



**Typical Characteristics  
On  
P2T-100M40G-95-T-512-292FF**

PL14442/1401

**PMI MODEL P2T-100M40G-95-T-512-292FF IS AN ABSORPTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 0.1 GHZ TO 40 GHZ FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.**



**January 3, 2013**

**Designed By: PMI Engineering**

**Tested & Reported By:  
Hugo Gonzales & Sebastian Palacio**



# Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

**DESCRIPTION**  
 PMI MODEL P2T-100M40G-95-T-512-292FF IS AN ABSORPTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 0.1 GHz TO 40 GHz FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

**SPECIFICATIONS**

- FREQUENCY RANGE: 0.1 TO 40 GHz
- ISOLATION: 100dB Typ., 95dB Min. (0.1 to 18GHz)  
95dB Typ., 80dB Min. (18 to 26.5GHz)  
75dB Typ., 70dB Min. (26.5 to 40GHz)
- INSERTION LOSS: 6dB Max.  
4dB Typ., (0.1 to 18GHz)  
5dB Typ., (18 to 26.5GHz)  
5.5dB Typ., (26.5 to 40GHz)
- VSWR IN / OUT: 2.5:1 MAX, 2.0:1 TYP
- INPUT POWER: +20 dBm CW MAX
- SWITCHING SPEED: 100 nsec Max.
- DC VOLTAGE: +5VDC @ 120 mA Typ.  
-12VDC @ 55 mA Typ.
- CONTROL SIGNAL: TTL LOGIC  
SEE LOGIC TABLE
- CONNECTORS IN/OUT: 2.92mm FEMALE CONNECTORS
- CONTROL CONNECTORS: SOLDER PINS
- FINISH: GOLD PLATED
- SIZE: 1.0" X 1.0" X 0.5"

**ENVIRONMENTAL RATINGS**

- TEMPERATURES: -40°C TO +85°C (OPERATING)  
-55°C TO +125°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
- SALT FOG: MIL-STD-202F, METHOD 107D COND. A
- FUNGUS: MIL-STD-810C, METHOD 508.2
- TEMPERATURE CYCLES: MIL-STD-202F, METHOD 107

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

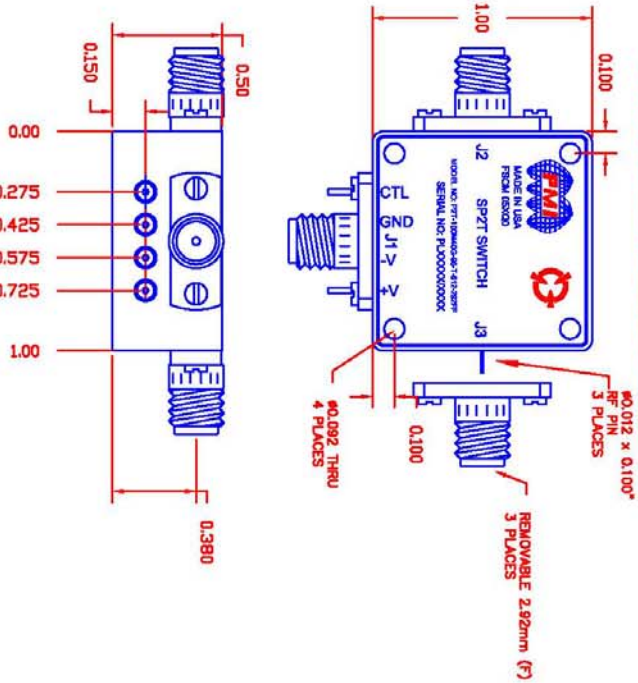
LOGIC TABLE

CTL	J1 - 42	J1 - J5
0	ON	OFF
1	OFF	ON

ALL DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 XXXX .0010  
 XXXX .0010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/22/15	

**MECHANICAL OUTLINE**



**PMI CONFIDENTIAL AND PROPRIETARY**

**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](http://www.pmi-rf.com)  
 E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
 ISO 9001 CERTIFIED

APPROVALS

DATE: 10/22/15

DESIGNED: A

REVISED:

