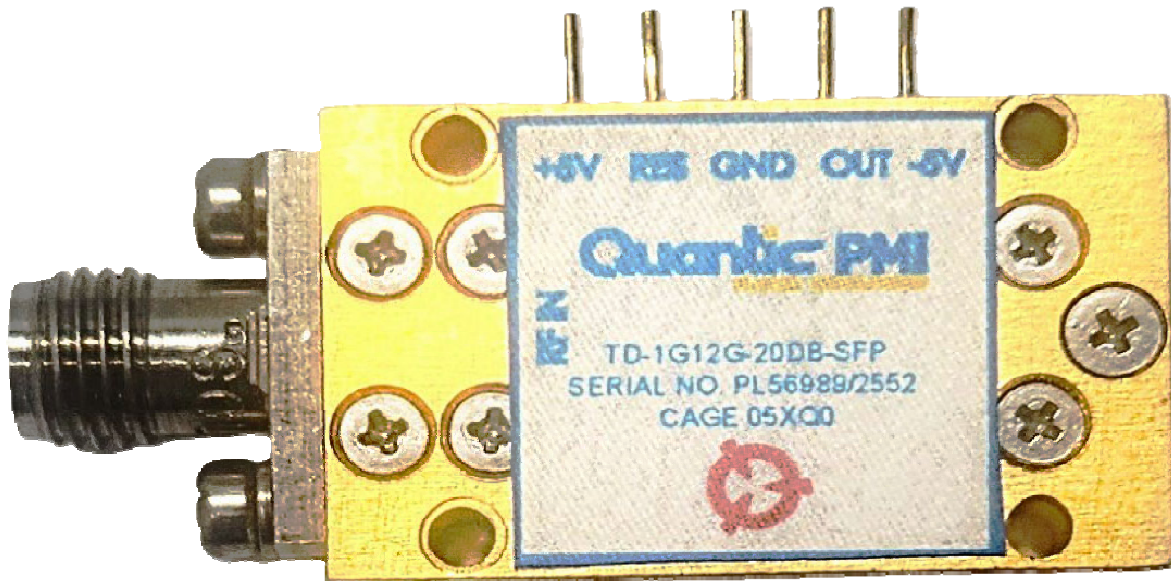


**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER: TD-1G12G-20DB-SFP IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE THE 1GHz TO 12GHz FREQUENCY RANGE, WITH AN ADJUSTABLE THRESHOLD LEVEL OF -25dBm TO -5dBm AND A VSWR OF 2.0:1 MAX. THIS UNIT COMES IN A VERY SMALL SIZE WITH A FIELD REMOVABLE SMA CONNECTOR ON THE INPUT. THIS UNIT HAS ACTIVE LOW OUTPUT.



Tested By: Mohammad Sharif
Reported By: Mohammad Sharif
Date: 10/17/2025

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

Product Feature

DATE	REV.	DESCRIPTION	DATE	APPROVED
	01	ORIGINAL RELEASE		
	01	ECN # 25-0294		
	01	ECN # 25-0297		

DESCRIPTION:
PMI MODEL NUMBER: TD-1G12G-20DB-SFP IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE OVER THE 1 GHz TO 12 GHz FREQUENCY RANGE, WITH AN ADJUSTABLE THRESHOLD LEVEL SETTING RANGE OF -25 dBm TO -5 dBm AND A VSWR OF 2.0:1 MAX. THIS UNIT COMES IN A VERY SMALL SIZE WITH A FIELD REMOVABLE SMA CONNECTOR ON THE INPUT. THIS UNIT HAS ACTIVE LOW OUTPUT.

SPECIFICATIONS:

- FREQUENCY RANGE:..... 1 GHz TO 12 GHz
- VSWR:..... 2.0:1 MAX
- THRESHOLD VARIATION:..... ±1.5 dBm
- RESPONSE TIME:..... 50 ns MAX
- OUTPUT:..... TTL "1" INPUT POWER > THRESHOLD SETTING
TTL "0" OTHERWISE
- THRESHOLD LEVEL SETTING RANGE:.. -25 dBm TO -5 dBm
- RF INPUT :..... +10 dBm MAX
- POWER SUPPLY:..... +5V @ 75 mA
-5V @ 35 mA
- CONNECTOR IN:..... REMOVABLE SMA (FEMALE)
- CONNECTOR OUT:..... SOLDER PIN
- SIZE:..... 1.00" X 0.62" X 0.22"
- FINISH:..... GOLD PLATED

MECHANICAL OUTLINE

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... 0°C TO +85°C (OPERATING)
-55°C TO +125°C (STORAGE)
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107

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

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS	DATE	FILE
DESIGN		DESIGN
TESTING		TESTING
MANUFACTURING		MANUFACTURING
SALES		SALES

