



**TYPICAL CHARACTERISTICS  
ON  
P3T-0R5G4G-60-T-SFF-SP**

**PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER P3T-0R5G4G-60-T-SFF-SP IS A SINGLE POLE, THREE THROW NON-REFLECTIVE SWITCH DESIGNED TO OPERATE OVER 0.5GHz TO 4.0GHz FREQUENCY RANGE. THIS MODEL IS DESIGNED TO MAINTAIN LOW INSERTION LOSS, HIGH ISOLATION, AND FAST SWITCHING SPEED. THIS MODEL OFFERS LOW VIDEO TRANSIENT PERFORMANCE OF 50mV MAXIMUM**



June 27, 2019

Designed By: PMI Engineering  
Tested and Reported By: Lee McGraw / Alfredo Lopez

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## TYPICAL CHARACTERISTICS ON P3T-0R5G4G-60-T-SFF-SP

**DESCRIPTION:**

PMI MODEL NUMBER P3T-0R5G4G-60-T-SFF-SP IS A SINGLE POLE, THREE THROW NON-REFLECTIVE SWITCH DESIGNED TO OPERATE OVER THE 0.5GHZ TO 4.0GHZ FREQUENCY RANGE. THIS MODEL IS DESIGNED TO MAINTAIN LOW INSERTION LOSS, HIGH ISOLATION, AND FAST SWITCHING SPEED. THIS MODEL OFFERS LOW VIDEO TRANSIENT PERFORMANCE OF 50MV MAXIMUM.

**SPECIFICATIONS:**

- FREQUENCY: \_\_\_\_\_ 0.5 GHz TO 4.0 GHz
- INSERTION LOSS (0.6 – 2.5GHz): \_\_\_\_\_ 2.5dB MAXIMUM
- INSERTION LOSS (0.5 – 4GHz): \_\_\_\_\_ 3.0dB MAXIMUM
- ISOLATION: \_\_\_\_\_ 60dB MINIMUM
- VSWR: \_\_\_\_\_ 2.0:1 MAXIMUM
- SPEED: \_\_\_\_\_ ON/OFF – 50ns MAXIMUM  
RISE/FALL – 15ns MAXIMUM
- POWER INPUT (OPERATING): \_\_\_\_\_ +10dBm CW MAXIMUM
- VIDEO LEAKAGE: \_\_\_\_\_ 50mV @ 350MHZ BW MAXIMUM (1)
- CONTROL: \_\_\_\_\_ TTL LOGIC – "1" = "LOW LOSS"  
TTL LOGIC – "0" = "ISOLATION"  
PINS E1, E2, and E3 ARE PULLED LOW "0"  
**\*SURGE PROTECTION INCLUDED ON TTL LINES**
- POWER SUPPLY: \_\_\_\_\_ +5V @ 150 mA NOMINAL  
\_\_\_\_\_ -12V @ 80 mA NOMINAL
- RF CONNECTORS: \_\_\_\_\_ SMA FEMALE CONNECTORS
- DC CONNECTORS: \_\_\_\_\_ SOLDER PINS
- SEALING: \_\_\_\_\_ HERMETIC
- FINISH: \_\_\_\_\_ PAINTED BLUE

- (1) After 50 nsec no video transient will be present  
(2) – Video filter is required on input and output ports.

