



**TYPICAL CHARACTERISTICS  
ON  
P4T-0R5G18G-50-T-SFF-OPT50M4G**

**PMI MODEL: P8T-0R5G18G-50-T-SFF-OPT50M4G-BR IS A HIGH SPEED,  
SINGLE POLE, EIGHT THROW, ABSORPTIVE SWITCH CAPABLE OF  
SWITCHING WITHIN 100ns. THE FREQUENCY RANGE IS 0.05 TO 4.0 GHz  
AND THIS SWITCH HAS OVER 60 Db OF ISOLATION.**



**SEPTEMBER, 26 2017**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: L. McGraw**

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**TYPICAL CHARACTERISTICS  
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**OUTLINE DRAWING**

REVISIONS			
DATE	REV.	DESCRIPTION	APPROVED
	A1	ORIGINAL RELEASE	07/18/11

**DESCRIPTION**

THE MODEL: P8T-0R5G18G-60-T-SFF-OPT50M4G-BR IS A HIGH SPEED, SINGLE POLE, EIGHT THROW, ABSORPTIVE SWITCH CAPABLE OF SWITCHING WITHIN 100ns. THE FREQUENCY RANGE IS 0.05 TO 4.0 GHz AND THIS SWITCH HAS OVER 60dB OF ISOLATION.

**SPECIFICATIONS**

- FREQUENCY RANGE: 0.05 TO 4.0 GHz
- ISOLATION: 60dB MIN
- INSERTION LOSS: 2.25dB MAX
- VSWR IN/OUT: 2.0:1 MAX
- OPERATING INPUT POWER: +30dBm CW
- SWITCHING SPEED: 100 ns TYP
- DC VOLTAGE AND CURRENT: +5VDC @ 400mA TYP  
-5VDC @ 200mA TYP
- CONTROL SIGNAL: EIGHT LINE TTL
  - E1 CONTROLS J1-J2
  - E2 CONTROLS J1-J3
  - E3 CONTROLS J1-J4
  - E4 CONTROLS J1-J5
  - E5 CONTROLS J1-J6
  - E6 CONTROLS J1-J7
  - E7 CONTROLS J1-J8
  - E8 CONTROLS J1-J9
- "0" ISOLATION
- "1" INSERTION LOSS

- CONNECTORS: SMA (F)
- FINISH: GOLD PLATED
- SIZE: 4.0" X 1.5" X 0.4"

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: -55°C TO +85°C (OPERATING)  
-85°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 MODIFICATION

**PLANAR MONOLITHICS INDUSTRIES, INC.**  
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 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		PRODUCT FEATURE	
DRAWN	JPL	DATE	06/18/11	PART NO.	P8T-0R5G18G-60-T-SFF-OPT50M4G-BR
DESIGNED	JPL	DATE	06/18/11	REV. NO.	A
REV. NO.	05XQ0	DATE	27033040	REV.	A1
DATE		DATE		REV.	