Quantic PMI
 7309-A GROVE ROAD, FREDERICK, MD 21704 USA
 TEL: (301) 662-5019 FAX: (301) 662-1731
 WWW.QUANTICPMI.COM

REV	DATE	DESCRIPTION	BY	CHKD
01		TD-1G12G-20DB-SFP		
02		ISSUE		
03		ISSUE		

SCALE: 1:1
 Page 1 OF 1

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

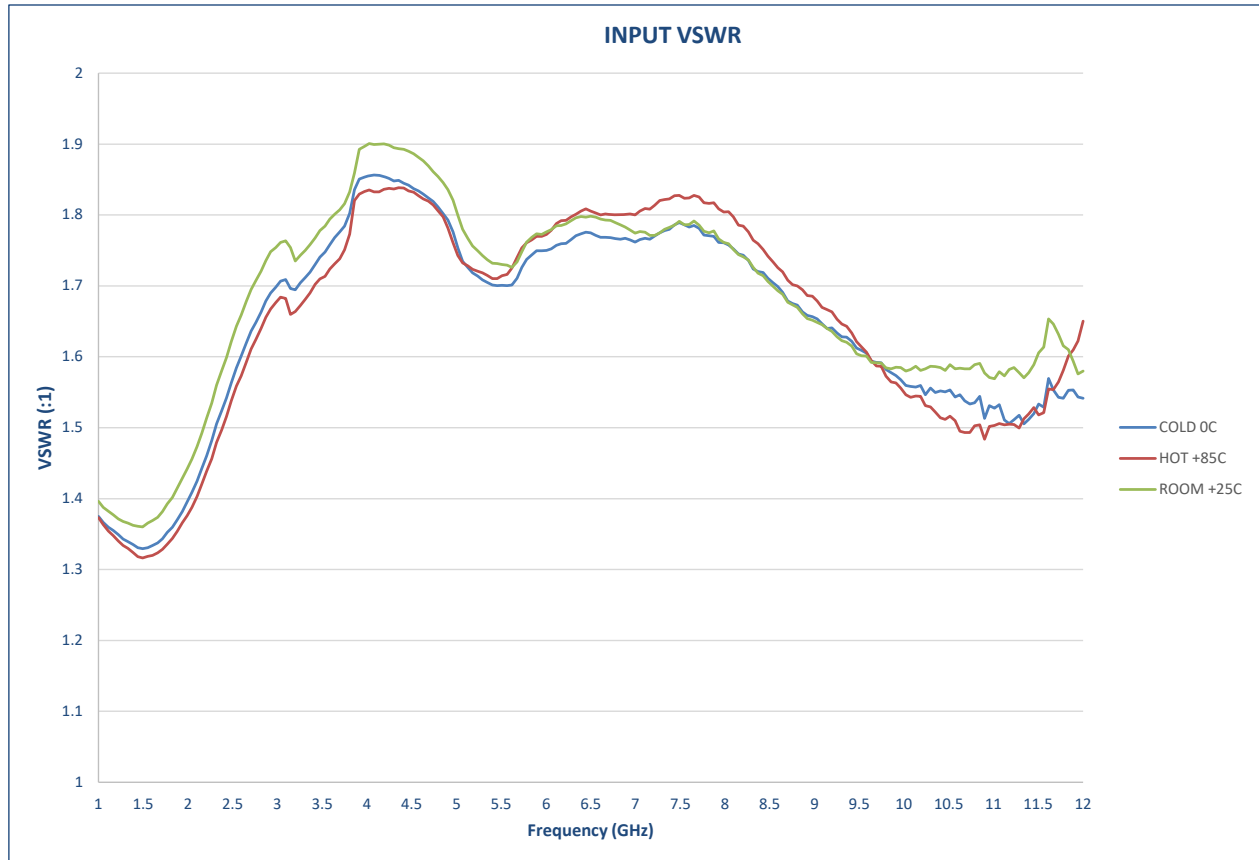
Test Data

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA QC
			25°C	0°C	85°C	
1	Frequency Range:	1 GHz TO 12 GHz	1 GHz TO 12 GHz			
2	Threshold Level Setting Range:	-25 dBm TO -5 dBm	-25 dBm TO -5 dBm See Plots			
3	Threshold Variation: @ -25dBm:	± 1.5 dBm	-24 dBm TO -26 dBm ± 1 dBm			
		External RES	23 OHM	19 OHM	21 OHM	
	Threshold Variation: @ -5 dBm:	± 1.5 dBm	-4 dBm TO -6 dBm ± 1 dBm			
		External RES	1.611 kOhm	1.610 kOhm	1.311 kOhm	
4	VSWR:	2.0:1 Max	1.86:1	1.84:1	1.9:1	
5	Max RF Input:	+10 dBm Max.	+10 dBm	+10 dBm	+10 dBm	
6	Response Time:	50 ns Max.	TTL High 15.8 ns Max TTL Low 48 ns Max			
7	Output:	TTL "1": Input Power > Threshold Setting TTL "0": Otherwise	TTL "1": Input Power > Threshold Setting TTL "0": Otherwise			
8	Power Supply:	+5 VDC @ 75 mA Max. -5 VDC @ 35 mA Max.	+5V @72mA -5V @28mA	+5V @71mA -5V @27mA	+5V @75mA -5V @28mA	

TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP

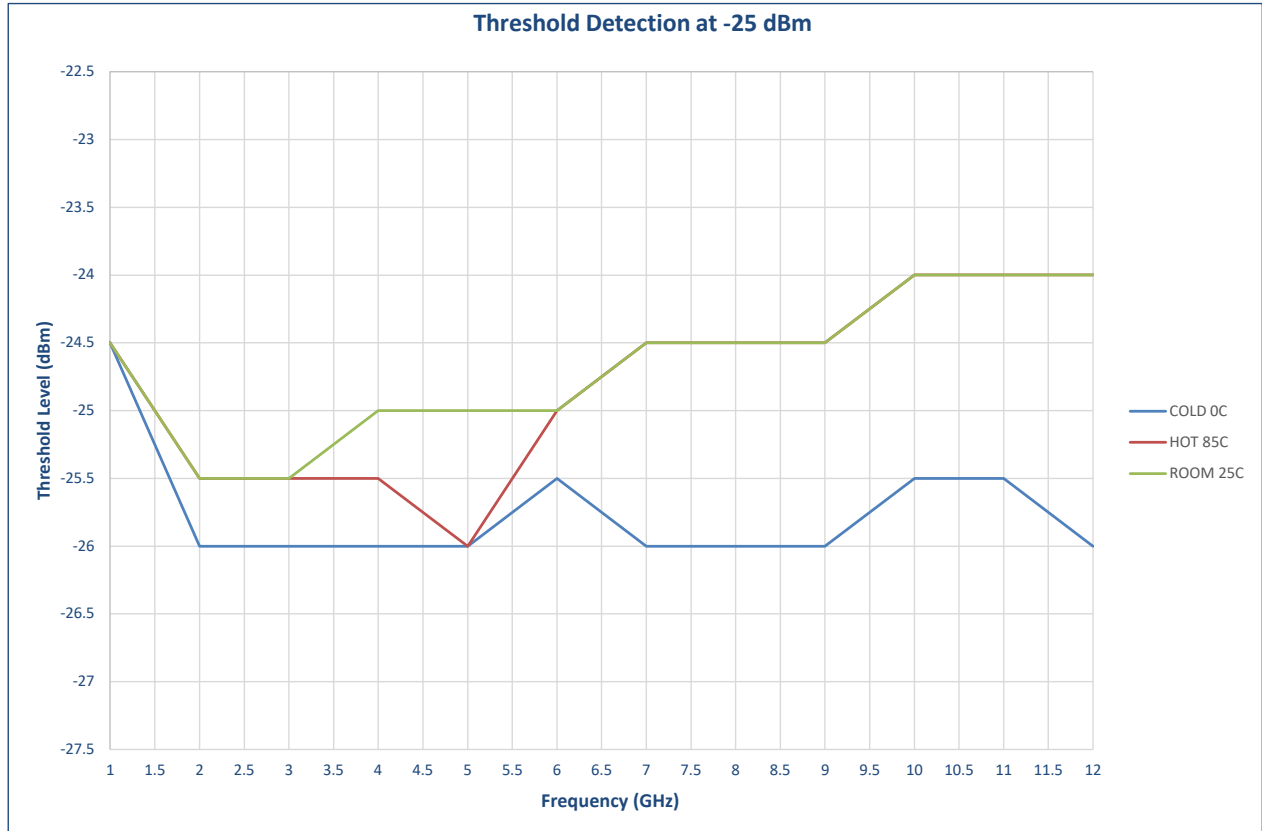
VSWR

SPEC: 2.0:1



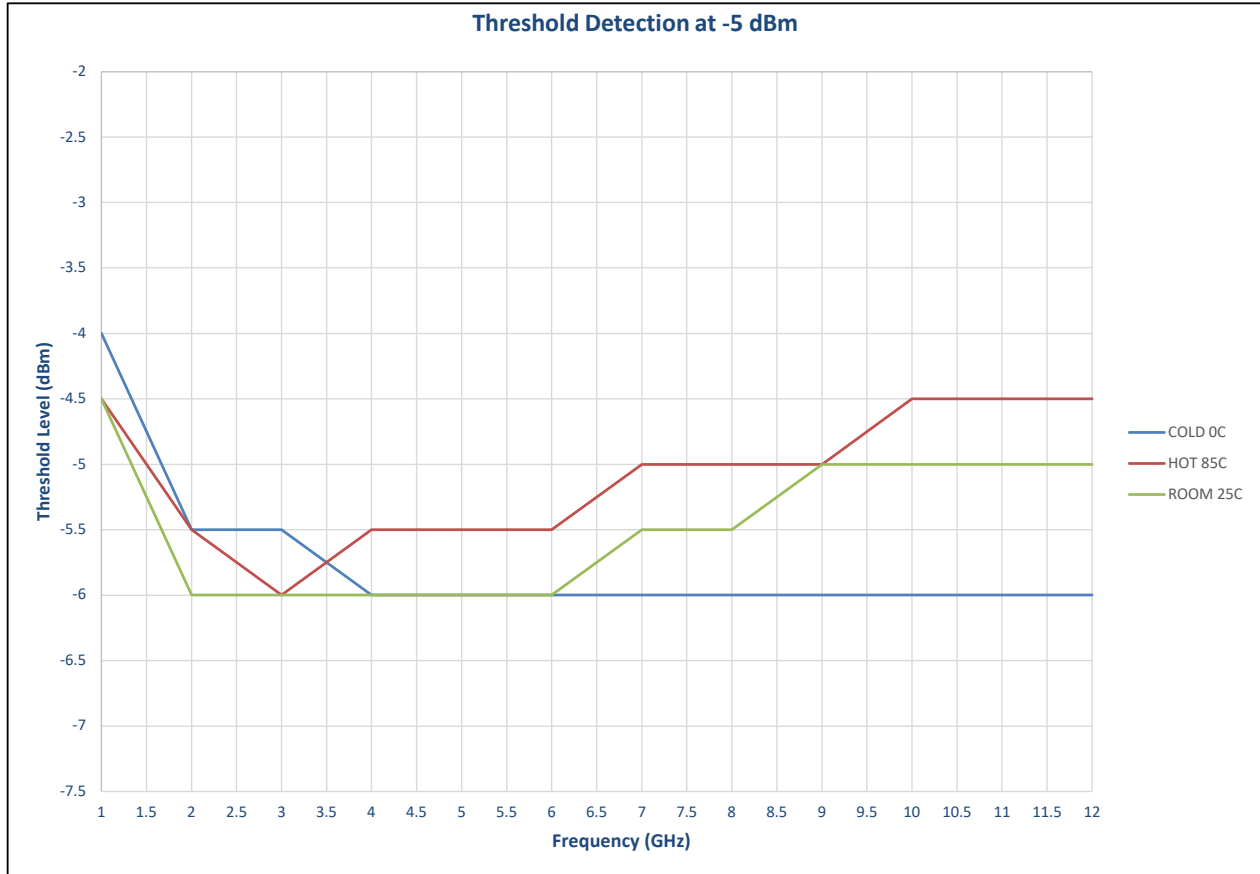
TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP

Threshold



TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP

Threshold

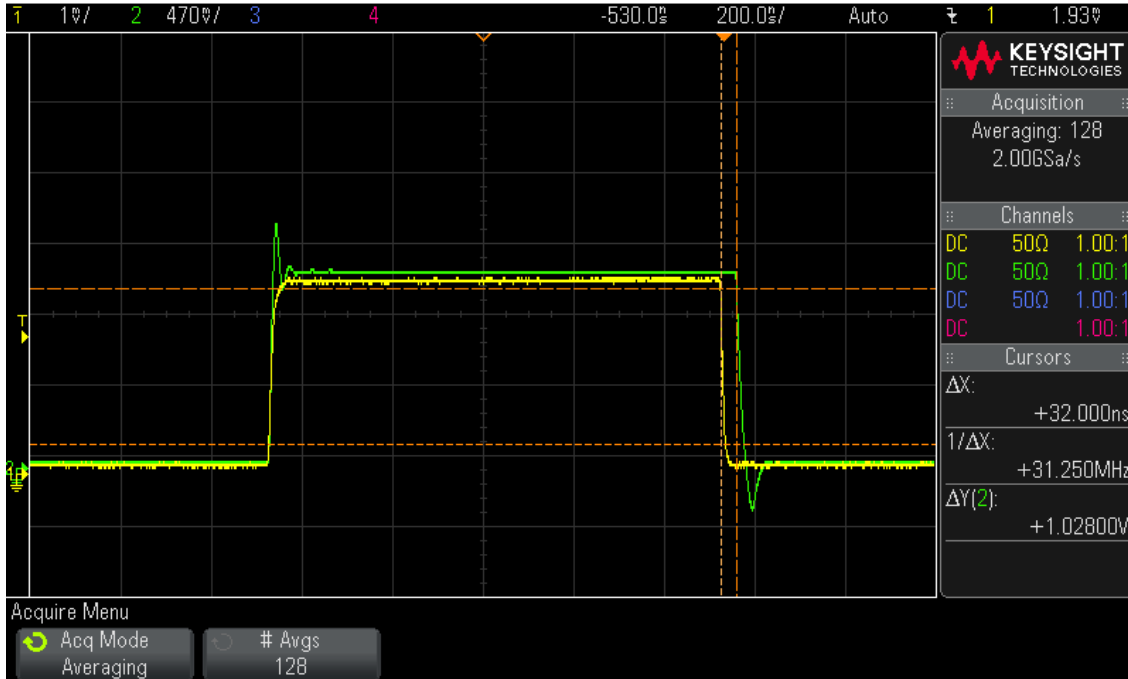


**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

Response Time 6 GHz @ -5 dBm

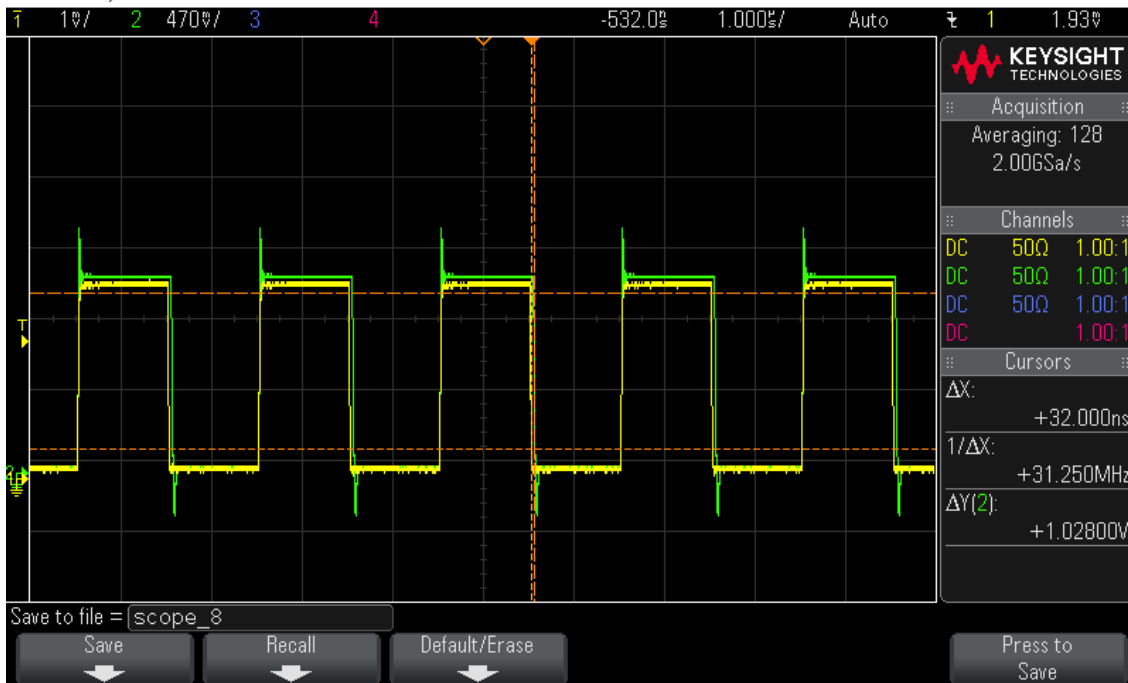
Channel 1 Yellow = RF Input
Channel 2 Green = TTI Output