**ENVIRONMENTAL RATINGS:**

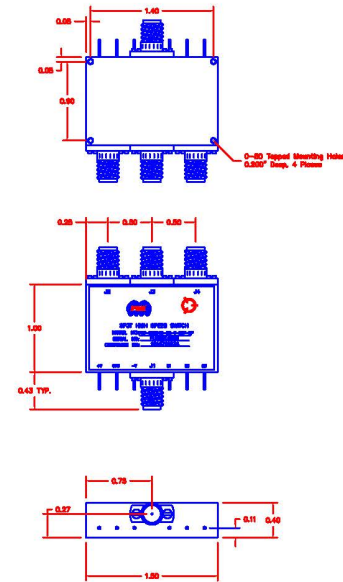
- TEMPERATURE: \_\_\_\_\_ -45°C TO +90°C (OPERATING)  
\_\_\_\_\_ -54°C TO +125°C (STORAGE)
- HUMIDITY: \_\_\_\_\_ MIL-STD-202F, METHOD 103B COND. B
- SHOCK: \_\_\_\_\_ MIL-STD-202F, METHOD 213B COND. C
- VIBRATION: \_\_\_\_\_ MIL-STD-202F, METHOD 204D COND. B
- SALT FOG: \_\_\_\_\_ MIL-STD-202F, METHOD 101D+EST COND. B
- FUNGUS: \_\_\_\_\_ MIL-STD-810F, METHOD 508.5

Note: Environmental testing and ESS will be met, but actual testing is not done by PMI  
Actual screening is available for an additional charge.

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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	9/18/19	



PMI CONFIDENTIAL AND PROPRIETARY

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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ISO 9001 CERTIFIED

APPROVALS		DATE		TITLE	
DRAWN	JCM		8/9/10	PRODUCT FEATURE	
REDWORN	JSPU		8/18/10	P3T-0R5G4G-60-T-SFF-SP	
ISSUED		SIZE	FROM NO.	DWG NO.	REV.
		A	05XQ0	27037220	A1
		SCALE	N:S	SHEET	1 OF 1



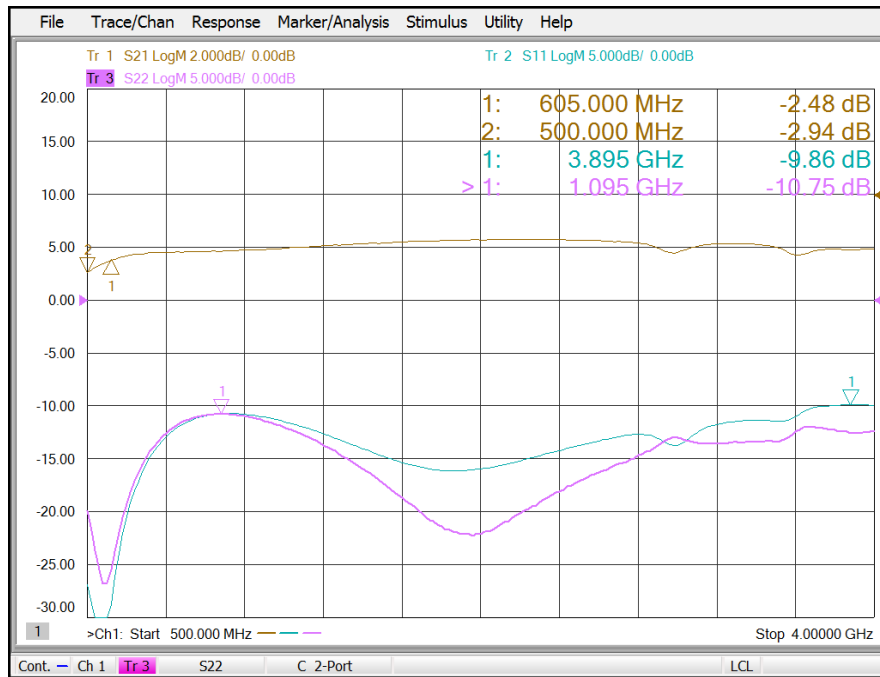
**TYPICAL CHARACTERISTICS  
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<b>TEST. ITEM NO</b>	<b>PARAMETERS</b>	<b>SPECIFIED VALUE</b>	<b>TEST RESULTS</b>
1	Frequency:	0.5 GHz to 4.0 GHz	<b>0.5 GHz to 4.0 GHz</b>
2	Insertion Loss: (0.6 – 2.5 GHz)	2.5 dB Max	<b>2.4dB See Plot</b>
3	Insertion Loss: (0.5 – 4 GHz)	3.0 dB Max	<b>2.9dB See Plot</b>
4	Isolation:	60 dB Min	<b>66dB See Plot</b>
5	VSWR:	2.0:1 Max	<b>1.9:1 See Plot</b>
6	Speed:	On/Off: 50 ns Max Rise/Fall: 15 ns Max	<b>See Typical Characteristics</b>
7	Power Input: (Operating)	+10 dBm CW Max	<b>Pass</b>
8	Video Leakage:	50 mV @ 350 MHz BW	<b>Pass</b>
9	Control:	TTL Logic – “1” = “Low Loss” TTL Logic – “0” = “Isolation”	<b>Pass</b>
10	Power Supply:	+5V @ 150 mA -12V @ 80 mA	<b>9 mA 45 mA</b>