PRODUCT FEATURE

P2T-100M40G-95-T-512-292FF

REV. NO. 27021041

SHEET 1 OF 1



## Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

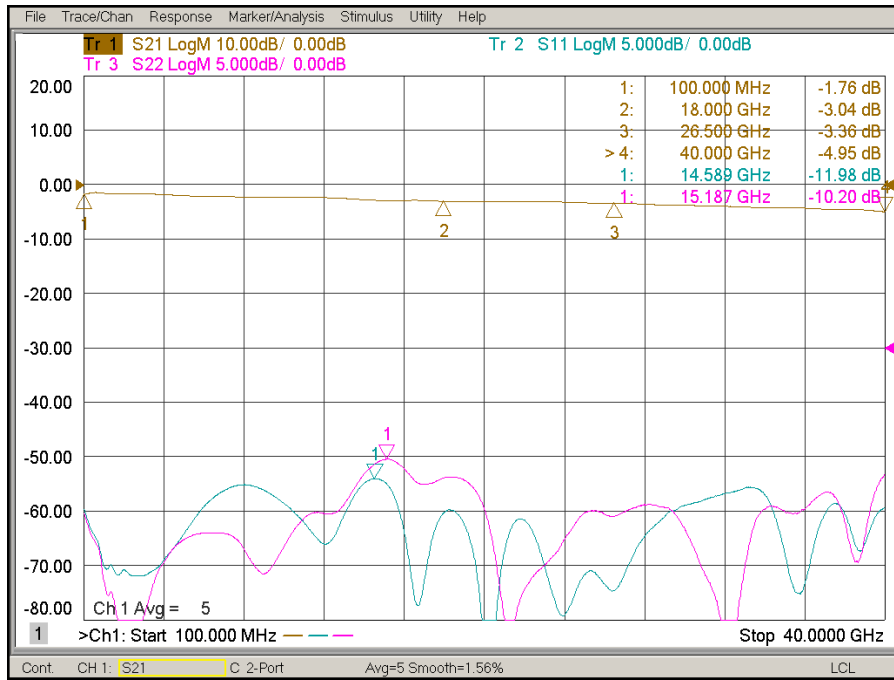
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC	
1	Frequency Range:	0.1GHz to 40GHz	<b>0.1GHz to 40GHz</b> See Plots		
2	Insertion Loss:	6dB Max. 4dB Typ. (0.1 to 18 GHz) 5dB Typ. (18 to 26.5 GHz) 5.5dB Typ. (26.5 to 40 GHz)	<b>3.04dB</b> <b>3.36dB</b> <b>4.95dB</b> See Plots		
3	Isolation:	100dB Typ., 95dB Min (0.1 to 18 GHz) 95 dB Typ., 80dB Min (18 to 26.5 GHz) 75dB Typ., 70dB Min (26.5 to 40 GHz)	<b>98.33dB</b> <b>83.50dB</b> <b>85.42dB</b> See Plots		
4	VSWR:	2.0:1 Typ. 2.5:1 Max	<b>Input 1.79:1</b> <b>Output 1.93:1</b> See Plots		
5	Operating Input Power:	+20dBm CW Max	<b>+20dBm</b>		
6	Switching Speed:	100ns Max	<b>20ns</b> See Plots		
7	Video Transients:	Not Specified	<b>0.5V Peak to Peak Nom.</b>		
8	Control TTL	CTL	J1-J2	J1-J3	<b>Pass</b>
		0	ON	OFF	
		1	OFF	ON	
9	Power Supply:	+5VDC @ 120mA -12VDC @ 65mA	<b>40mA</b> <b>30mA</b>		



