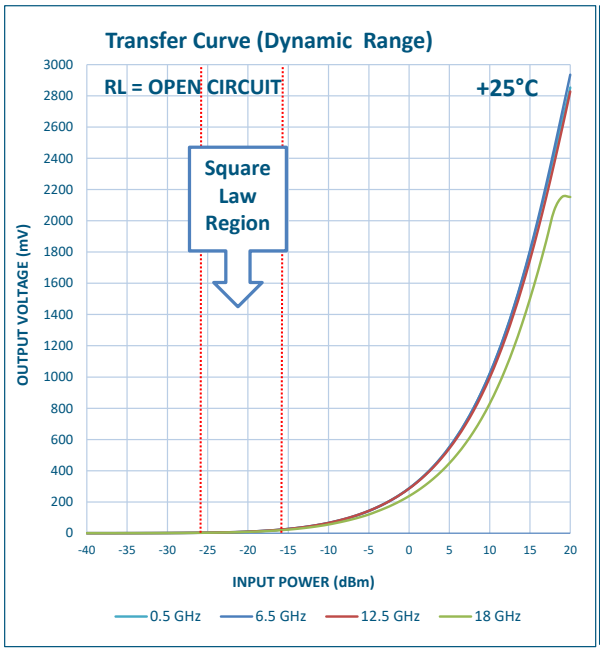


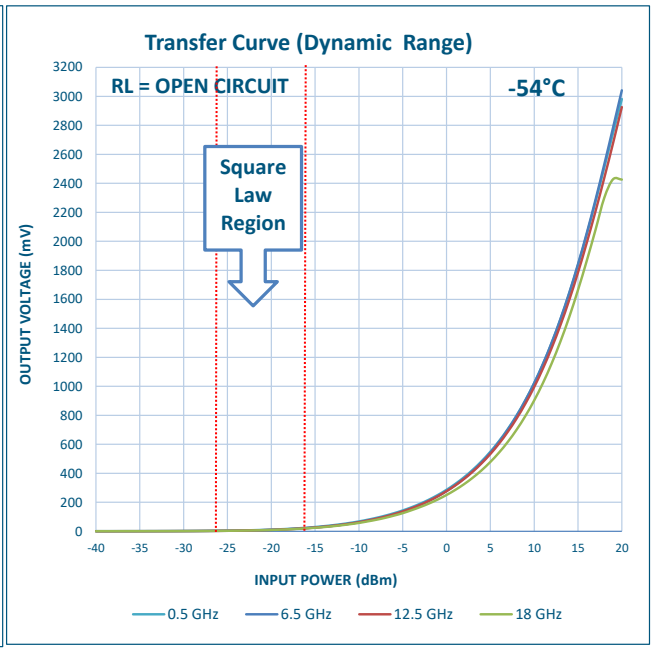


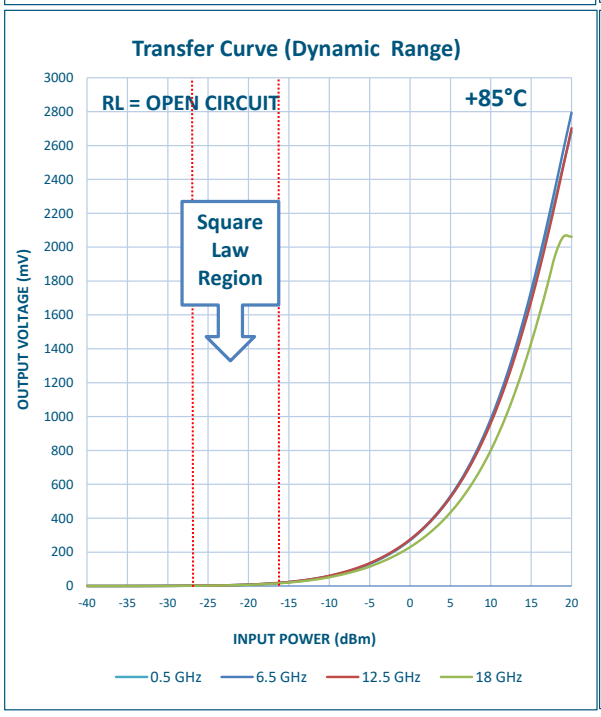


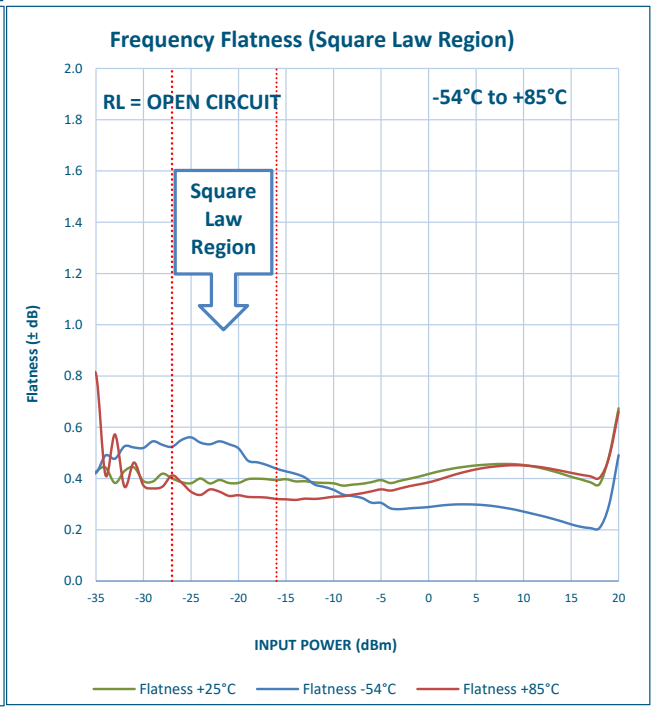
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TYPICAL CHARACTERISTICS ON ZBD-0R5G18G-POS-MF-ROHS