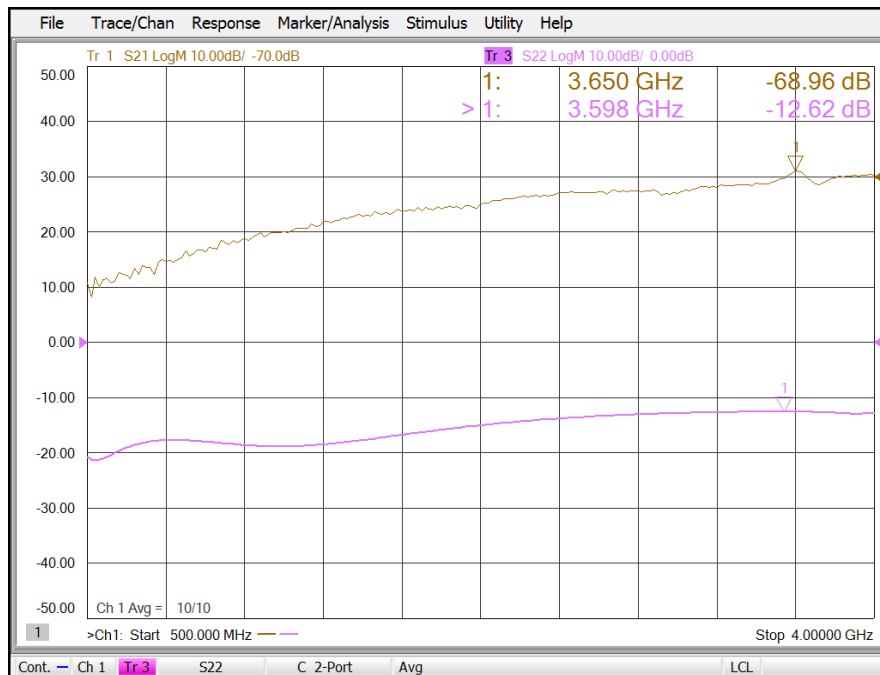


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**(J1 – J2) Insertion Loss and Return Loss**



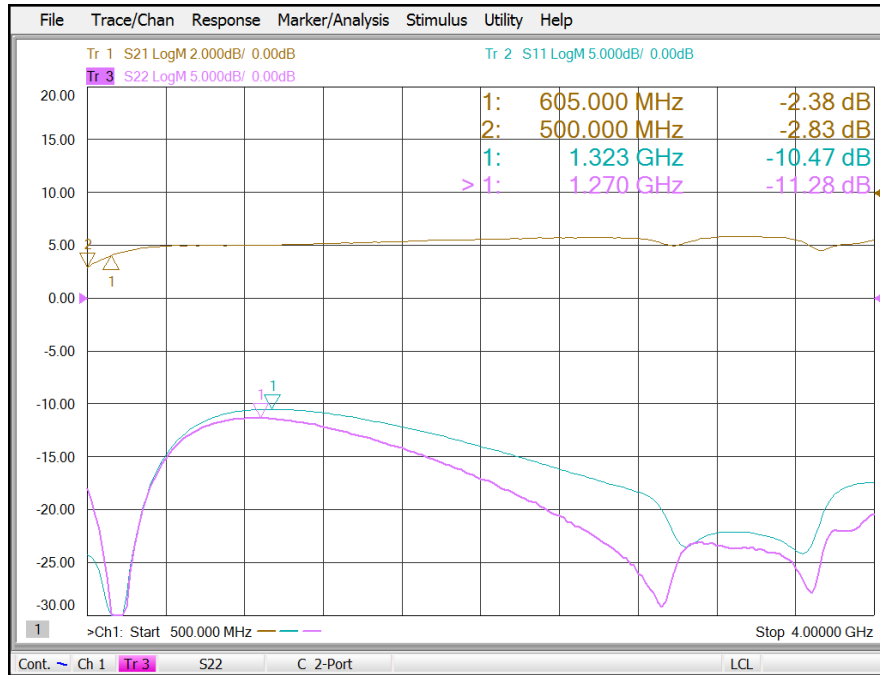
**(J1 – J2) Isolation and Termination Return Loss**



