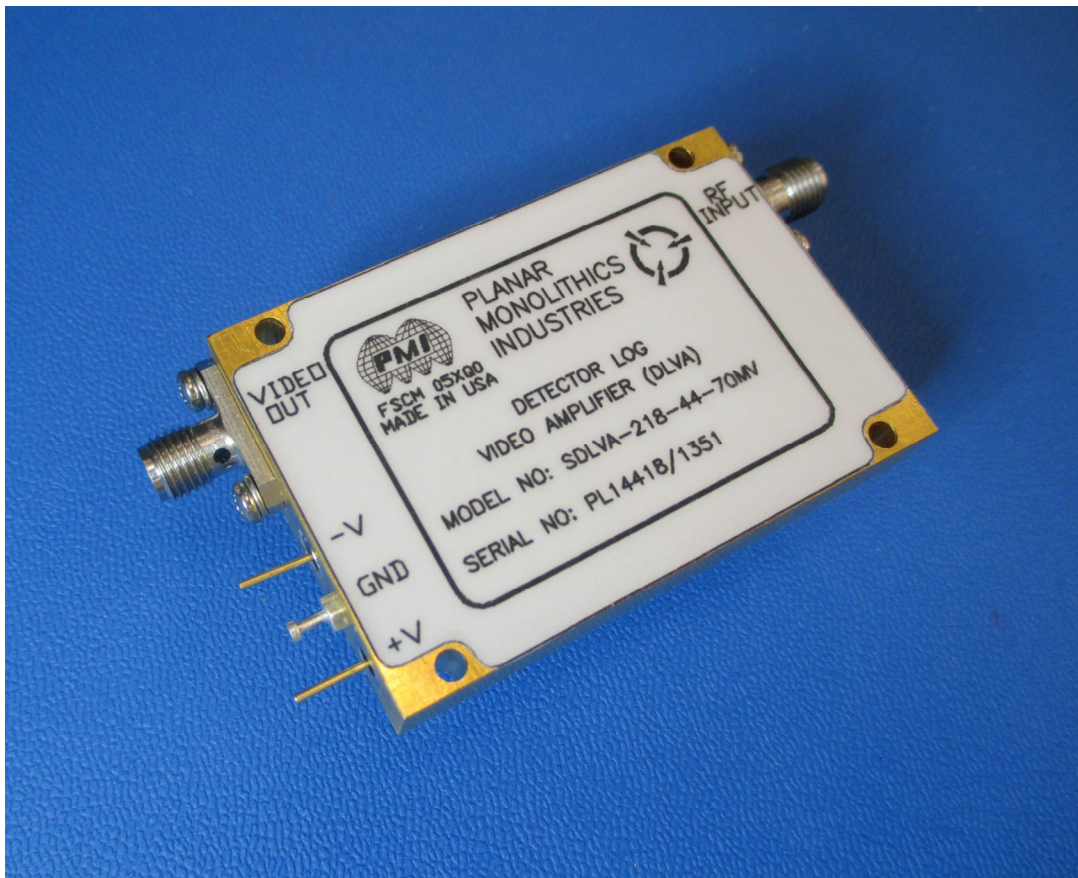




**TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV**

PMI MODEL SDLVA-218-44-70MV IS A 44 dB DETECTOR LOG VIDEO AMPLIFIER DESIGNED TO OPERATE BETWEEN 2.0 GHz TO 18.0 GHz FREQUENCY RANGE. IT EMPLOYS A PLANAR DIODE DETECTOR AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. IT IS OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART TECHNOLOGY.



December 27th, 2013

Prepared By: E. Benson
Tested By: E. Benson
Designed By: Dr Ashok Gorwara & Paul Kuhn

PLANAR MONOLITHICS INDUSTRIES, INC.

4921 Robert J. Mathews Pkwy Suite 1 Ph: (916)542-1401 Fax: (301)662-1731
Email: sales@pmi-rf.com



**TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV**

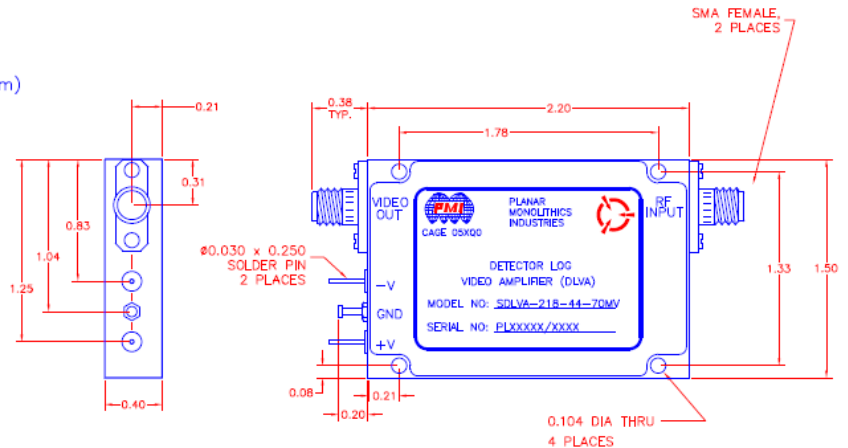
DESCRIPTION

PMI MODEL SDLVA-218-44-70MV IS A 44 dB DETECTOR LOG VIDEO AMPLIFIER DESIGNED TO OPERATE BETWEEN THE 2GHz to 18GHz FREQUENCY RANGE. IT EMPLOYS PLANAR DIODE DETECTORS AND INTEGRATED VIDEO CIRCUITRY FOR HIGH SPEED PERFORMANCE AND OUTSTANDING RELIABILITY. IT IS OF SUPERIOR CONSTRUCTION USING STATE-OF-THE-ART MIC/MMIC TECHNOLOGY.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	8/14/13	
A1		ECN # 16-0137	9/28/16	

