



## Typical Characteristics For PXS-12G18G-65-T-SFF

PMI MODEL PXS-12G18G-65-T-SFF IS AN ABSORPTIVE, HIGH SPEED, SINGLE POLE FOUR THROW SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 12.0 GHz TO 18.0 GHz. THIS SWITCH HAS > 65 dB ISOLATION.



March 20, 2017

Designed by: PMI Engineering

Tested and Reported by: Simon Kuhn

4921 Robert J. Mathews Pkwy Suite 1 El Dorado Hills, CA 95762, USA  
Phone: (916)542-1401 Fax: (916)265-2597 Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



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# Typical Characteristics For PXS-12G18G-65-T-SFF

## Product Feature & Mechanical Drawing:

### DESCRIPTION

PMI MODEL PXS-12G18G-65-T-SFF IS AN ABSORPTIVE, HIGH SPEED, TWO POLE TRANSFER SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 12.0 GHz TO 18.0 GHz. THIS SWITCH HAS > 65 dB ISOLATION.

### SPECIFICATIONS

- FREQUENCY RANGE: 12.0 GHz TO 18.0 GHz
- IMPEDANCE: 50 Ω
- INPUT POWER: +27dBm (0.5 WATT) MAX
- VSWR: 2.0:1 MAX
- INSERTION LOSS: 3.0dB MAX
- ISOLATION: 65dB MIN
- SWITCHING SPEED: 100ns MAX
- DC VOLTAGE: +5VDC  
-15VDC (±3V)
- CONTROL: SOLDER PIN  
**TTL LOGIC - SEE TABLE**
- CONNECTORS IN/OUT: SMA (F)
- SIZE: (L) 1.2" X (W) 1.2" X (H) 0.5"
- FINISH: BLUE EPOXY POLIMIDE COATING IAW MIL-C-22750, TYPE I OVER EPOXY POLIMIDE PRIMER IAW MIL-P-23377, TYPE I, CLASS 1 OR 3.

TTL LOGIC TABLE		
TTL LOGIC	INSERTION LOSS	ISOLATION
"0"	J1 - J2 J3 - J4	J1 - J4 J2 - J3
"1"	J1 - J4 J2 - J3	J1 - J2 J3 - J4

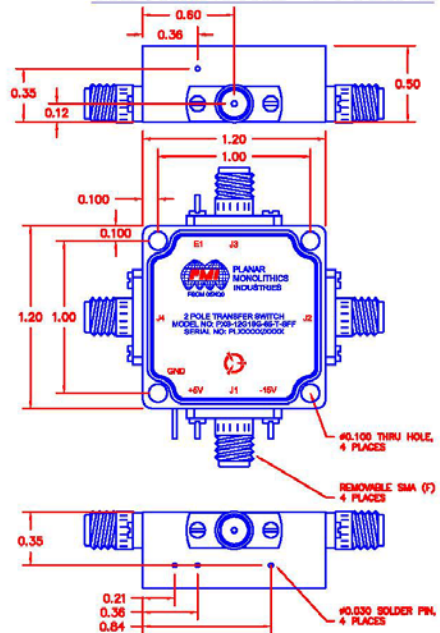
### ENVIRONMENTAL RATINGS

- TEMPERATURE: -55°C TO + 85°C (OPERATING)  
-65°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
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	11/28/13	
	A1	ECN # 16-0173	11/19/16	

### 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



ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXXX ±0.020  
XXXXX ±0.010

APPROVALS		DATE	TITLE			REV.
DRAWN: <i>S.A.B.</i>		11/28/13	PRODUCT FEATURE			
CHECKED:			PXS-12G18G-65-T-SFF			
ISSUED:			SIZE: A	PSOV. NO. 05X00	DWG. NO. 27026941	A1
			SCALE: N:S	SHEET 1 OF 1		

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# Typical Characteristics For PXS-12G18G-65-T-SFF