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX .0030  
X.XXX .0010



**TYPICAL CHARACTERISTICS  
ON  
P4T-0R5G18G-50-T-SFF-OPT50M4G**

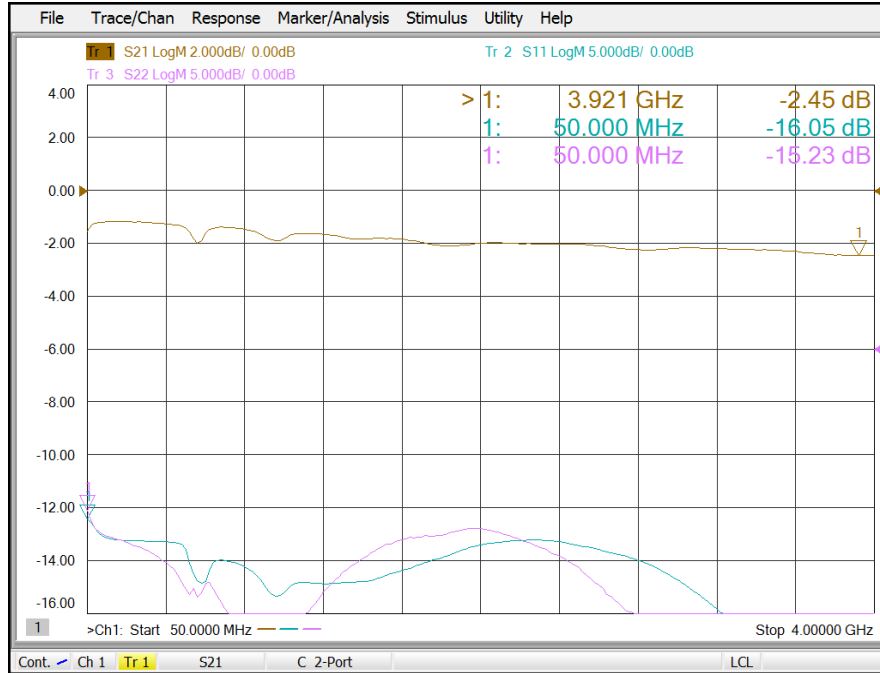
**TEST DATA SUMMARY**

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA/QC
1	Frequency Range:	0.05 – 4 GHz	0.05 – 4 GHz	
2	Isolation:	60dB Min	85dB See Plot	
3	Insertion Loss:	2.75dB Max	2.59dB See Plot	
4	VSWR (In/Out):	2.0:1 Max	1.42:1 See Plot	
5	Operating Input Power:	+30dBm (1 Watt) Max	Pass	
6	Switching Speed:	100ns Typ	<70ns See Typical Characteristics	
8	DC Supply:	+5VDC @ 400 mA Typ. -5VDC @ 200 mA Typ.	220mA 66mA	
9	Control Signal:	Eight Line TTL E1 Controls J1-J2 E1 Controls J1-J3 E1 Controls J1-J4 E1 Controls J1-J5 E1 Controls J1-J6 E1 Controls J1-J7 E1 Controls J1-J8 E1 Controls J1-J9 "0" Isolation "1" Insertion Loss	Pass	

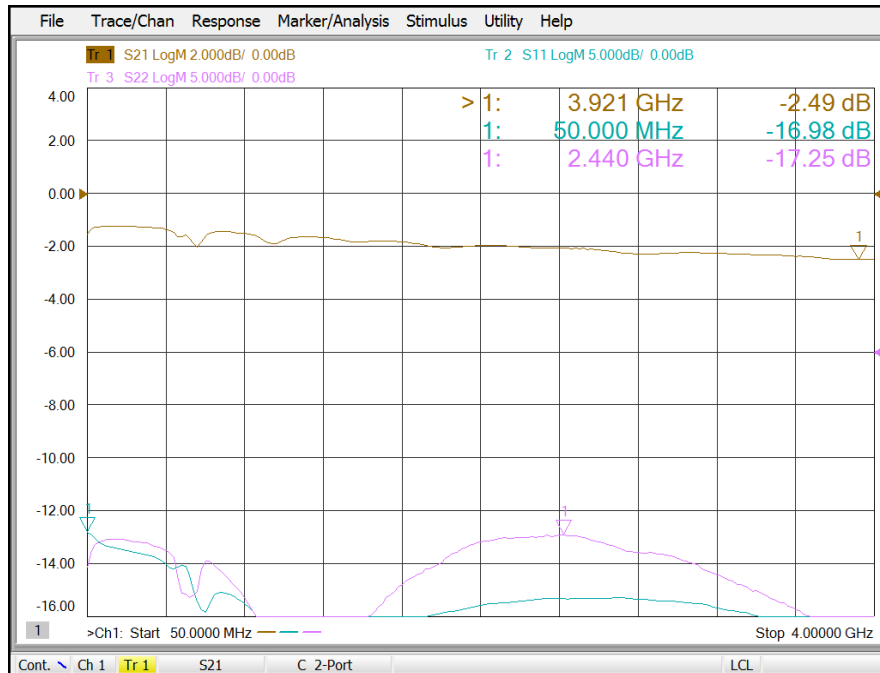


**TYPICAL CHARACTERISTICS  
ON  
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**(J1-J2) Insertion Loss and Return Loss**