SPECIFICATIONS

- FREQUENCY RANGE:.....2GHz TO 18GHz
- TSS:.....-42 dBm MAXIMUM
- DYNAMIC RANGE:.....-40 TO +4 dBm MINIMUM
- FLATNESS:.....± 1.5 dB MAXIMUM
- LOG LINEARITY AT 25°C:.....± 0.75 dB MAXIMUM (-40 TO 0 dBm)
- LOG SLOPE:.....70 ±3 mV/dB MAXIMUM
- DC OFFSET AT RF TERMINATED:± 70 Mv MAXIMUM
- RISE TIME:.....25 ns MAXIMUM
- RECOVERY TIME:.....500 ns MAXIMUM
- NOISE AT RF TERMINATED:.....150 mV (VP-P MAXIMUM)
- FALL TIME:.....300 ns MAXIMUM
- OUTPUT LOAD IMPEDENCE:.....50 Ω
- PULSE WIDTH RANGE:.....50 ns~CW MINIMUM
- MAX INPUT POWER:.....+20 dBm
- MODE:.....DC COUPLED
- DC POWER (NO LOAD)
 - +V:.....15V @ 200 mA MAXIMUM
 - V:.....15V @ 150 mA MAXIMUM
- SIZE:.....2.20" x 1.50" x 0.40"
- FINISH:.....GOLD PLATED



PMI CONFIDENTIAL AND PROPRIETARY

ENVIRONMENTAL RATINGS

- TEMPERATURE:..... 0°C TO + 50°C (OPERATING)
..... -65°C TO +100°C (STORAGE)
- HUMIDITY:.....MIL-STD-202F, METHOD 103B COND. B
- SHOCK:.....MIL-STD-202F, METHOD 213B COND. B
- VIBRATION:.....MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE:.....MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE:.....MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-5019 FAX: 301-662-1731
WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN	JGS	8/14/13	PRODUCT FEATURE SDLVA-218-44-70MV			
MODIFIED			SIZE	PCOM NO.	QWG NO.	REV.
ISSUED			A	05XQ0	27019601	A1
			SCALE	N:S	SHEET	1 OF 1

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**TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS
1	FREQUENCY RANGE:	2 GHz – 18 GHz	2 GHz – 18 GHz
2	FLATNESS:	± 1.5 dB MAXIMUM	+/- 0.7dB
3	DYNAMIC RANGE:	-40 to +4 dBm MINIMUM	-42 to +5 dBm
4	LOG LINEARITY AT 25°C:	± 0.75 dB MAXIMUM (-40 TO 0 dBm)	+0.44dB -0.39dB
5	LOG SLOPE:	70 ±3 mV/dB MAXIMUM	69.84 mV/dB (See Plot)
6	DC OFFSET AT RF TERMINED:	± 70 mV MAXIMUM	10 mV
7	RISE TIME:	25 ns MAXIMUM	22.974 ns
8	RECOVERY TIME:	500 ns MAXIMUM	200.11 ns
9	NOISE AT RF TERMINATED:	150 mV (VP-P MAXIMUM)	110 mV
10	FALL TIME:	300 ns MAXIMUM	69.11 ns
11	TSS:	-42 dBm MAXIMUM	-44 dBm
12	PULSE WIDTH RANGE:	50 ns~CW MINIMUM	50 ns to CW
13	MAX INPUT POWER:	+ 20 dBm	Pass
14	DC Supply:	+15V @ 200 mA Max -15V @ 150 mA Max	+40 mA -40 mA

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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

TRANSFER RESPONSE PLOT @+25C

LOG TRANSFER WITH FREQUENCY
MODEL: SDLVA-218-44-70MV
TESTED BY: EBenson
TEST DATE: 12/19/2013
SERIAL NO: PL14418
TEST TEMP: +25C

Friday, December 27, 2013
1:32 PM



PLANAR MONOLITHICS INDUSTRIES
4921 Robert J. Mathews Parkway
El Dorado Hill, CA 95762
EMAIL: SALES@PMI-RF.COM