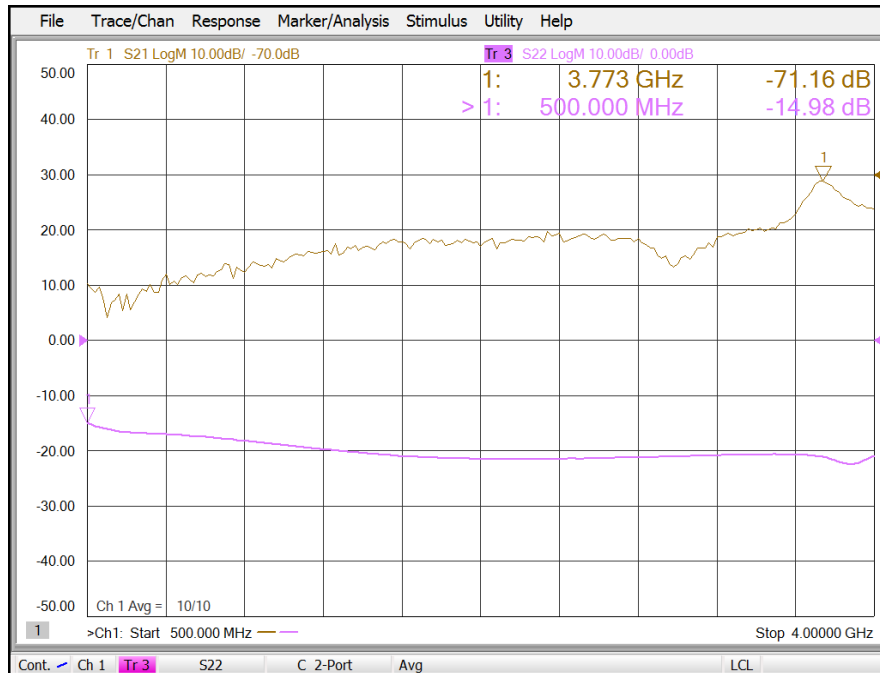


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**(J1 – J3) Insertion Loss and Return Loss**



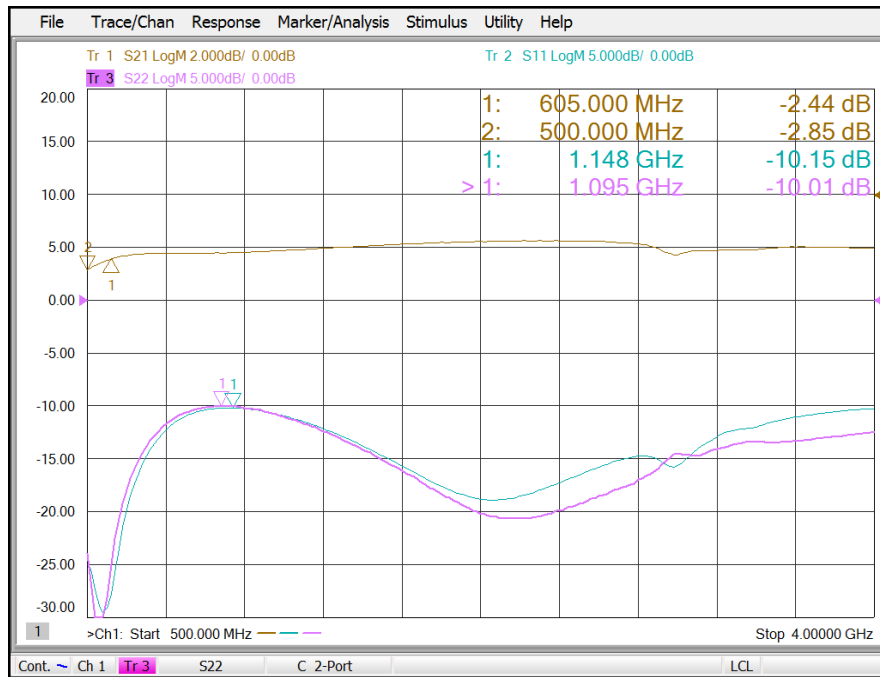
**(J1 – J3) Isolation and Termination Return Loss**