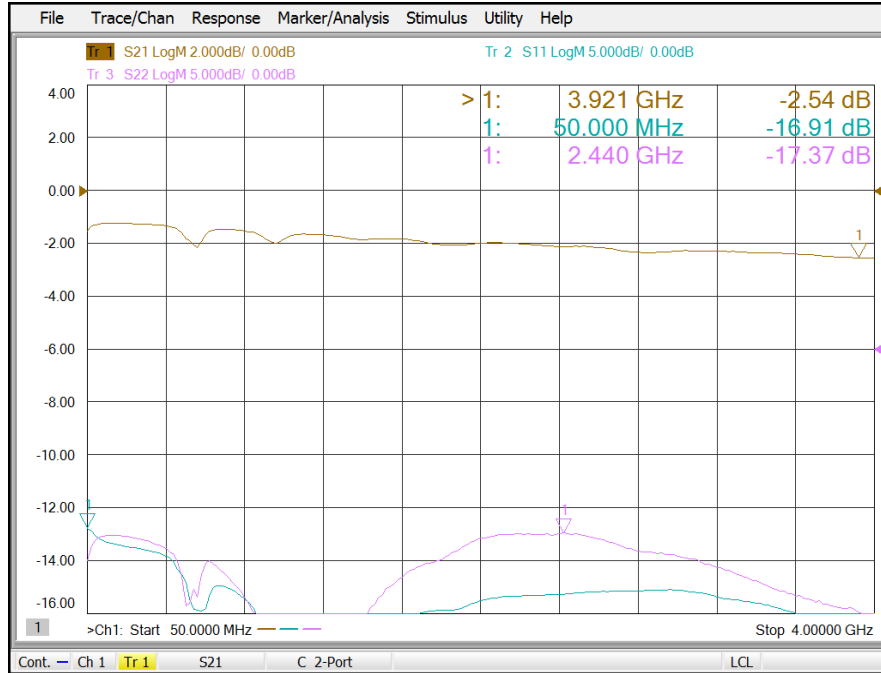
**(J1-J3) Insertion Loss and Return Loss**



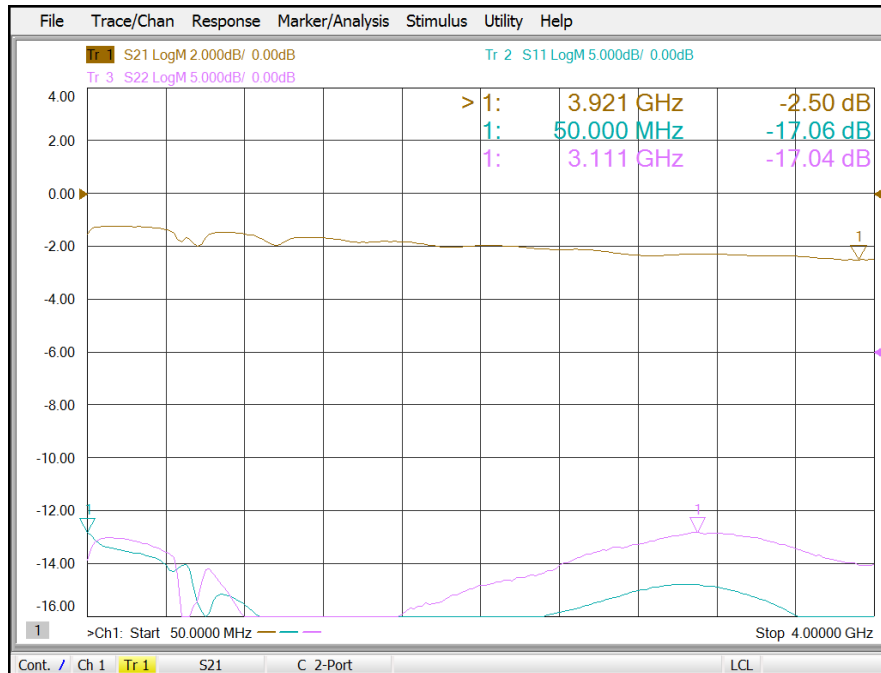


**TYPICAL CHARACTERISTICS  
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**(J1-J4) Insertion Loss and Return Loss**