Frequency

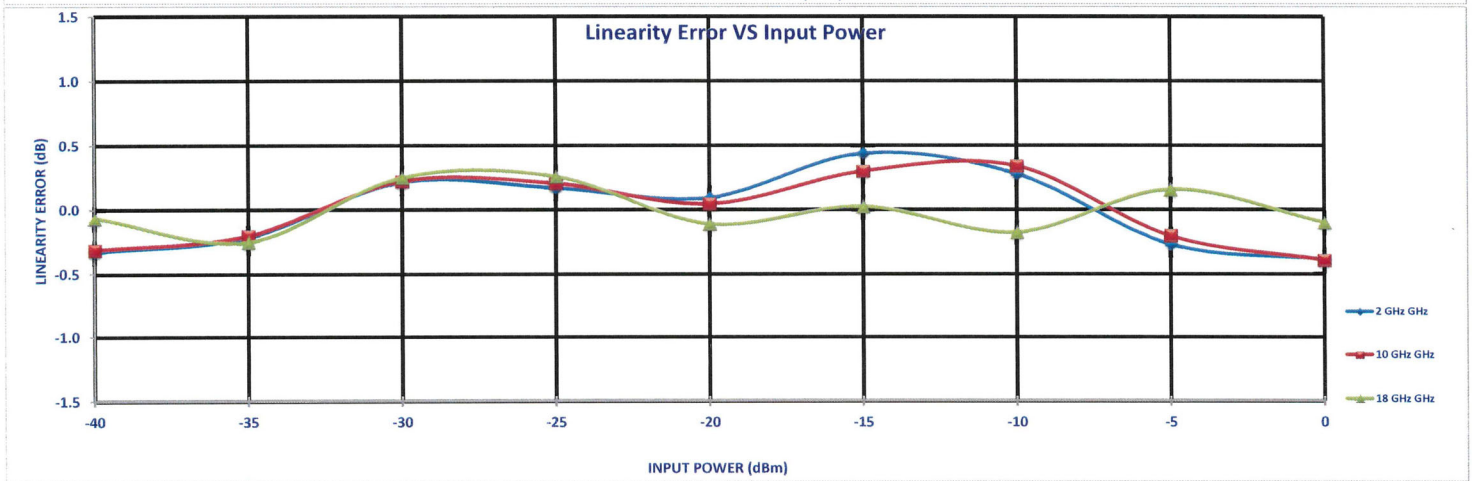
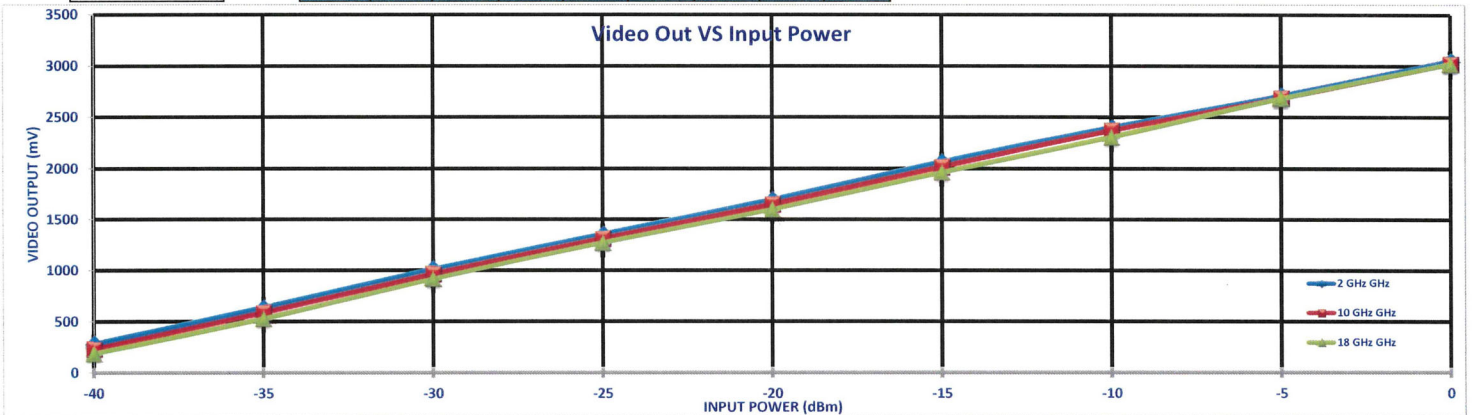
Frequency	Intercept (mV)	Slope (mV/dB)	-40	-35	-30	-25	-20	-15	-10	-5	0
2 GHz	3066	69.23	274	628	1004	1347	1688	2058	2393	2701	3039
			-23	-15	15	12	7	31	19	-19	-27
			-0.33	-0.22	0.22	0.17	0.10	0.44	0.28	-0.27	-0.39
10 GHz	3047	69.84	231	588	967	1315	1653	2020	2372	2683	3019
			-22	-14	16	14	3	21	24	-14	-28
			-0.31	-0.20	0.22	0.21	0.05	0.30	0.34	-0.21	-0.39
18 GHz	3026	70.86	187	528	918	1273	1601	1965	2305	2683	3019
			-5	-13	18	19	-8	2	-12	11	-7
			-0.06	-0.25	0.25	0.26	-0.11	0.03	-0.18	0.16	-0.10
Flatness +/-dB			0.6	0.7	0.6	0.5	0.6	0.7	0.6	0.1	0.1

RF Input Power (dBm)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)



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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

TRANSFER RESPONSE PLOT @0C

LOG TRANSFER WITH FREQUENCY
MODEL: SDLVA-218-44-70MV
TESTED BY: EBenson
TEST DATE: 12/19/2013
SERIAL NO: PL14418
TEST TEMP: 0C

Friday, December 27, 2013
1:36 PM



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EMAIL: SALES@PMI-RF.COM

Frequency

2 GHz	INTERCEPT (mV)	3043
	SLOPE (mV/dB)	67.13

10 GHz	INTERCEPT (mV)	3025
	SLOPE (mV/dB)	67.86

18 GHz	INTERCEPT (mV)	3005
	SLOPE (mV/dB)	69

-40	-35	-30	-25	-20	-15	-10	-5	0
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360	680	1031	1359	1696	2062	2396	2702	3020
2	-14	2	-6	-5	26	24	-6	-23
0.03	-0.20	0.02	-0.09	-0.07	0.38	0.36	-0.08	-0.35

303	638	995	1328	1662	2026	2378	2688	2989
-7	-12	6	0	-5	19	32	3	-36
-0.11	-0.17	0.09	0.00	-0.08	0.28	0.47	0.04	-0.53

251	577	944	1284	1609	1970	2309	2688	2989
7	-13	9	4	-16	0	-6	28	-16
0.09	-0.18	0.14	0.06	-0.23	0.01	-0.08	0.41	-0.23

RF Input Power (dBm)