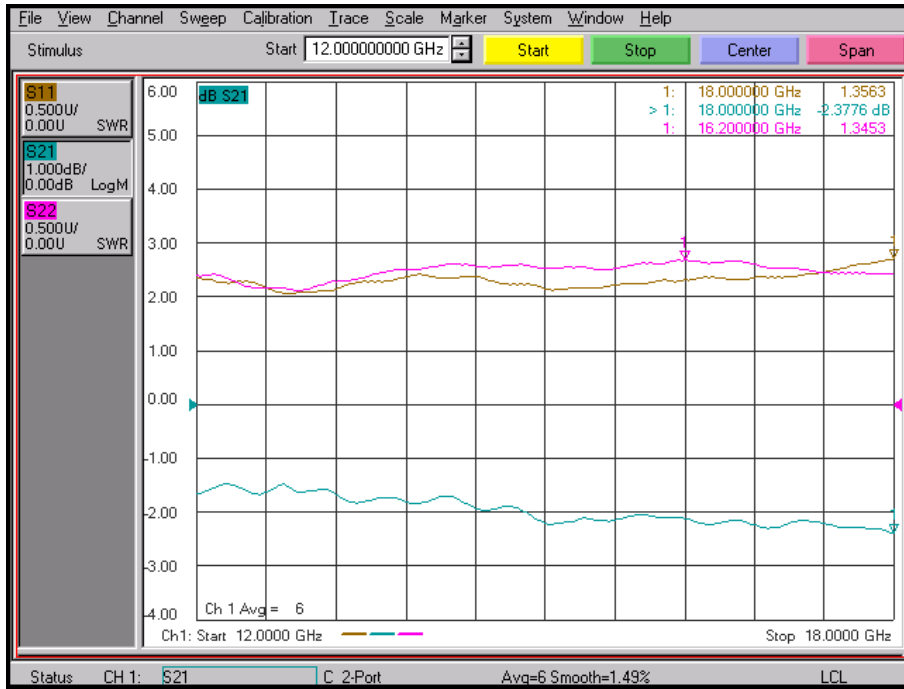
## Summary Test Data

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range	12.0 TO 18.0 GHz	12.0 TO 18.0 GHz	
2	Insertion Loss	3.0 dB Max	2.65 dB (See Plot)	
3	VSWR	2.0:1 Max	1.93:1 (See Plot)	
4	Isolation	65 dB Min	77.0 dB (See Plot)	
5	Switching Speed	100 ns Max	See Typical Characteristics	
6	Input Power	+27dBm (0.5 WATT) Max	Pass	
7	DC Supply	+5VDC -15VDC (±3V)	45 mA 73 mA	
8	Control Signal	TTL LOGIC "0" J1-J2, J3-J4 = Insertion Loss J1-J4, J2-J3 = Isolation TTL LOGIC "1" J1-J4, J2-J3 = Insertion Loss J1-J2, J3-J4 = Isolation	Pass	

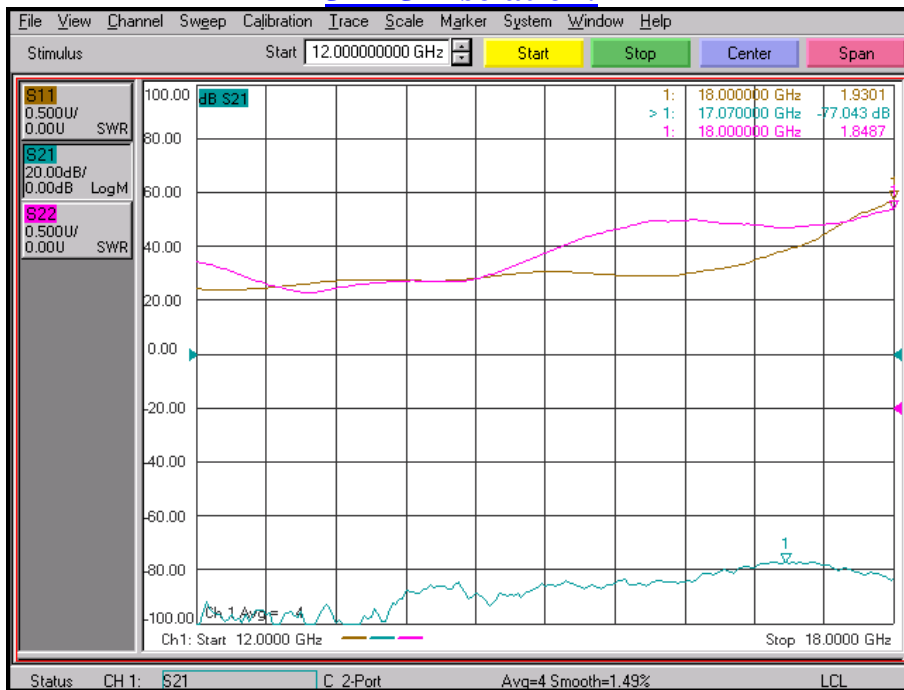
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# Typical Characteristics For **PXS-12G18G-65-T-SFF** J1 – J2 Insertion Loss and Return Loss:



## J1 – J2 Isolation:

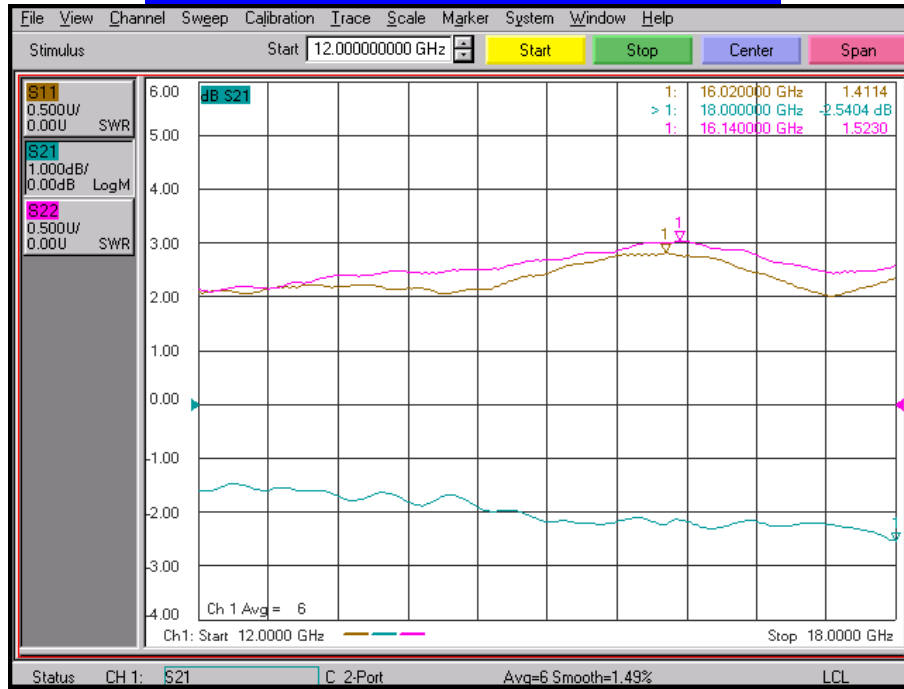


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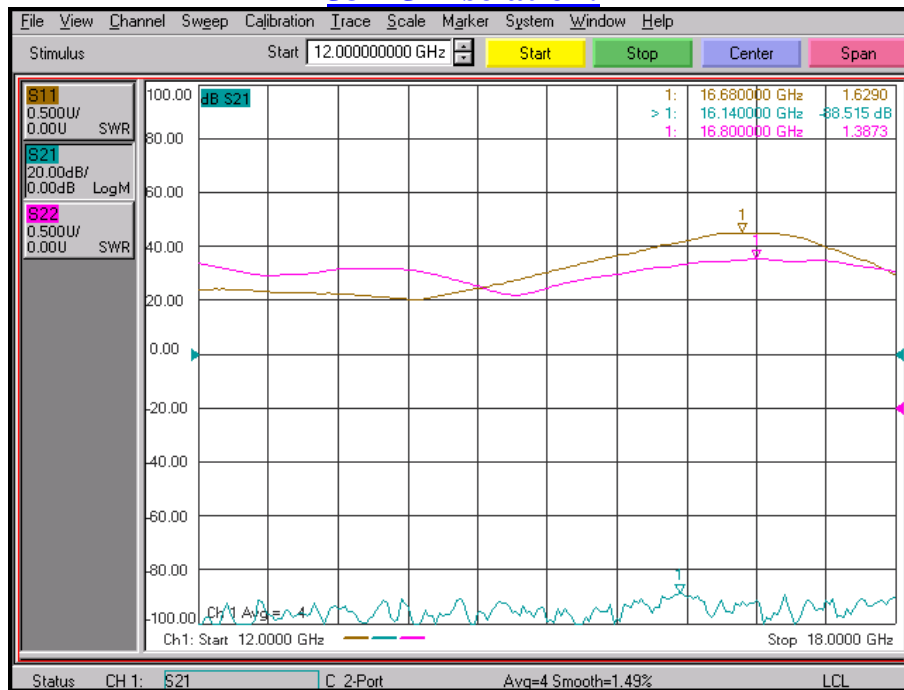