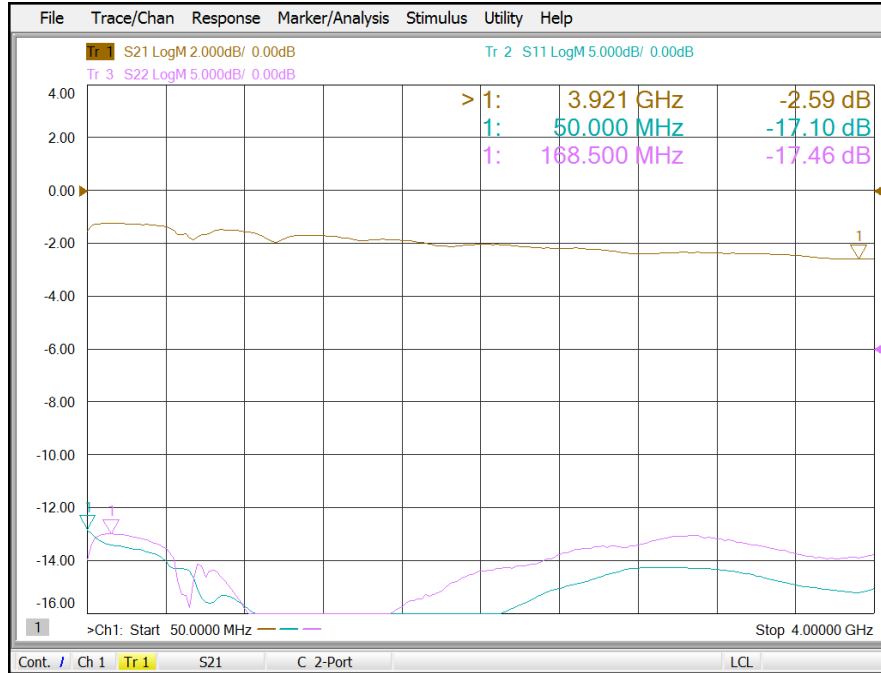
**(J1-J5) Insertion Loss and Return Loss**



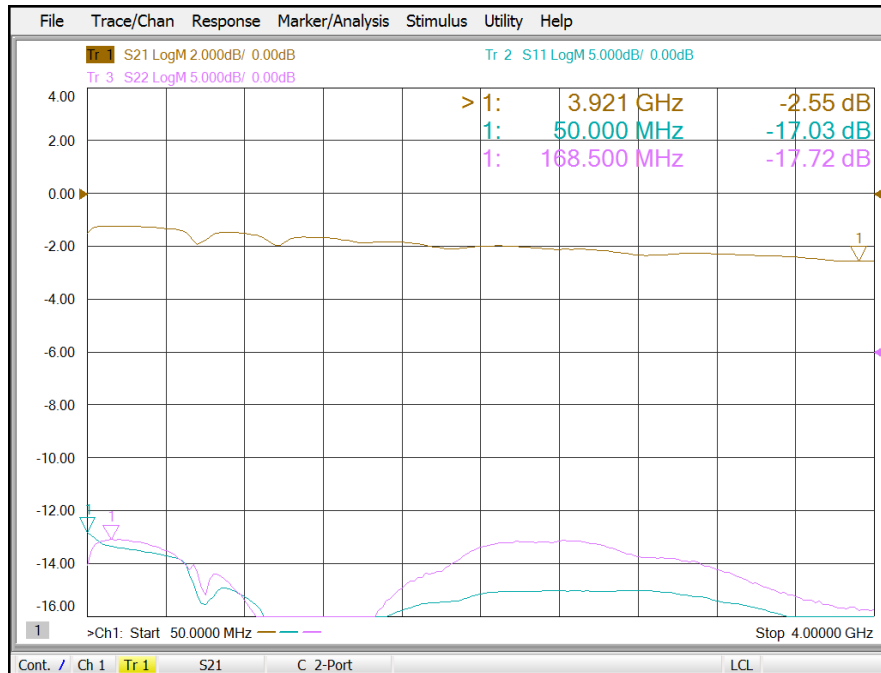


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## (J1-J6) Insertion Loss and Return Loss