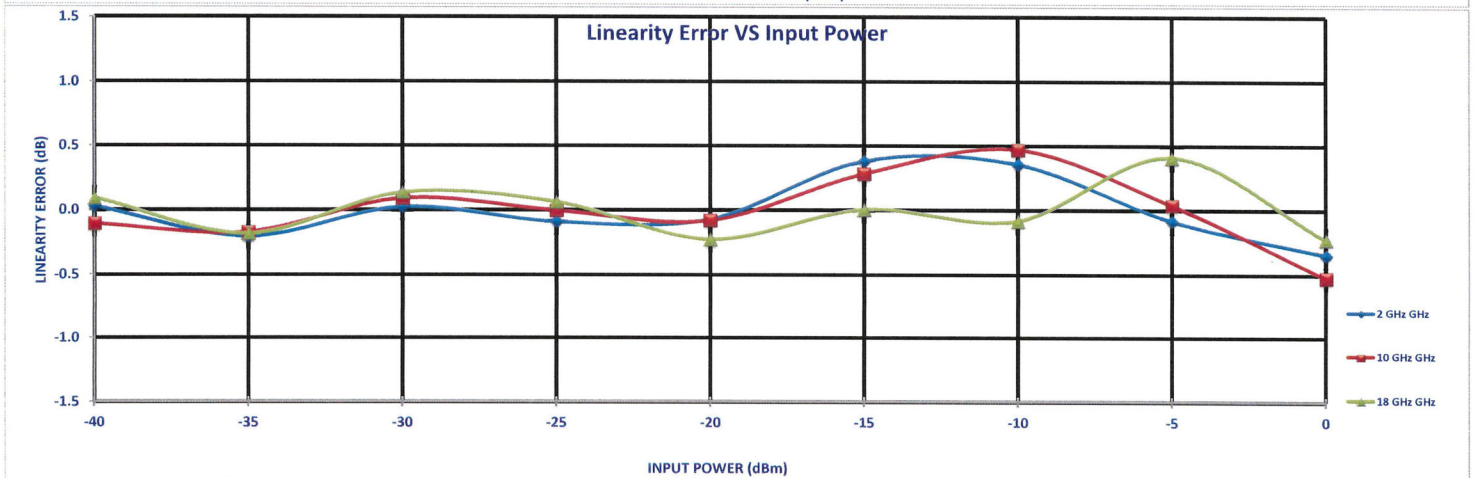
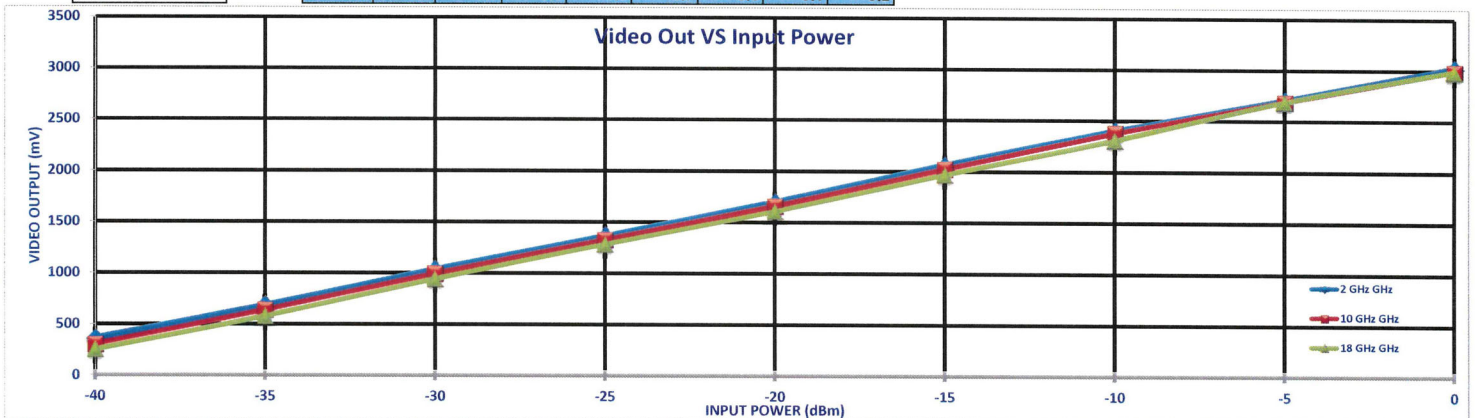
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

Flatness +/-dB

0.8	0.8	0.6	0.6	0.6	0.7	0.6	0.1	0.2
-----	-----	-----	-----	-----	-----	-----	-----	-----



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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

TRANSFER RESPONSE PLOT @+50C

LOG TRANSFER WITH FREQUENCY
MODEL: SDLVA-218-44-70MV
TESTED BY: EBenson
TEST DATE: 12/19/2013
SERIAL NO: PL14418
TEST TEMP: +50C