DSO-X 3034A, MY52103312: Thu Oct 23 02:08:01 2025



Response OFF

DSO-X 3034A, MY52103312: Thu Oct 23 02:08:36 2025

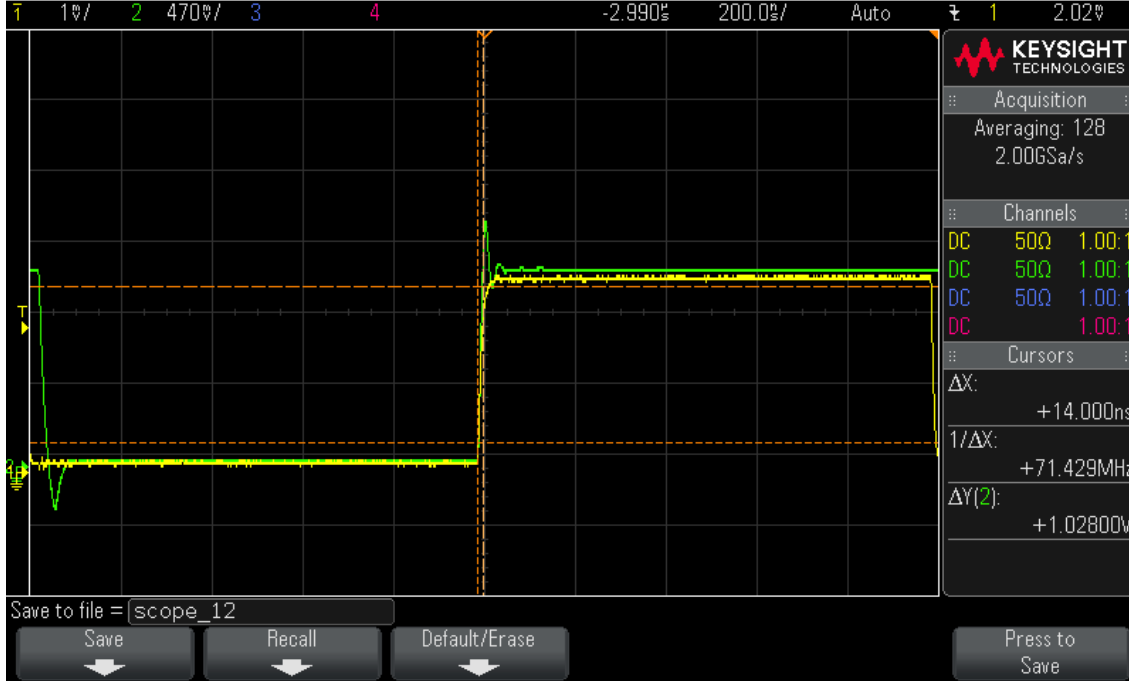


Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

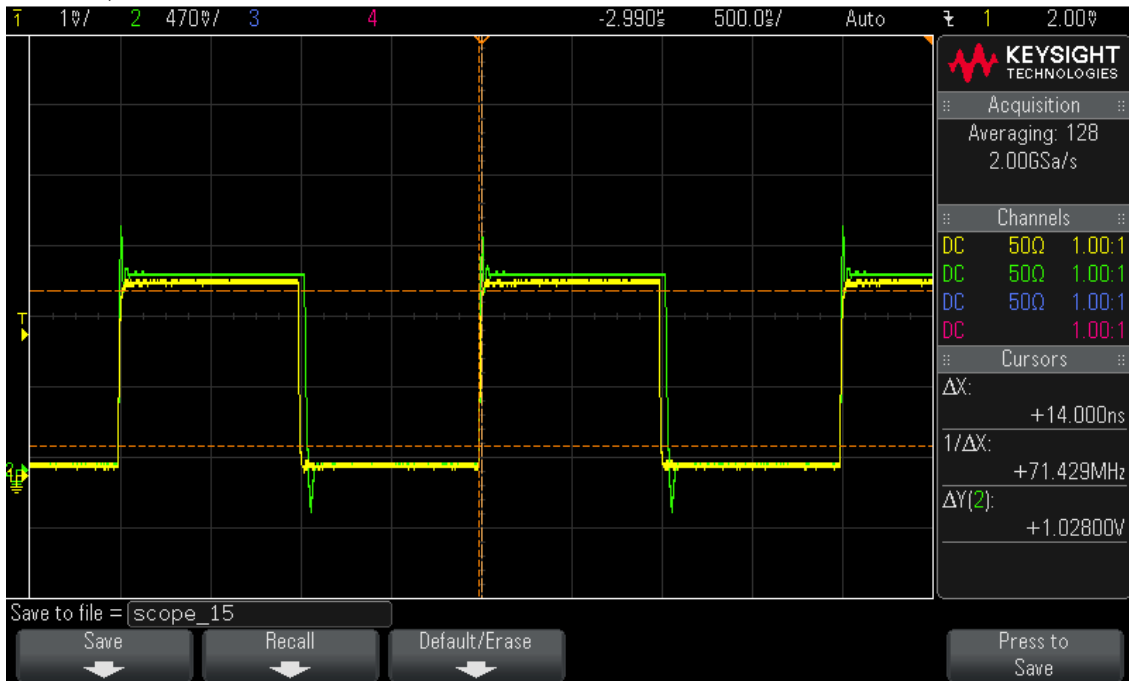
Response Time 6 GHz @-5 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 02:15:14 2025