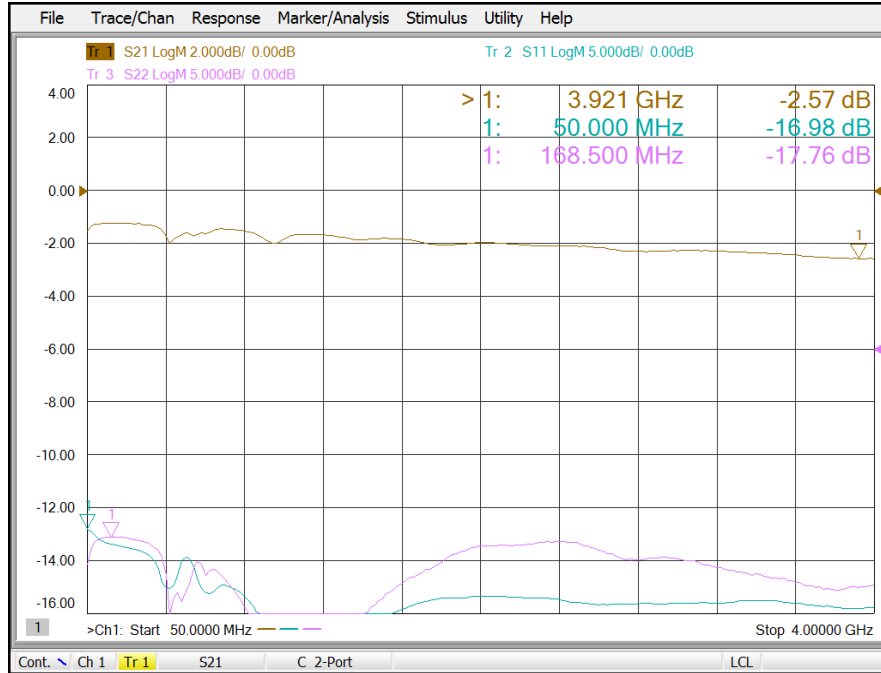
## (J1-J7) Insertion Loss and Return Loss



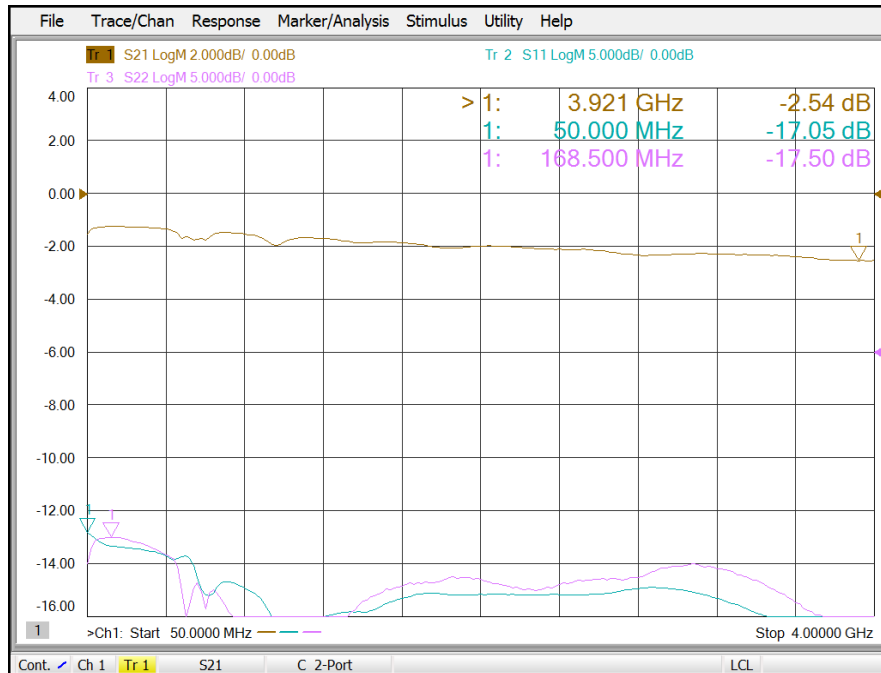


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## (J1-J8) Insertion Loss and Return Loss