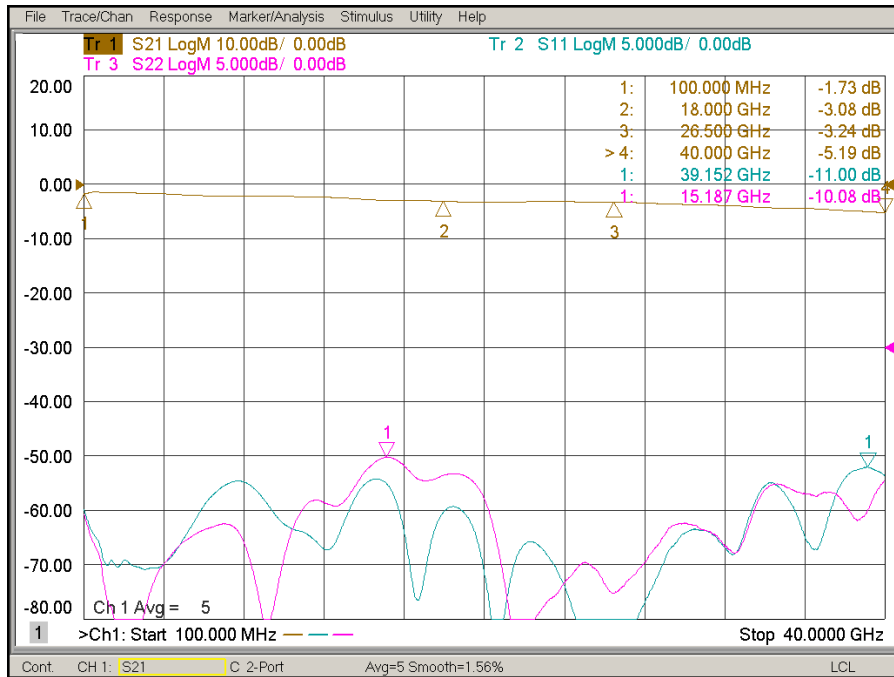
# Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

## (J1-J2) Insertion Loss and Return Loss



## (J1-J3) Insertion Loss and Return Loss

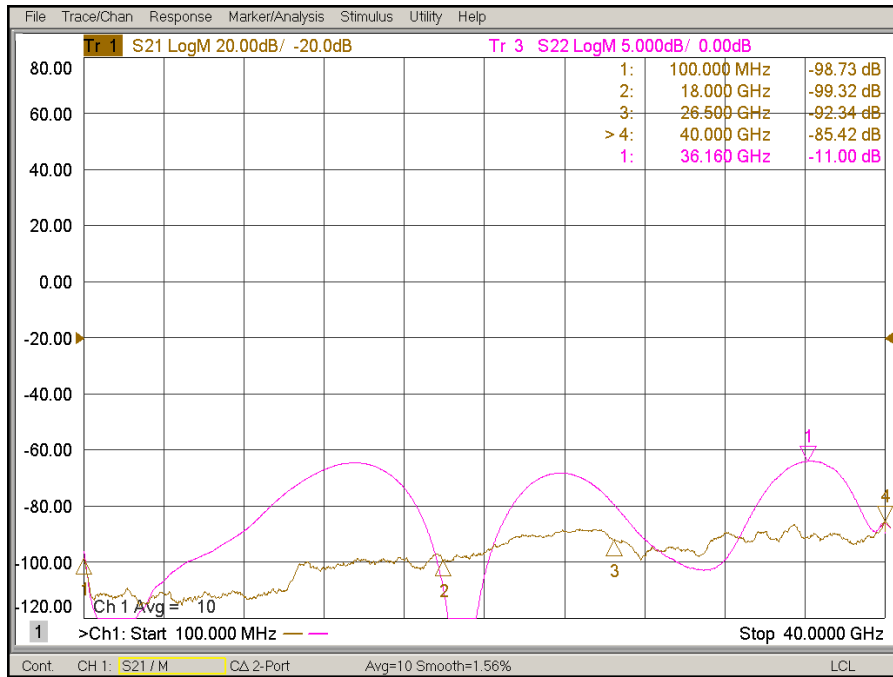




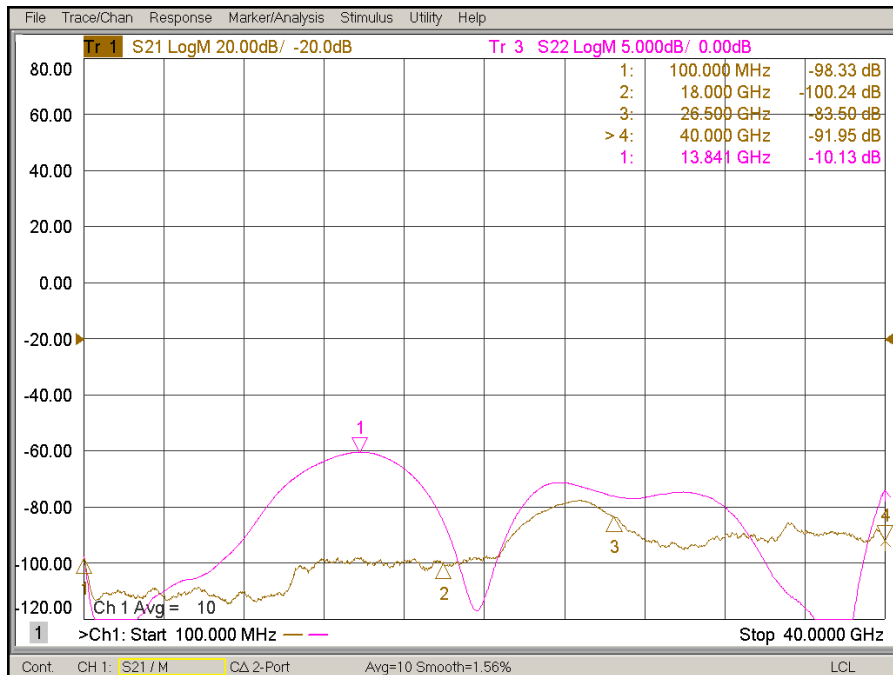
# Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