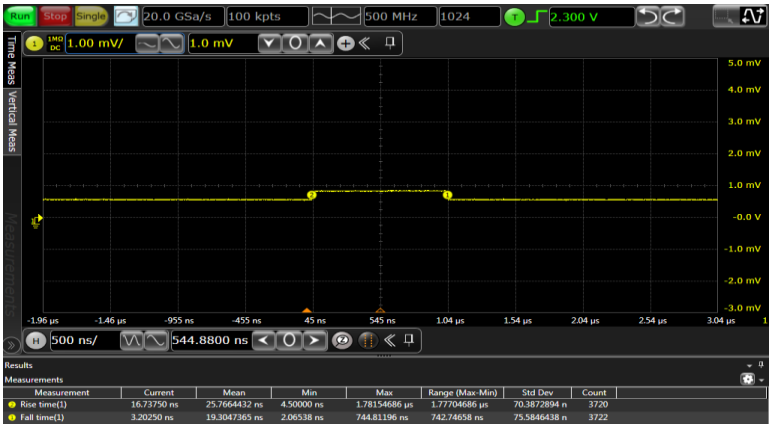
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TYPICAL CHARACTERISTICS ON ZBD-0R5G18G-POS-MF-ROHS

Rise & Fall time

Input Power -15dBm
1µs PW, 25% Duty Cycle
50Ω Load

Rise time 16.73 ns.
Fall time 3.2 ns.



Input Power -10dBm
1µs PW, 25% Duty Cycle
50Ω Load

Rise time 7.06 ns.
Fall time 2.28 ns.



Input Power 0 dBm
5µs PW, 25% Duty Cycle
50Ω Load

Rise time 3.76 ns.
Fall time 1.33 ns.



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TYPICAL CHARACTERISTICS
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Full Pulse



Input Power -15dBm
1µs PW, 25% Duty Cycle
50Ω Load

Rise time 5.76 ns.
Fall time 2.97 ns.



Input Power -10dBm
1µs PW, 25% Duty Cycle
50Ω Load

Rise time 3.75 ns.
Fall time 1.35 ns.



Input Power 0 dBm
5µs PW, 25% Duty Cycle
50Ω Load

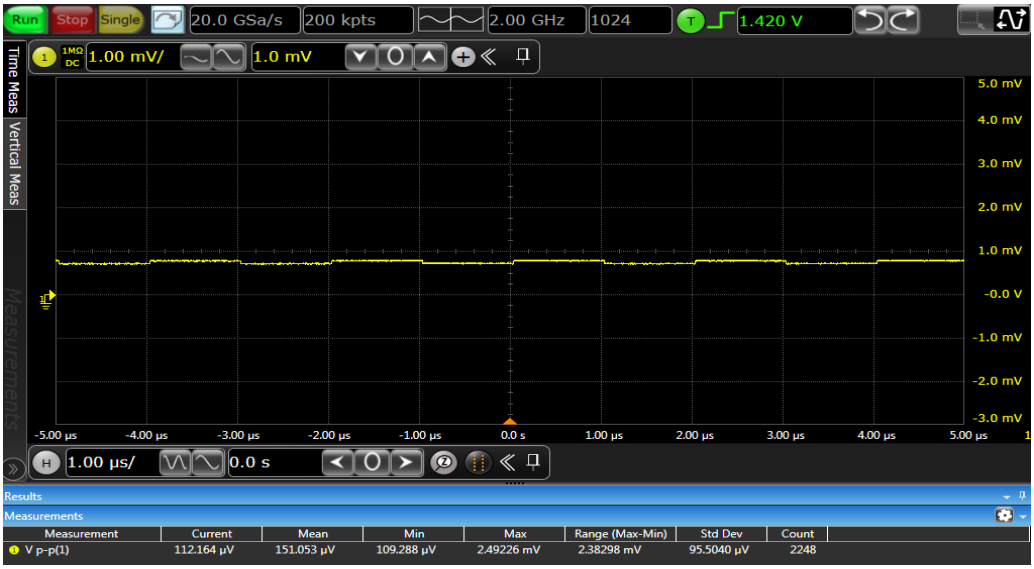
Rise time 2.14 ns.
Fall time 1.26 ns.

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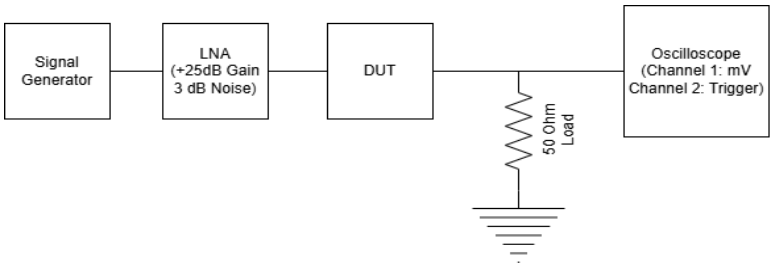
TYPICAL CHARACTERISTICS ON ZBD-0R5G18G-POS-MF-ROHS

Tangential Sensitivity (TSS)

1 µs PW, 50% Duty Cycle
Frequency (0.5 to 18 GHz)
Measured value (-50 dBm Input Power)



Block Diagram For TSS Test With 50Ω Load



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