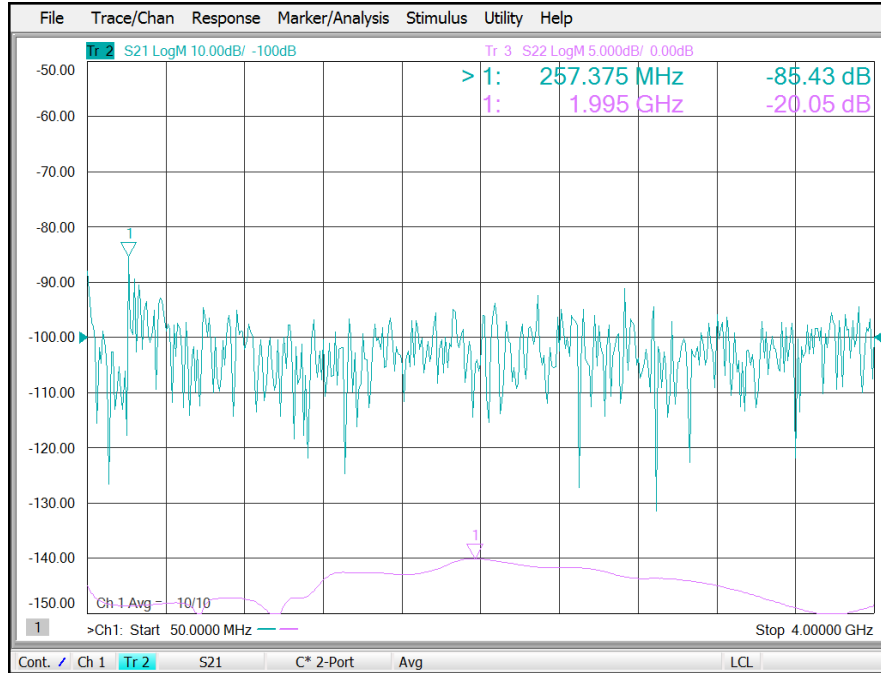
## (J1-J9) Insertion Loss and Return Loss