# Typical Characteristics For PXS-12G18G-65-T-SFF

## J3 – J4 Insertion Loss and Return Loss:



## J3 – J4 Isolation:

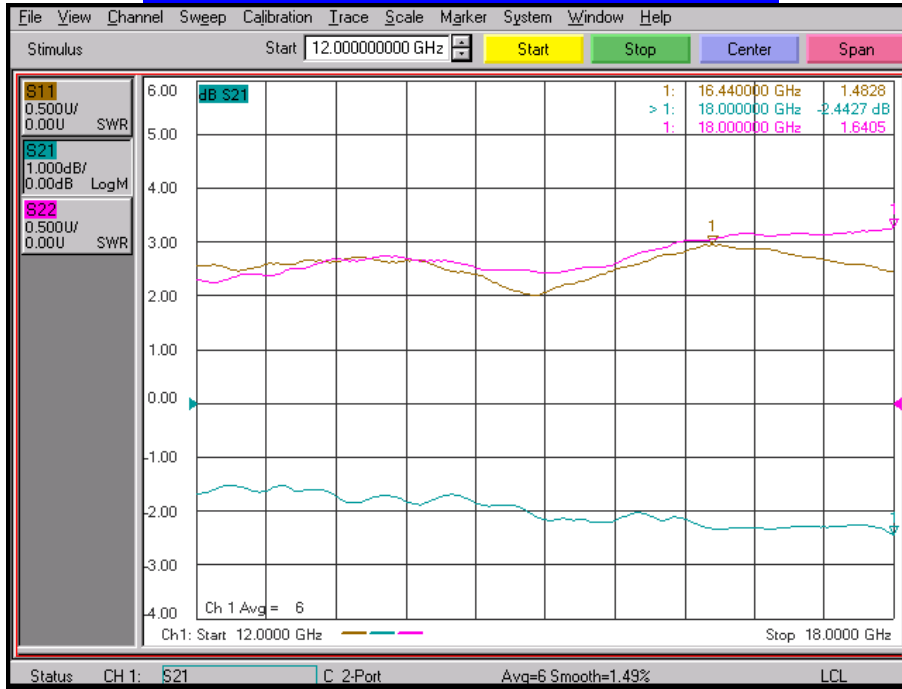


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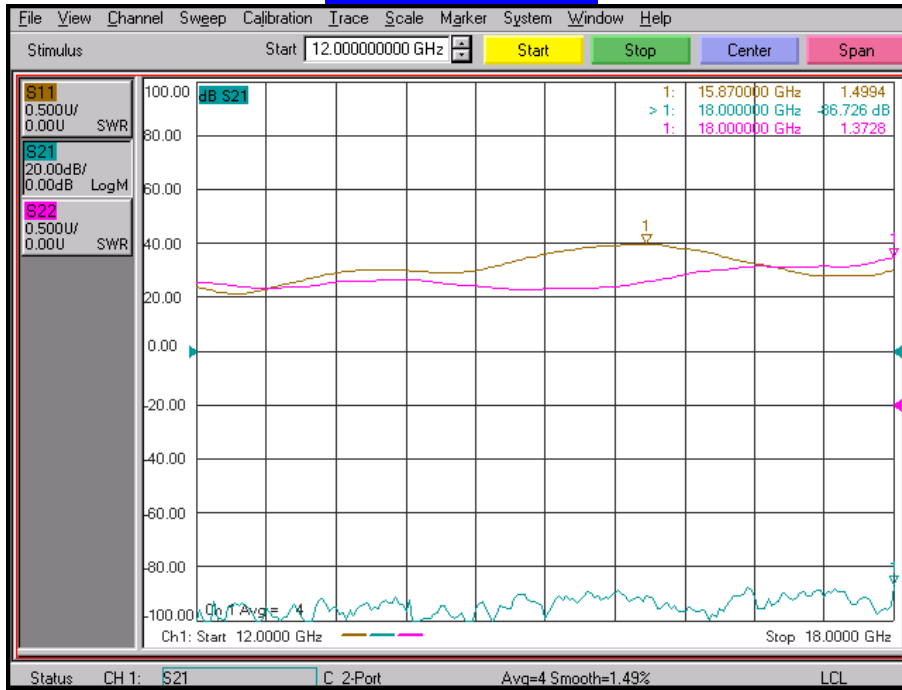