Friday, December 27, 2013
1:38 PM

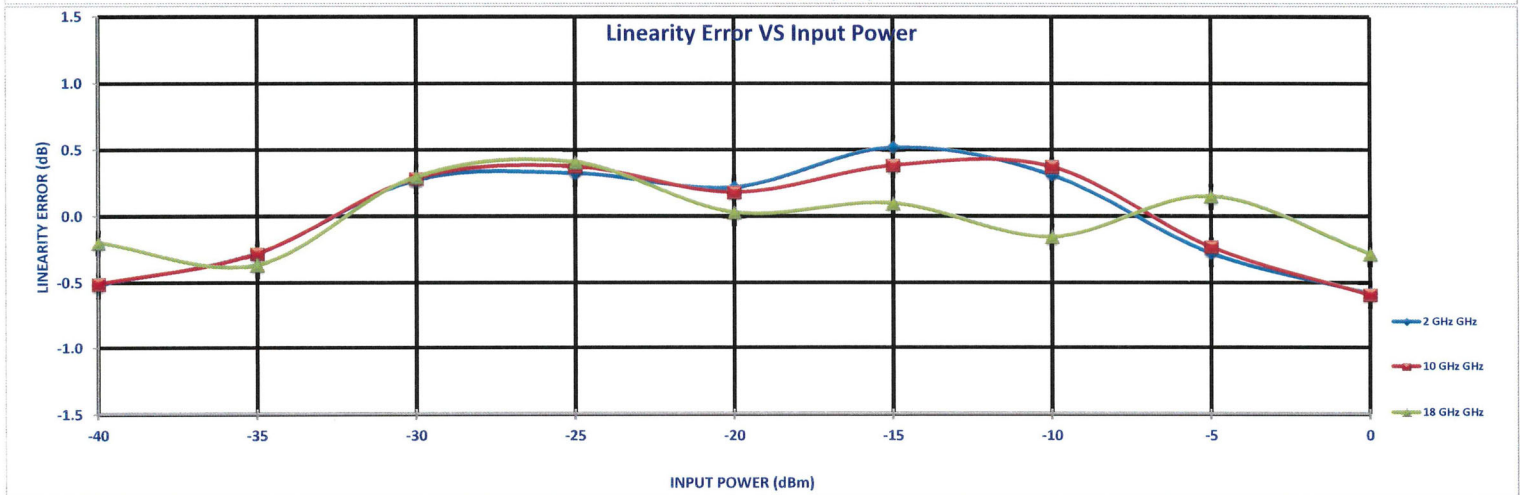
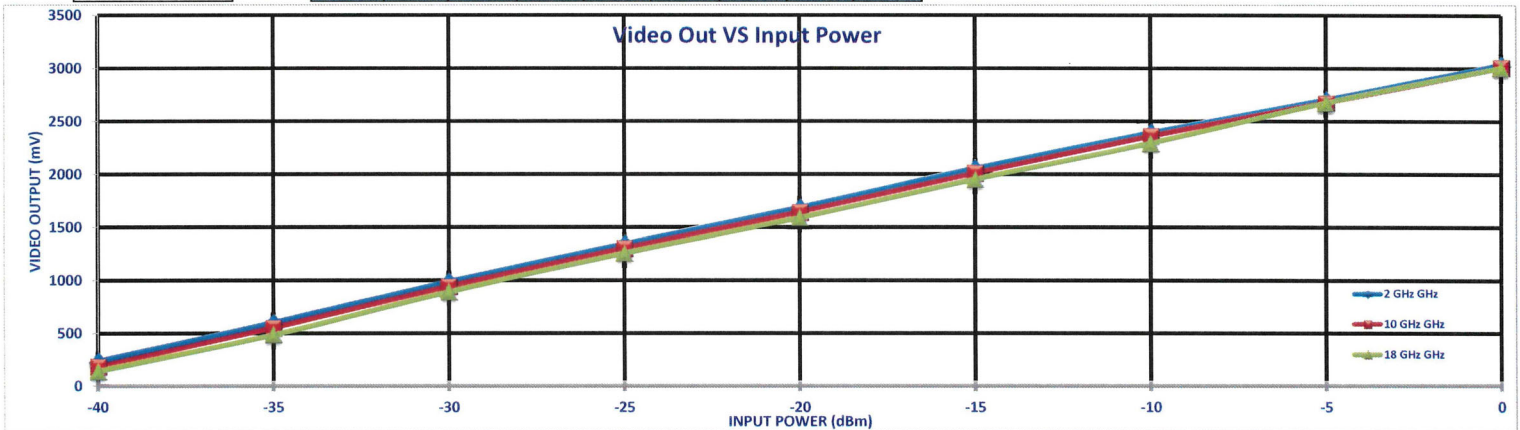


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Frequency

Frequency			-40	-35	-30	-25	-20	-15	-10	-5	0
2 GHz	INTERCEPT (mV)	3066	227	594	983	1337	1680	2051	2387	2696	3025
	SLOPE (mV/dB)	70.07	-36	-19	19	23	16	36	22	-19	-41
10 GHz	INTERCEPT (mV)	3047	181	551	945	1305	1645	2013	2366	2677	3005
	SLOPE (mV/dB)	70.75	-36	-20	20	27	13	27	27	-16	-42
18 GHz	INTERCEPT (mV)	3025	138	485	892	1259	1591	1955	2296	2677	3005
	SLOPE (mV/dB)	71.83	-14	-26	22	29	2	7	-11	11	-20
Flatness +/-dB			0.6	0.8	0.6	0.6	0.6	0.7	0.6	0.1	0.1

RF Input Power (dBm)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)
Measured Value (mV)
Error (mV)
LINEARITY ERROR (dB)