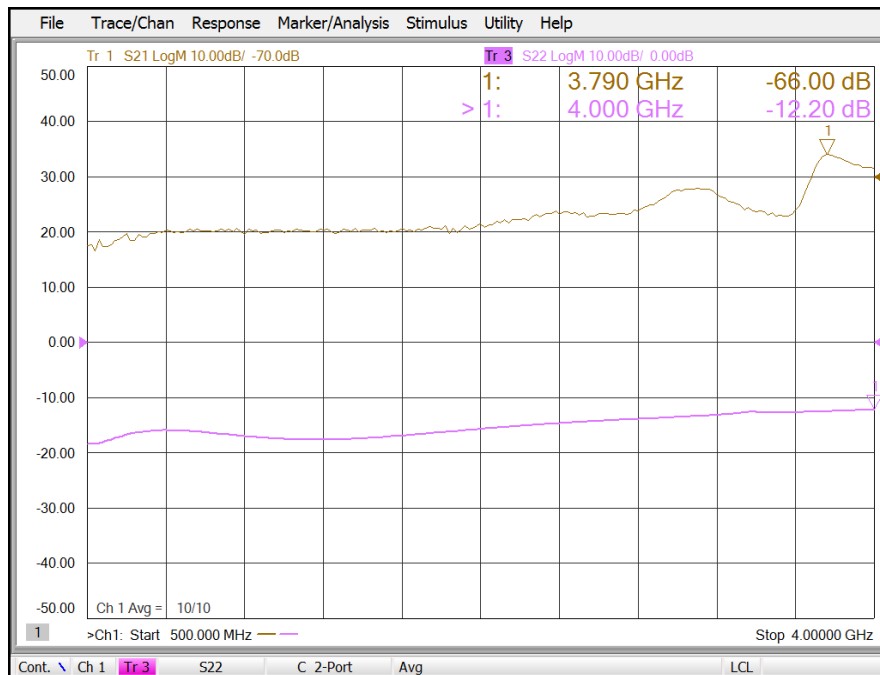


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**(J1 – J4) Insertion Loss and Return Loss**