Response ON

DSO-X 3034A, MY52103312: Thu Oct 23 02:15:41 2025

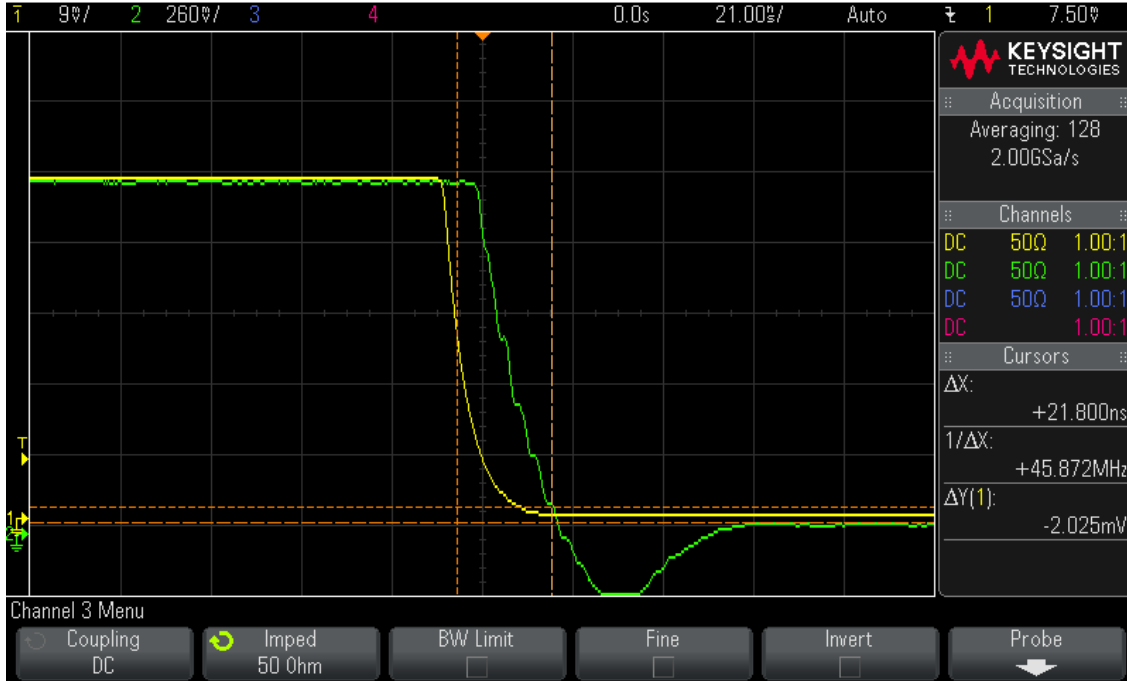


Full Pulse

TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP

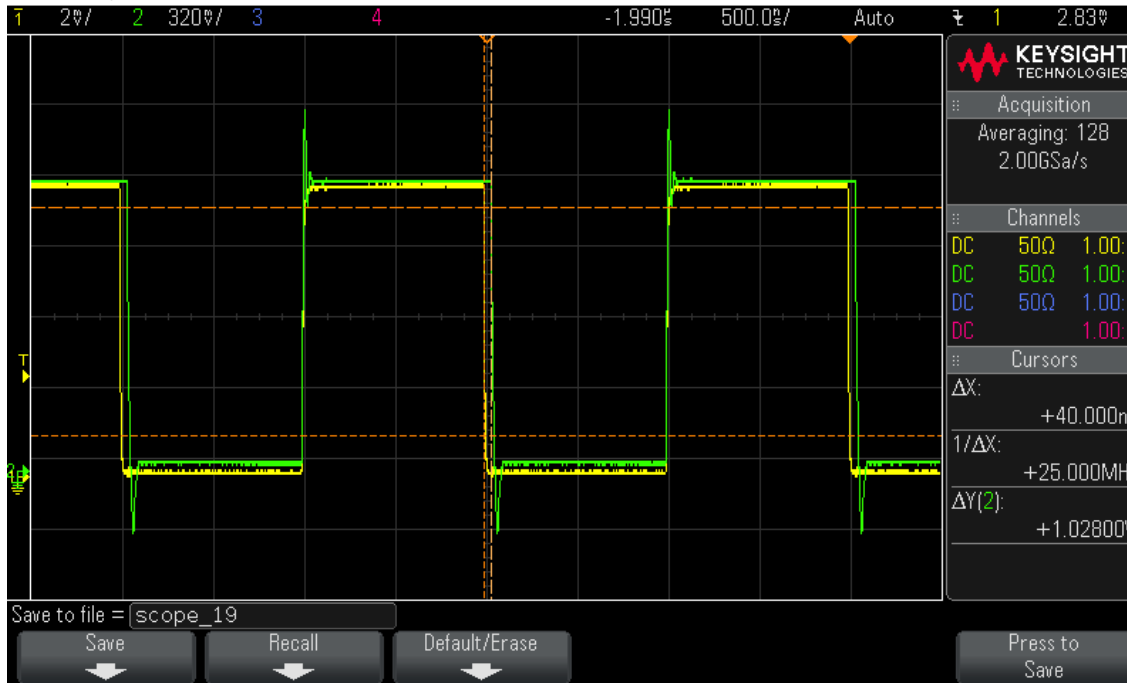
Response Time 6 GHz @ -25 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 01:52:31 2025



Response
OFF

DSO-X 3034A, MY52103312: Thu Oct 23 02:18:54 2025



Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

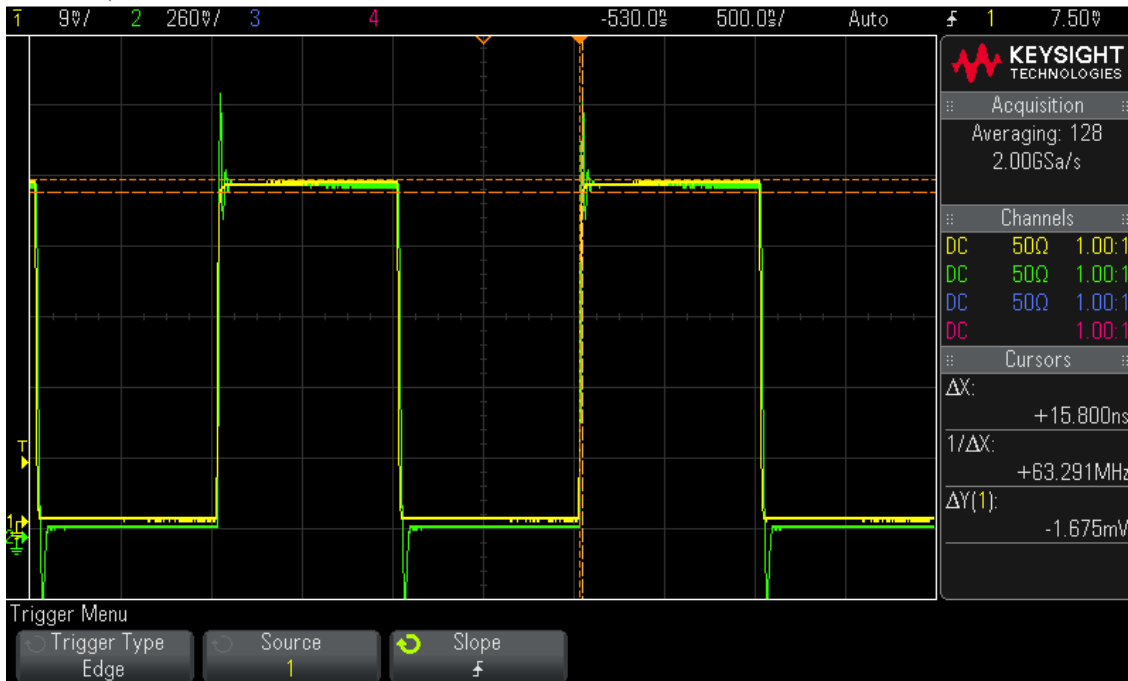
Response Time 6 GHz @ -25 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 01:54:00 2025