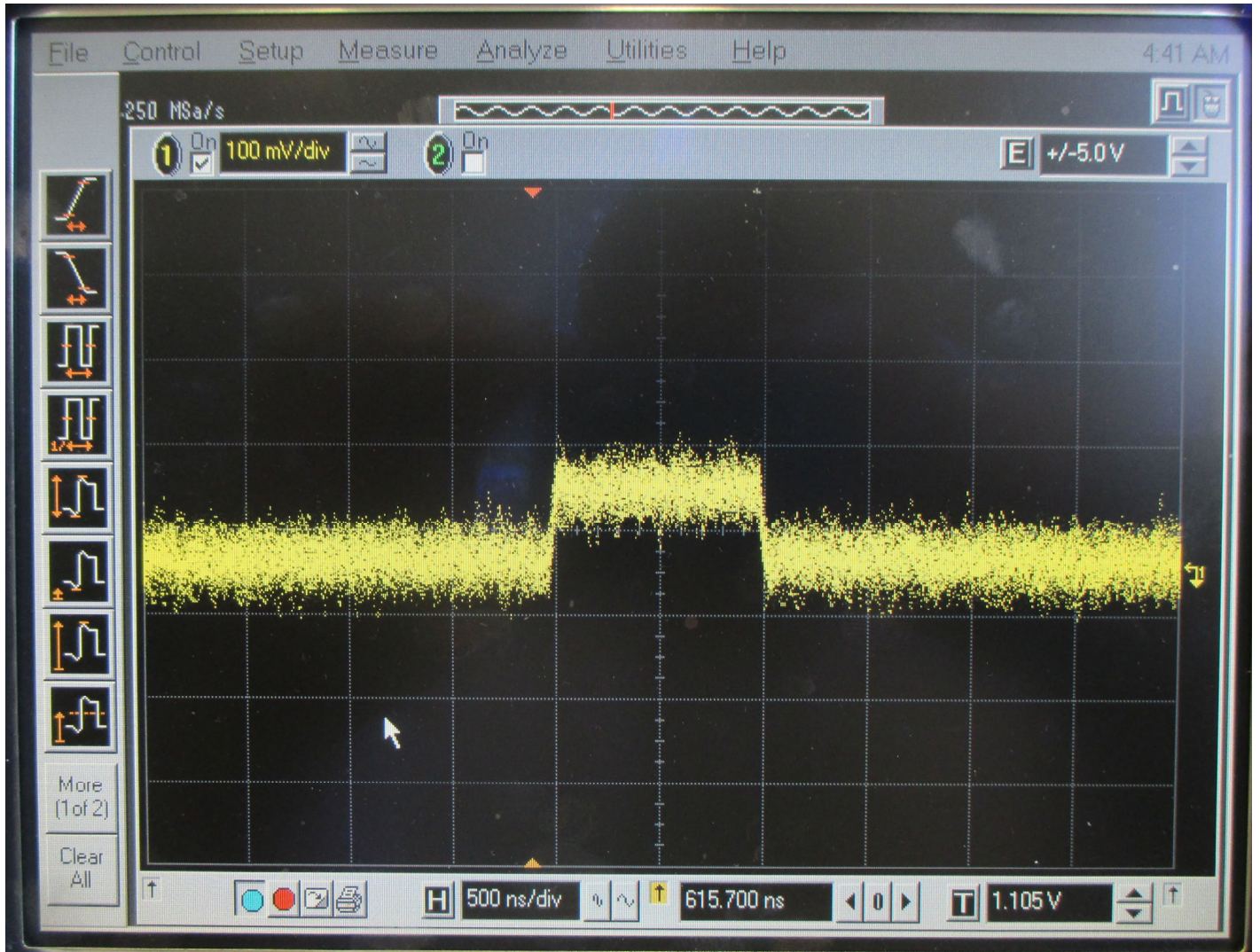


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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

TSS -44.0 dBm @ +25C



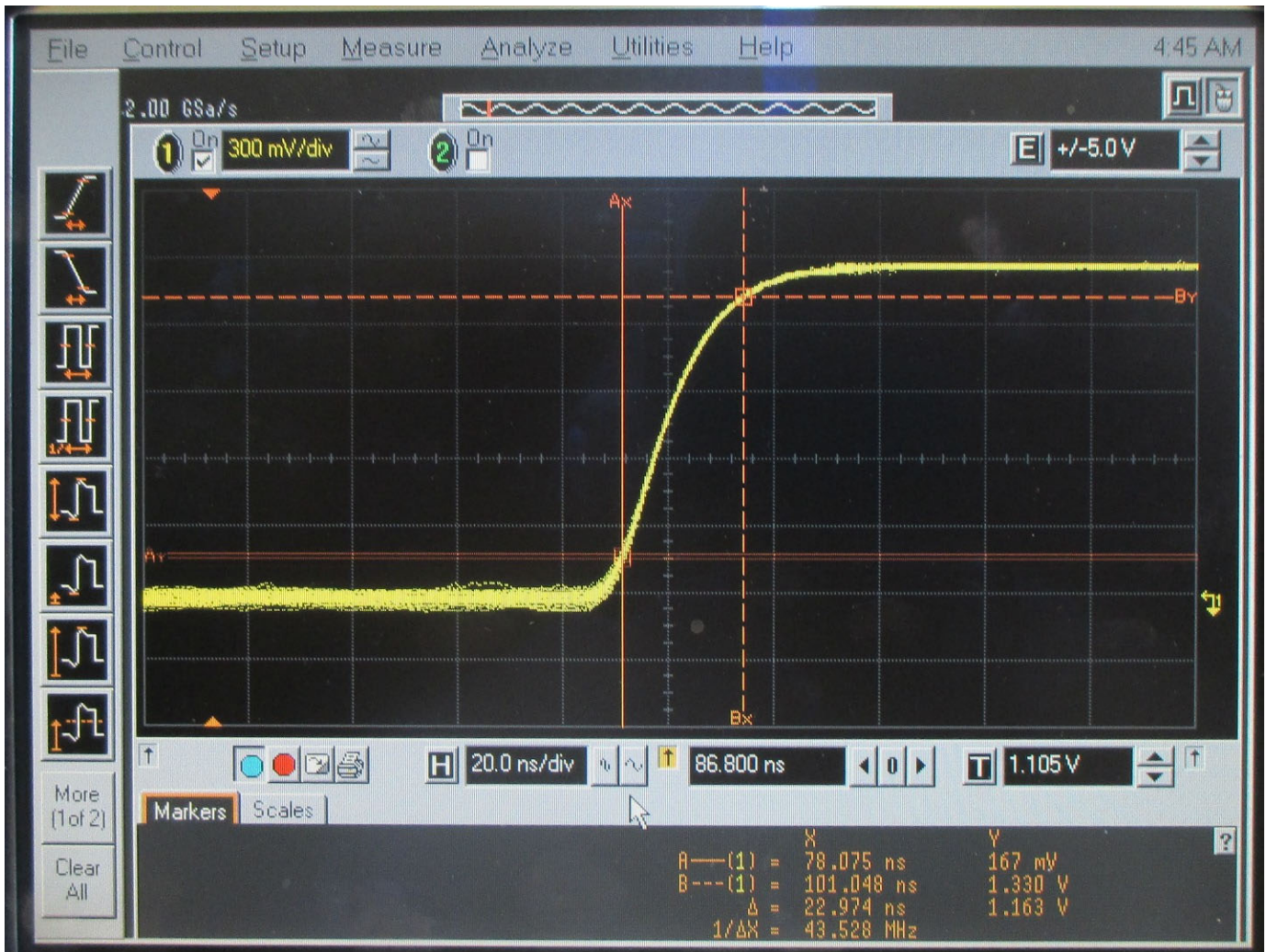
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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

RISE TIME 22.97 ns
(Input Power Level = 0dBm)