# Typical Characteristics For PXS-12G18G-65-T-SFF

## J1 – J4 Insertion Loss and Return Loss:



## J1 – J4 Isolation:

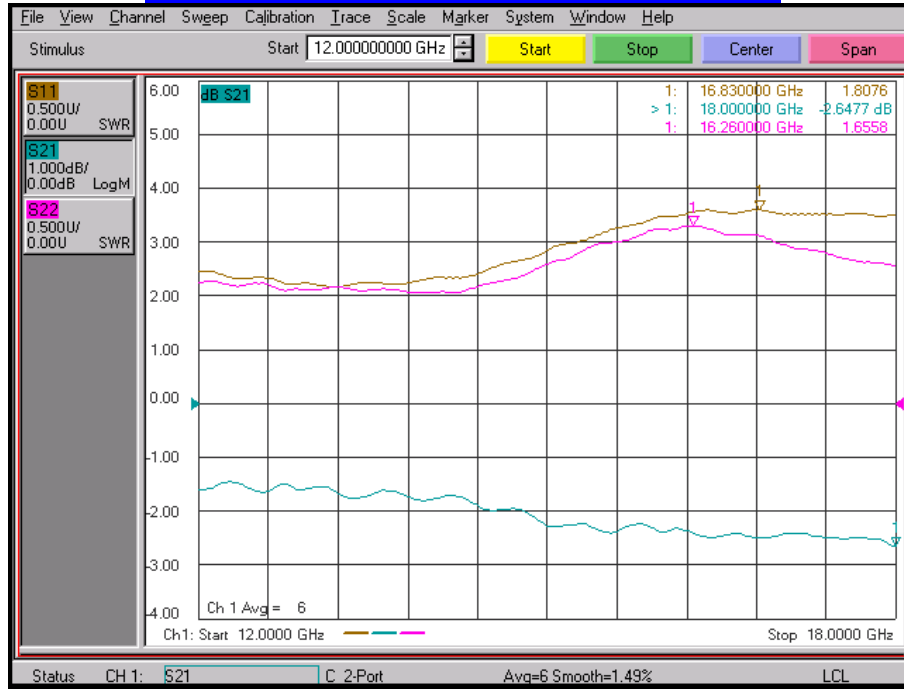


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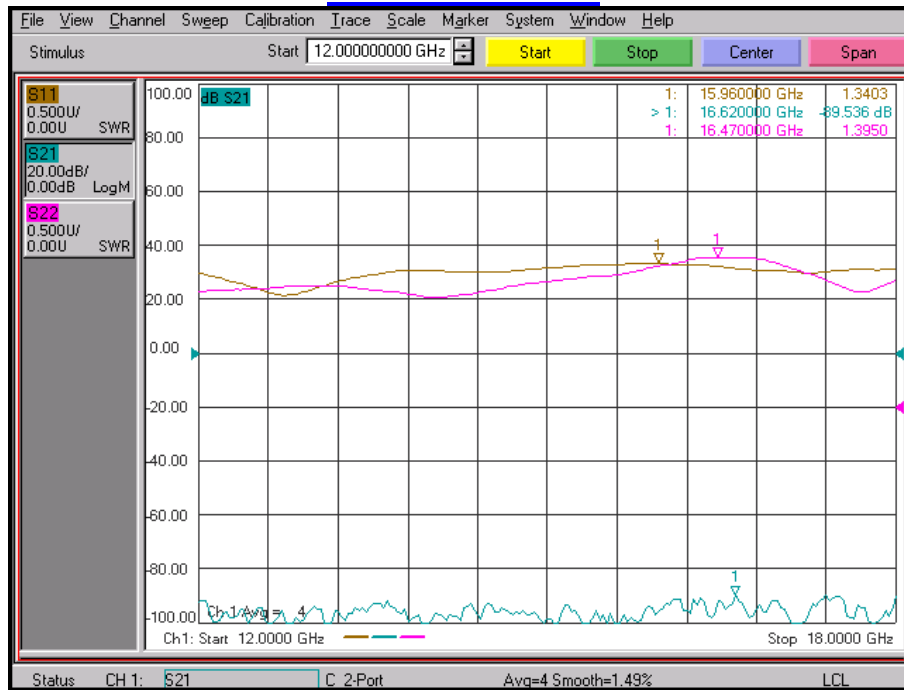