## (J1 – J2) Isolation and Termination Return Loss



## (J1 – J3) Isolation and Termination Return Loss



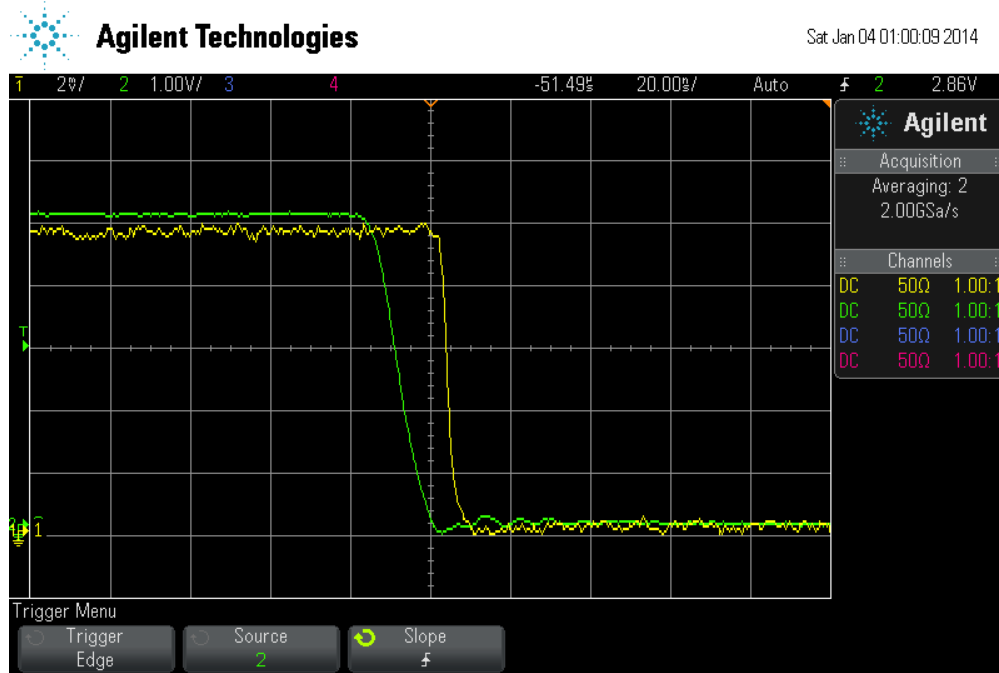


# Typical Characteristics On P2T-100M40G-95-T-512-292FF

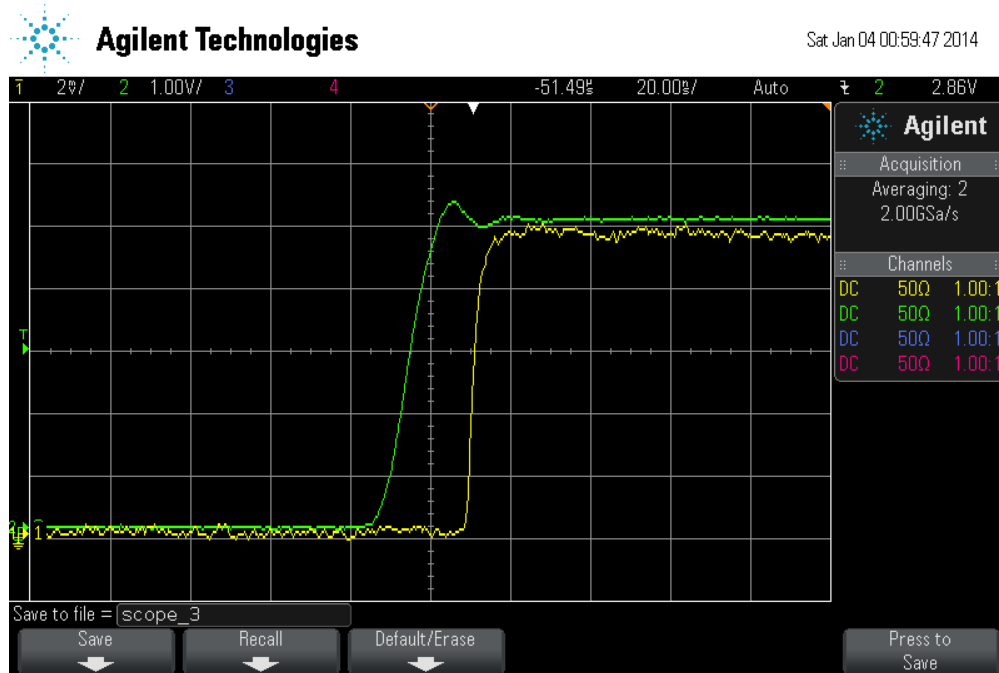
PL14442/1401

## Switching Speed

Delay OFF – 20ns per Div.