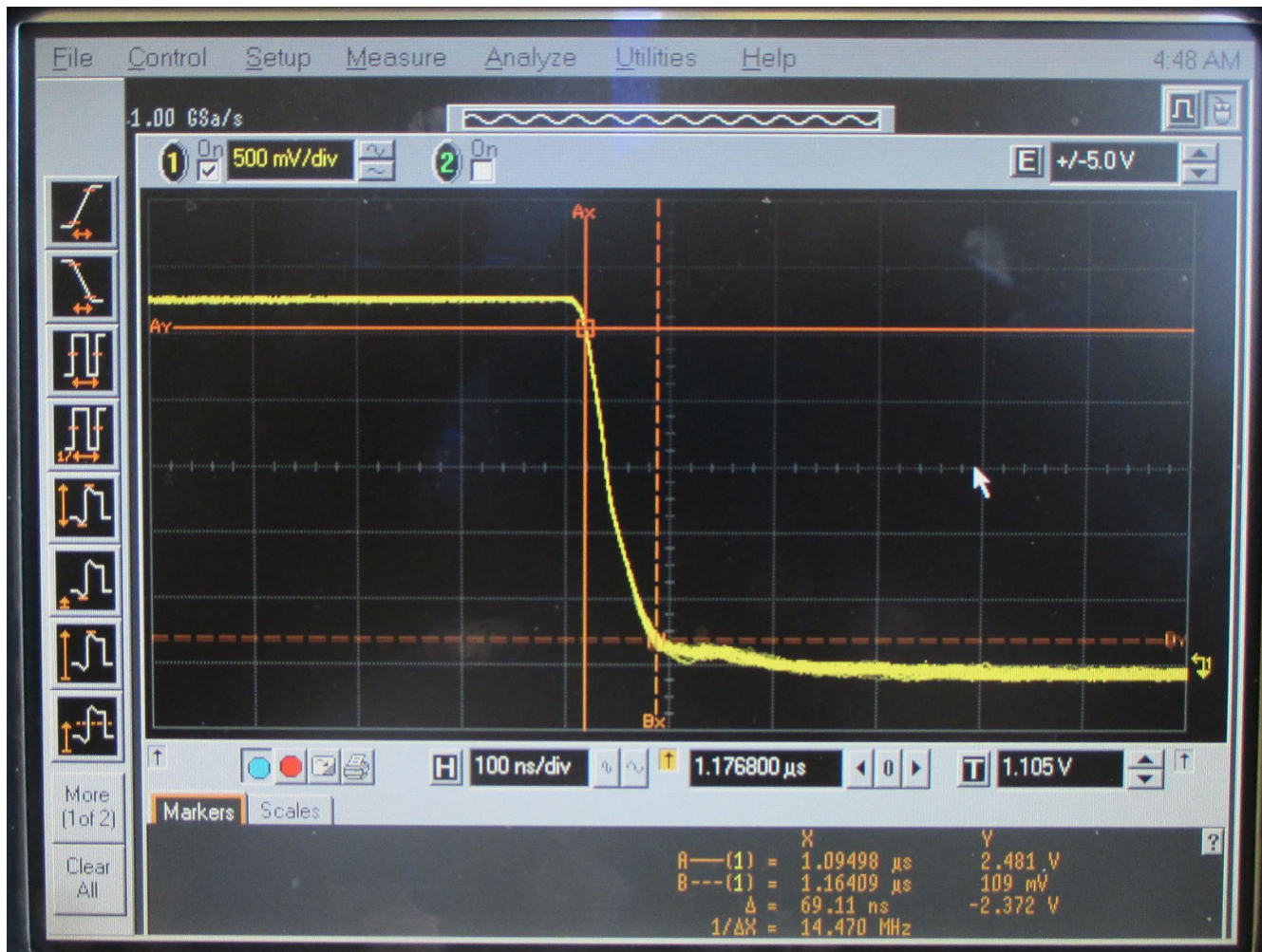
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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

FALL TIME 69.11ns
(Input Power Level = 0dBm)