Response ON

DSO-X 3034A, MY52103312: Thu Oct 23 01:54:44 2025

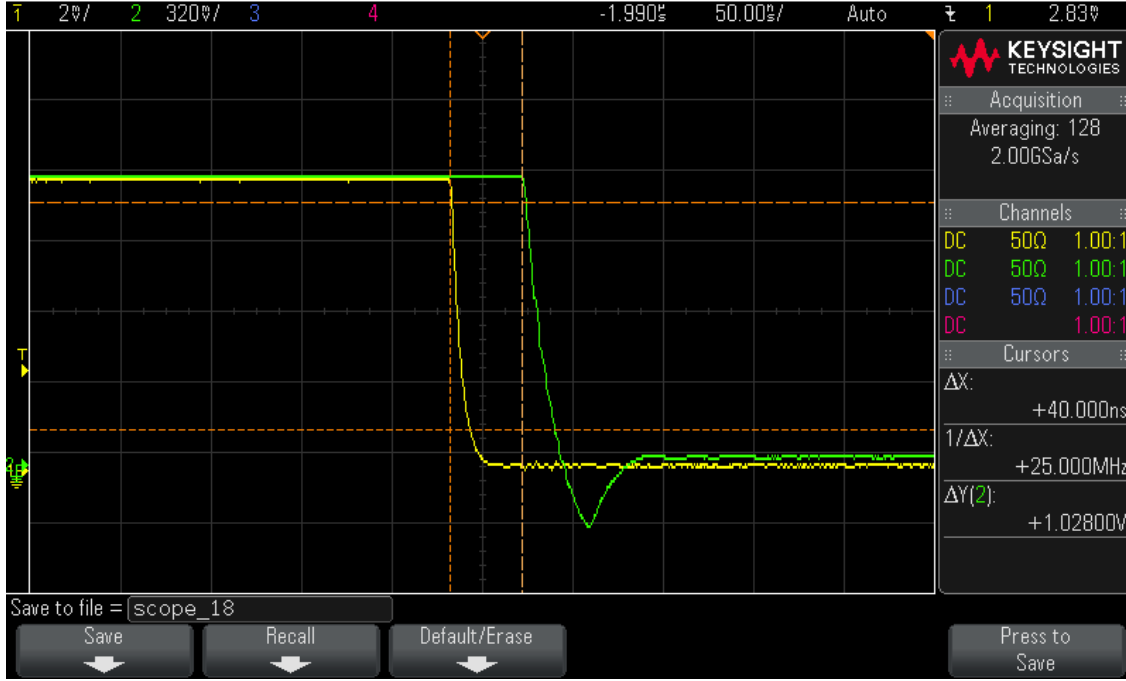


Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

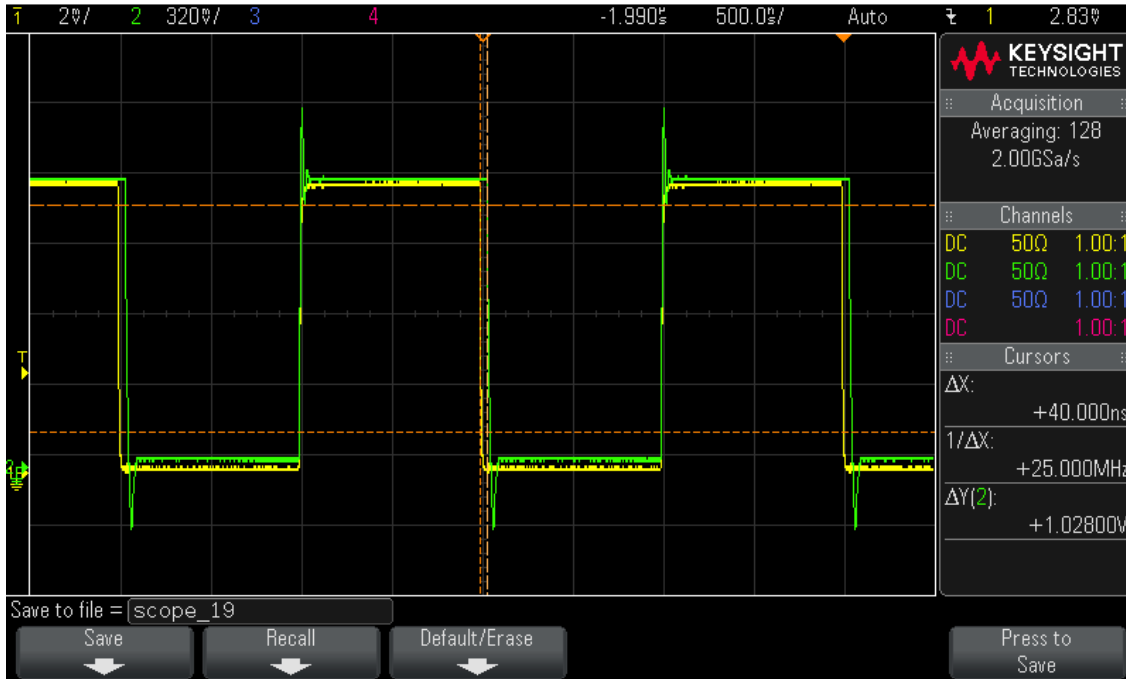
Response Time 6 GHz @ 0 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 02:18:40 2025