# Typical Characteristics For PXS-12G18G-65-T-SFF

## J2 – J3 Insertion Loss and Return Loss:



## J2 – J3 Isolation:



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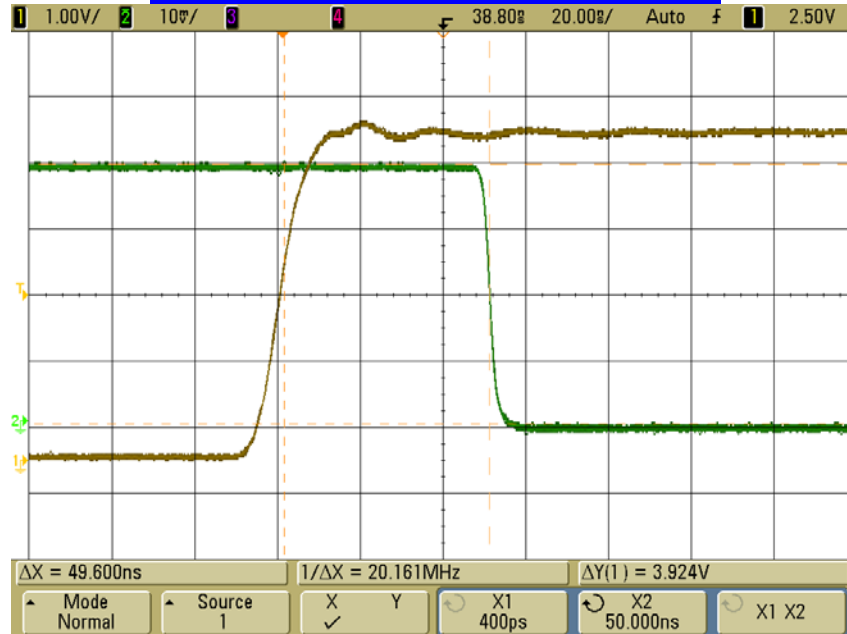




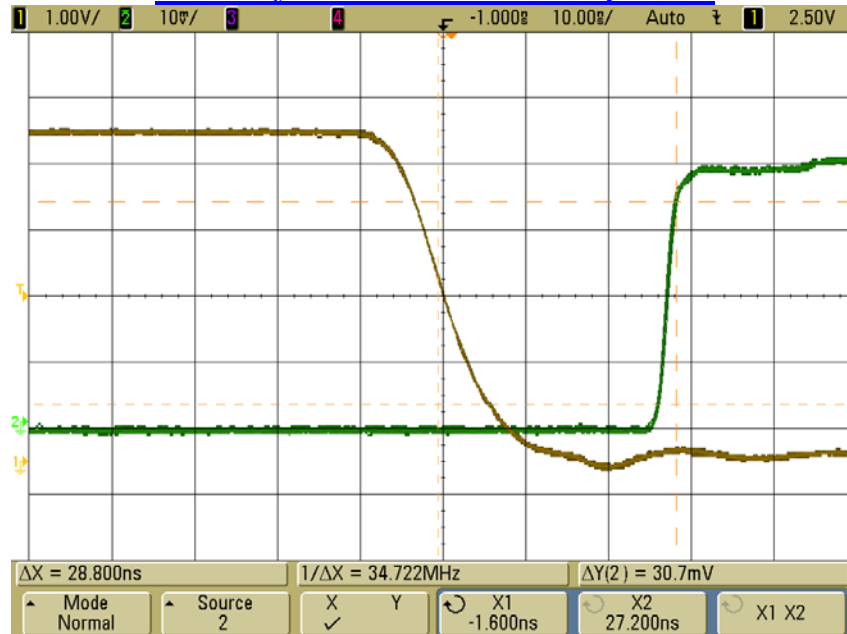
# Typical Characteristics For PXS-12G18G-65-T-SFF

## Switching Speed:

### OFF Delay and Fall Time – 20 ns per Div.



### ON Delay and Rise Time – 10 ns per Div.



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

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