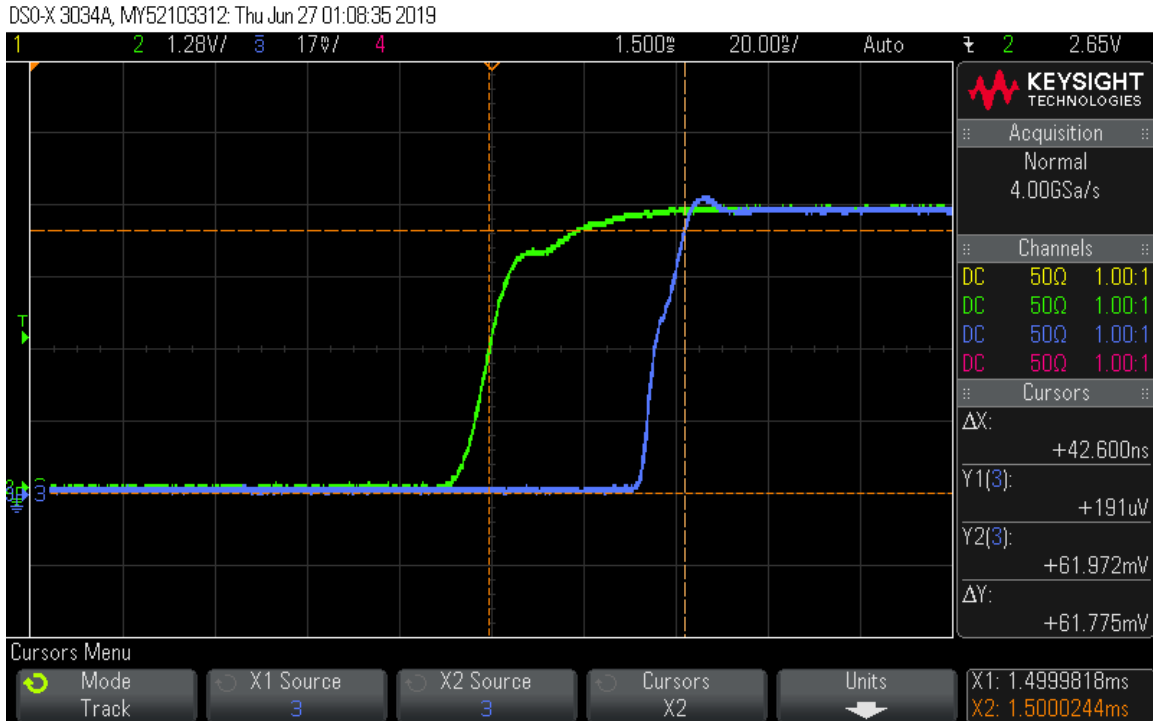
**(J1 – J4) Isolation and Termination Return Loss**





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**Switching Speed (Delay ON)**