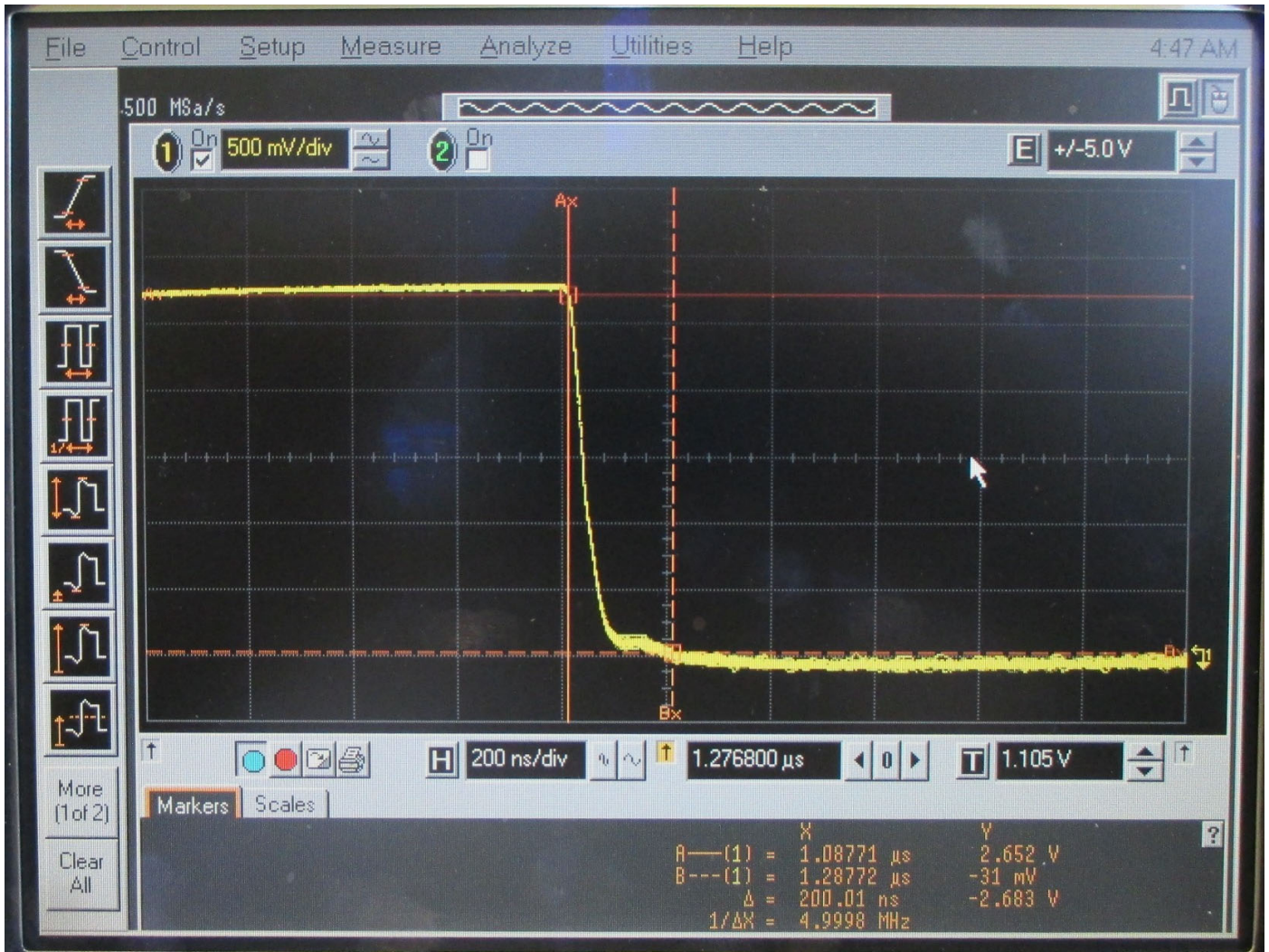
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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

RECOVERY TIME 200.01 ns
(Input Power Level = 0dBm)



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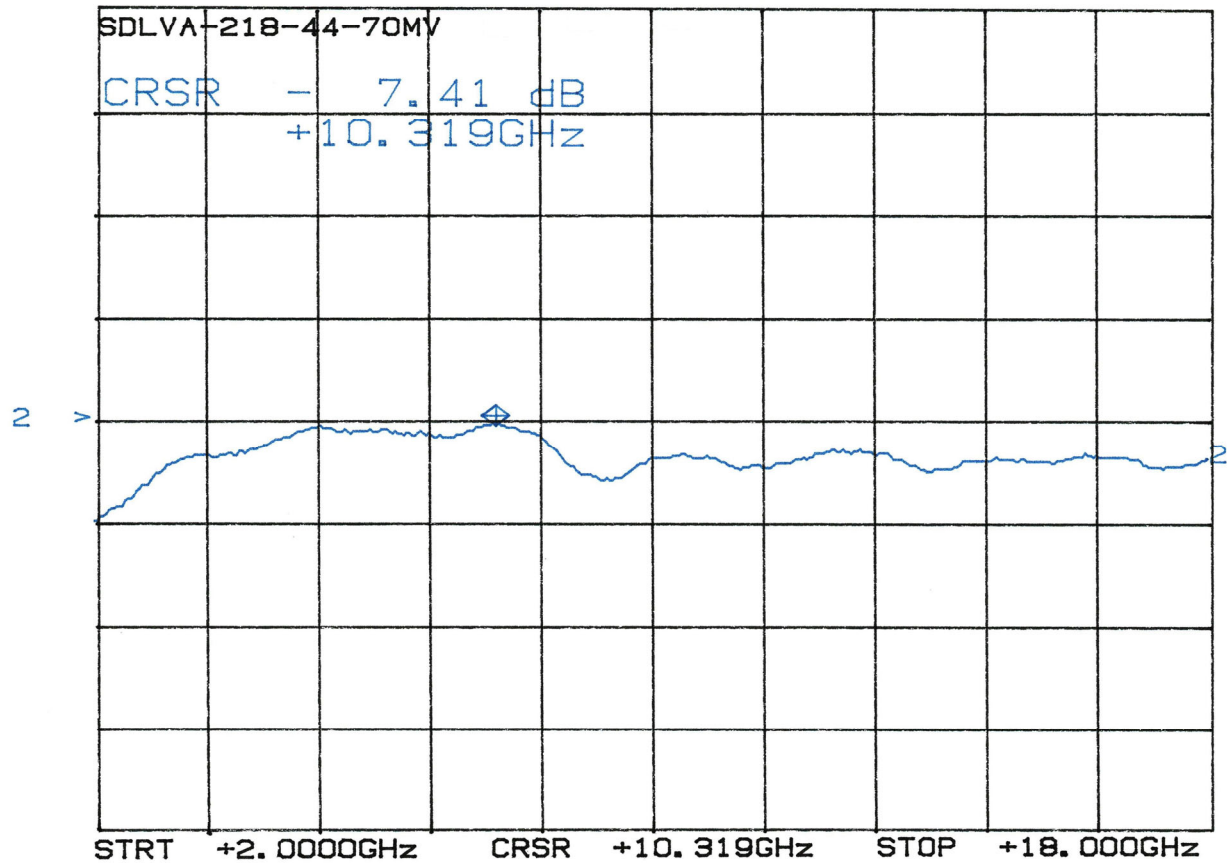
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TYPICAL CHARACTERISTICS
ON
SDLVA-218-44-70MV

INPUT RETURN LOSS -7.41 dB
(Input Power Level = -20dBm)

CH2: B -M S - 7.41 dB
5.0 dB/ REF - 7.36 dB



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