Delay ON – 20ns per Div.



**GREEN TRACE: RF SIGNAL  
YELLOW TRACE: TTL SIGNAL**

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731  
Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



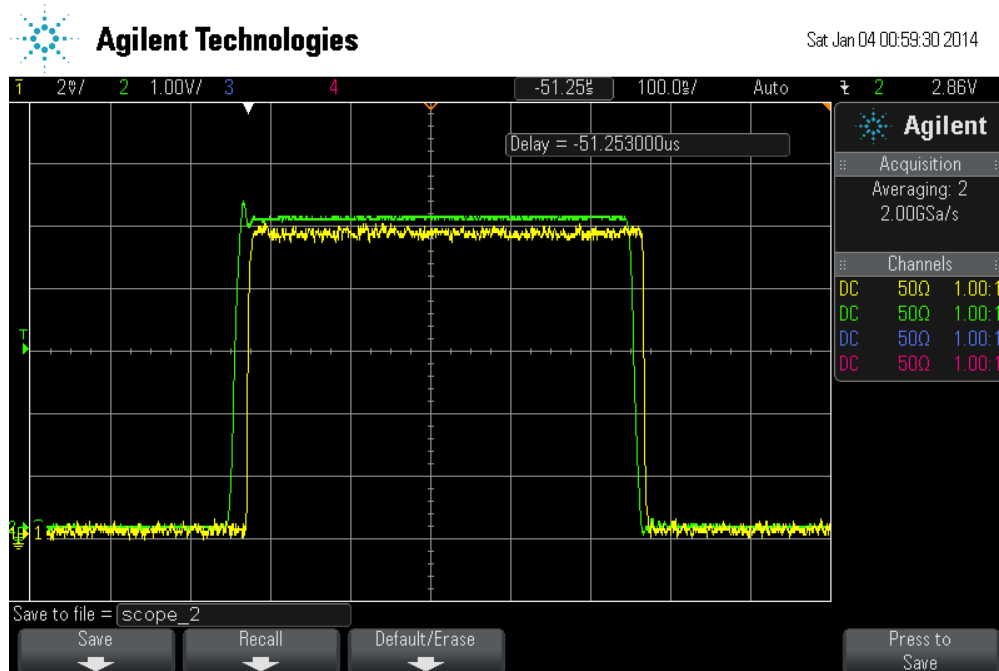
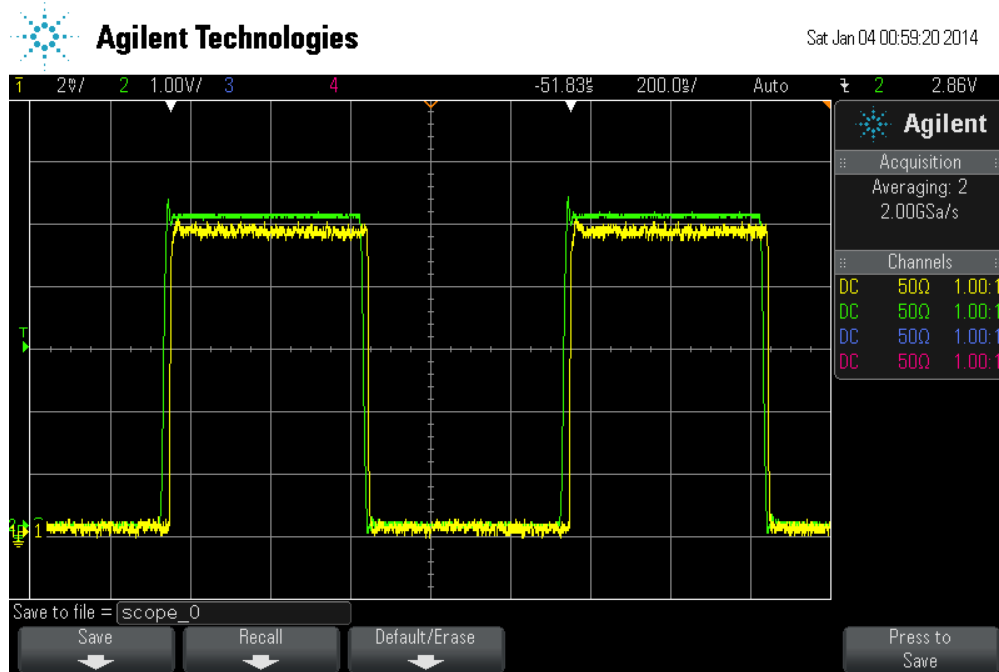


# Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

## Switching Speed

### Full Pulse



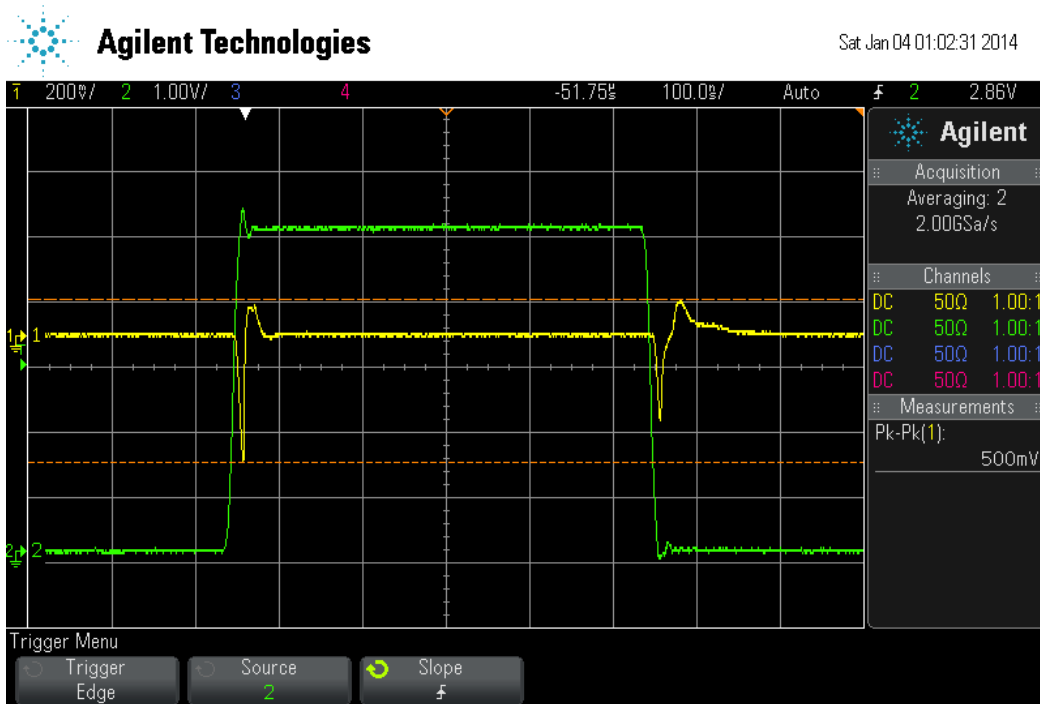
GREEN TRACE: RF SIGNAL  
YELLOW TRACE: TTL SIGNAL



# Typical Characteristics On P2T-100M40G-95-T-512-292FF

PL14442/1401

## Video Transients 100ns per Div.



**GREEN TRACE: TTL SIGNAL**  
**YELLOW TRACE: VIDEO TRANSIENTS**