Response
OFF

DSO-X 3034A, MY52103312: Thu Oct 23 02:18:54 2025

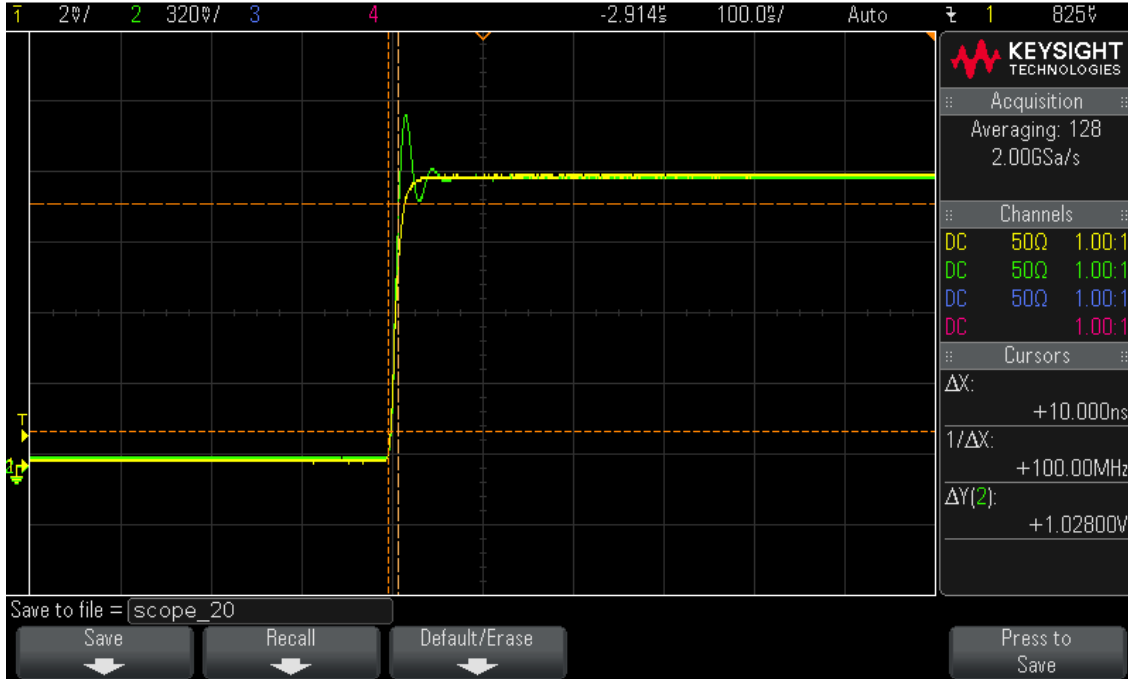


Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

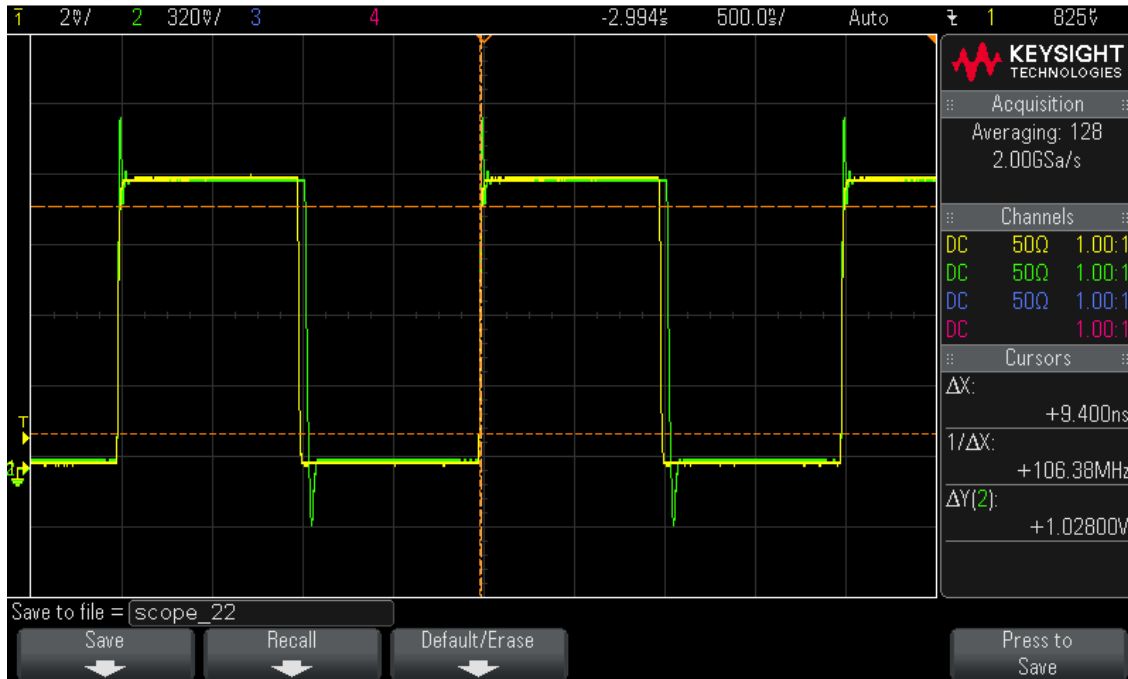
Response Time 6 GHz @ 0 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 02:21:03 2025