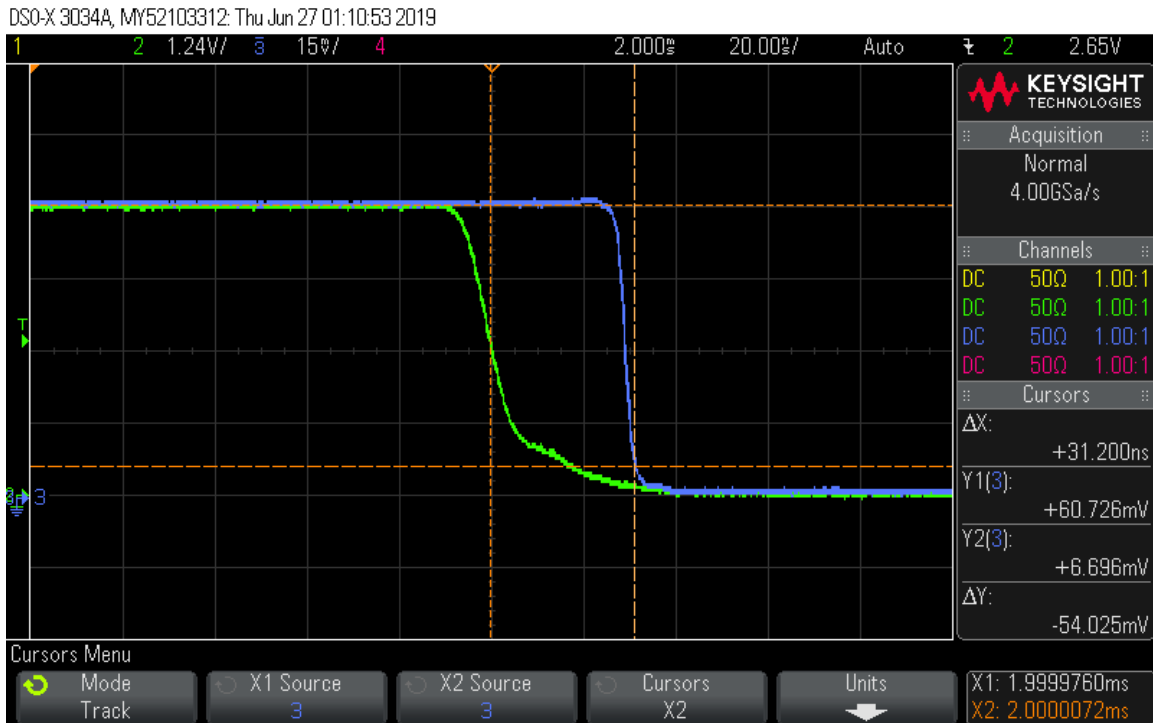
**Channel 1 (Yellow):** Pulse Generator

**Channel 2 (Green):** Crystal Detector Output (Negative Voltage when RF Power is present)



**TYPICAL CHARACTERISTICS  
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**Switching Speed (Delay OFF)**



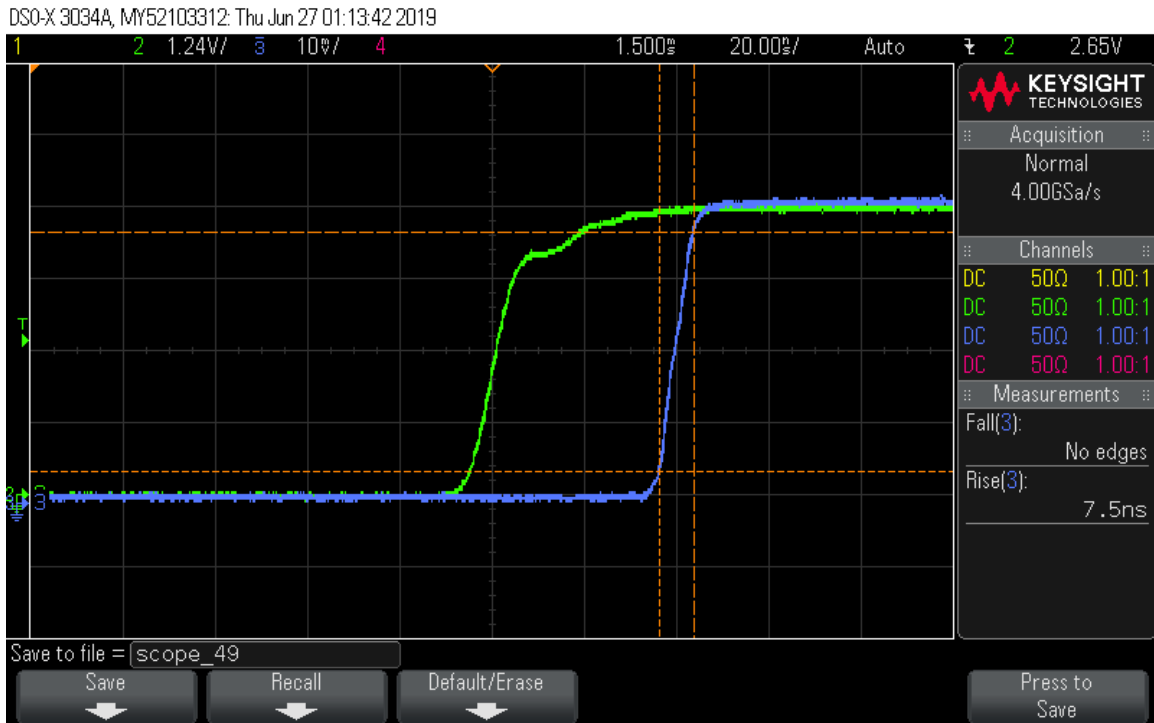
**Channel 1 (Blue):** Pulse Generator

**Channel 2 (Green):** Crystal Detector Output (Negative Voltage when RF Power is present)



## TYPICAL CHARACTERISTICS ON P3T-0R5G4G-60-T-SFF-SP

### Switching Speed (Rise Time)





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**Switching Speed (Fall Time)**