Response ON

DSO-X 3034A, MY52103312: Thu Oct 23 02:21:59 2025

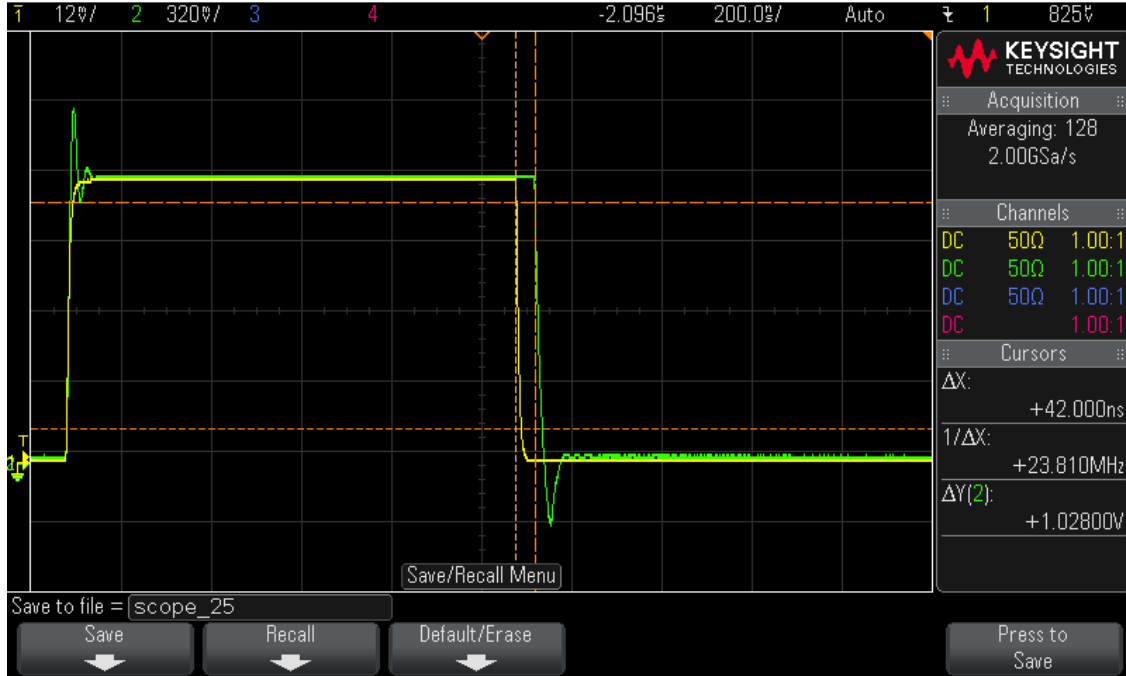


Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

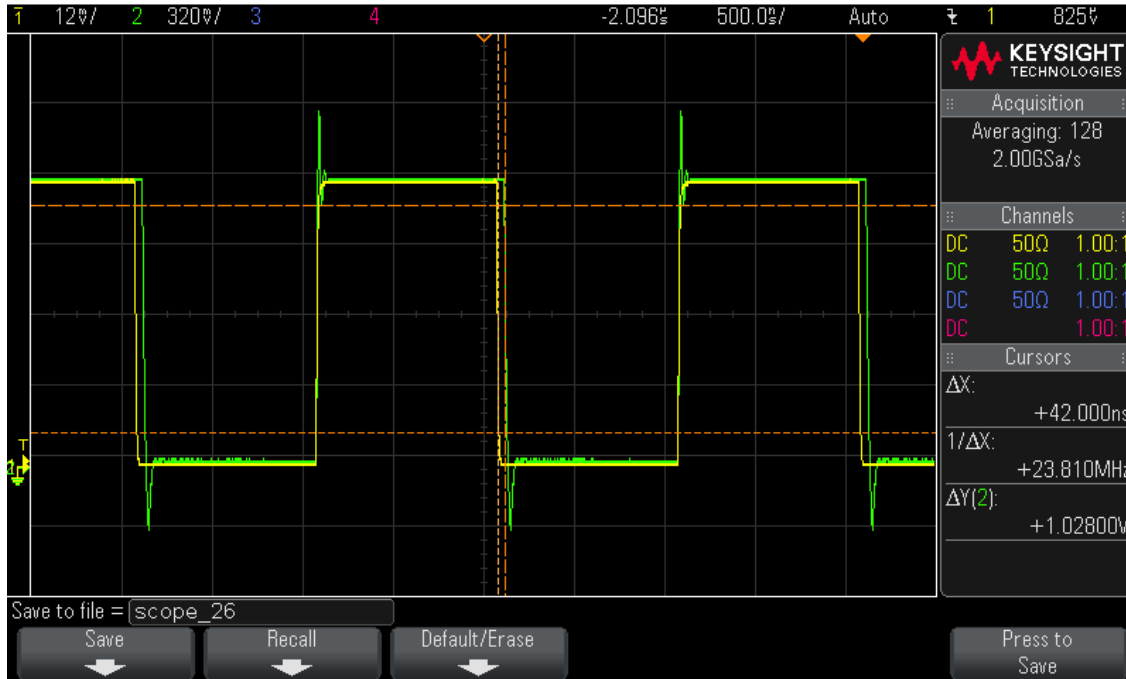
Response Time 6 GHz @ 10 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 02:23:37 2025



Response
OFF

DSO-X 3034A, MY52103312: Thu Oct 23 02:23:43 2025

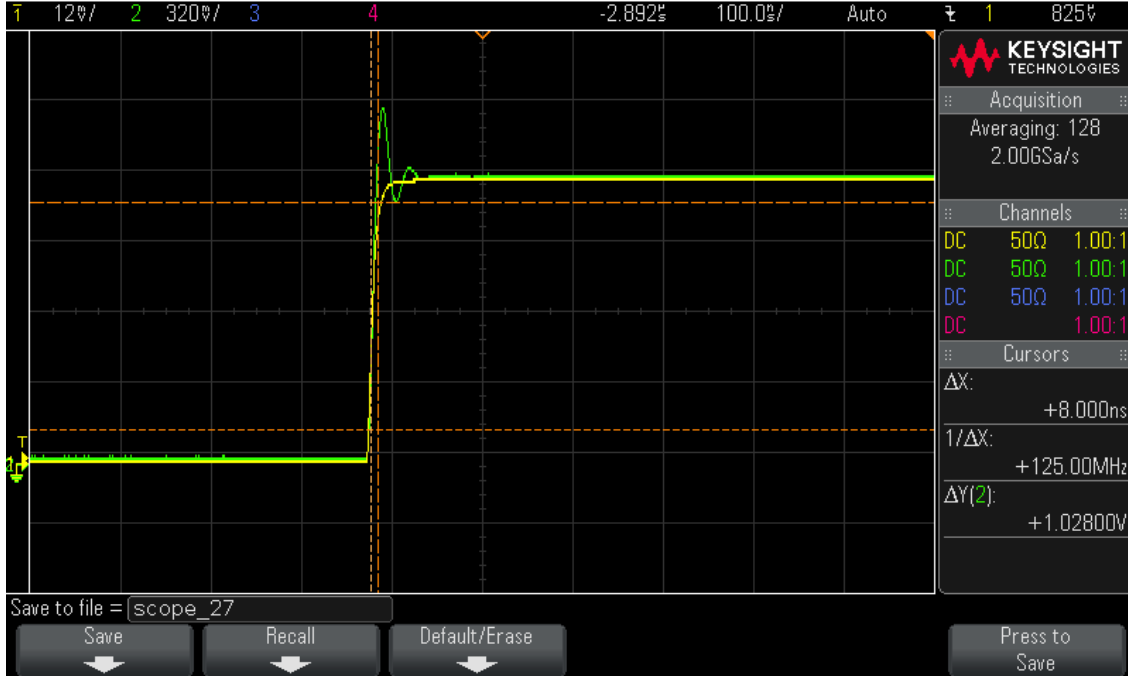


Full Pulse

**TYPICAL CHARACTERISTICS
ON
TD-1G12G-20DB-SFP**

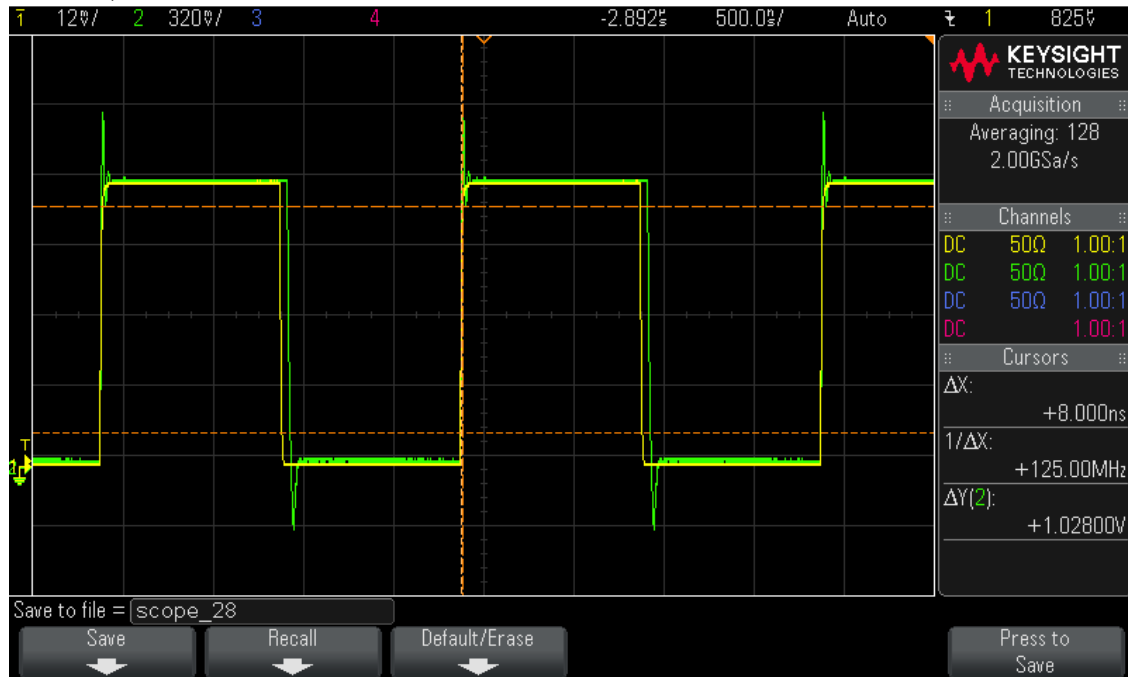
Response Time 6 GHz @ 10 dBm

DSO-X 3034A, MY52103312: Thu Oct 23 02:24:28 2025



Response ON

DSO-X 3034A, MY52103312: Thu Oct 23 02:24:35 2025



Full Pulse