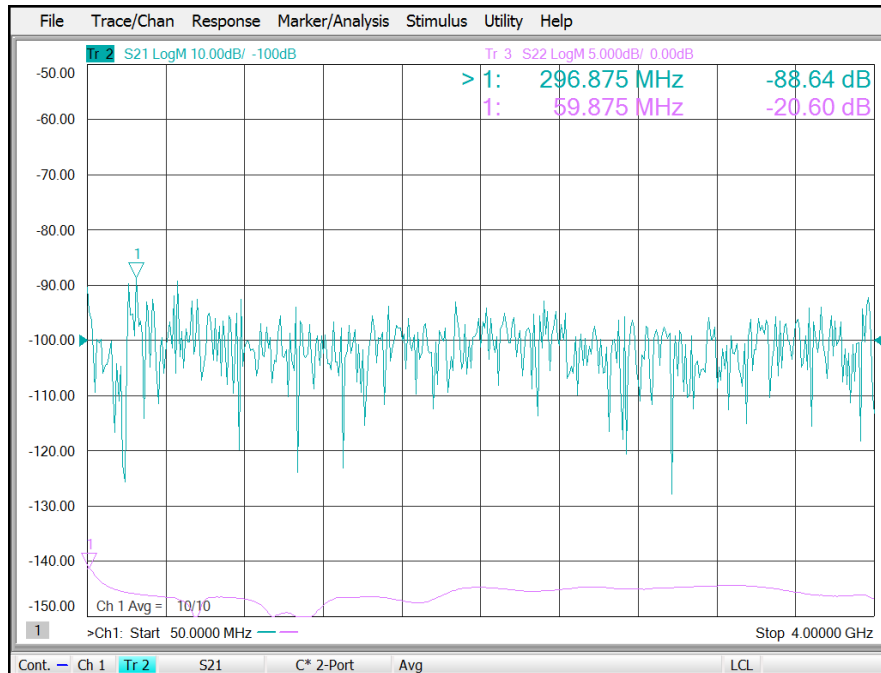


## TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

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



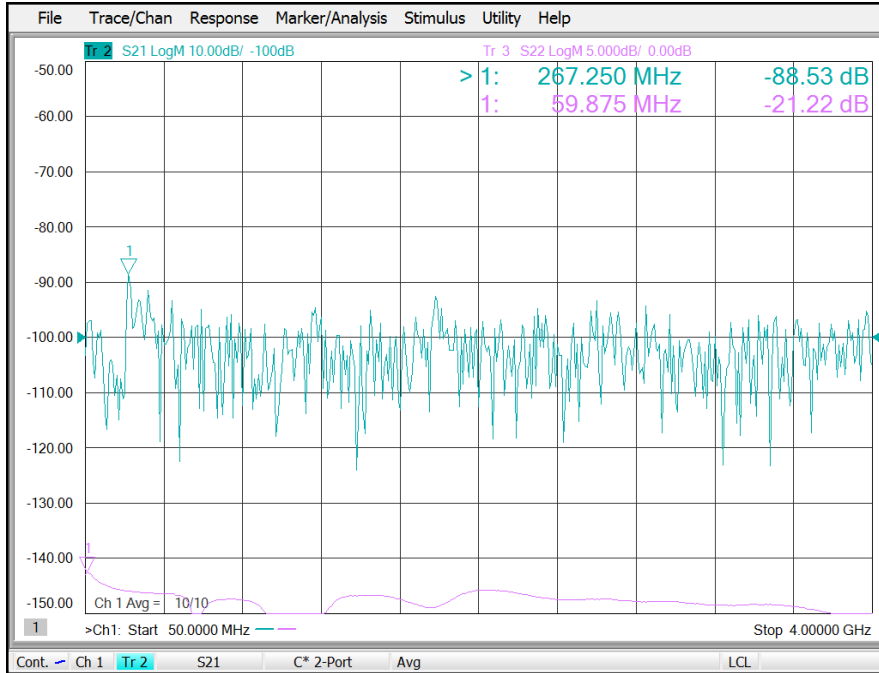
### (J1 – J3) Isolation and Return Loss



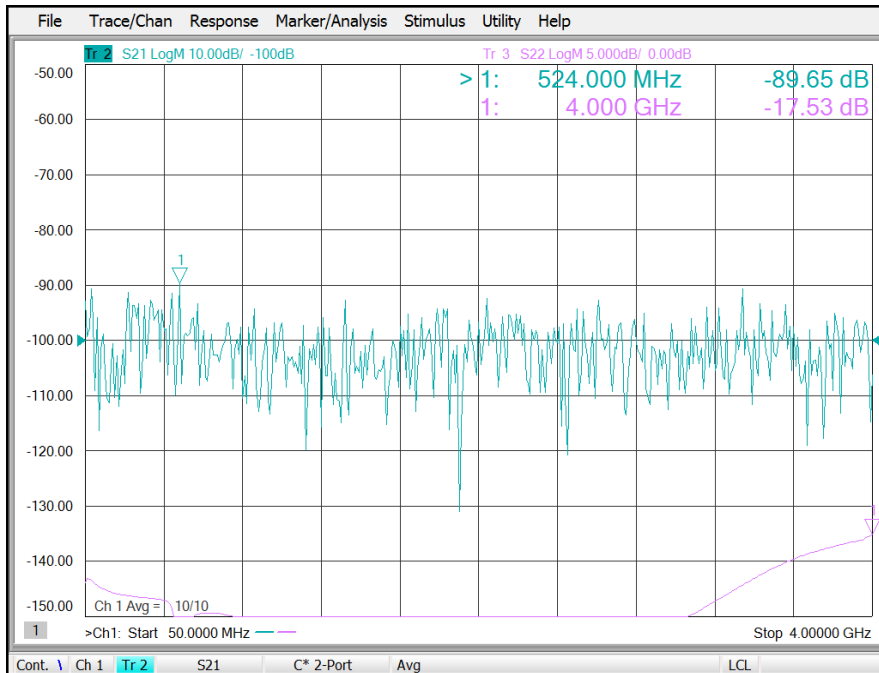


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## (J1 – J4) Isolation and Return Loss



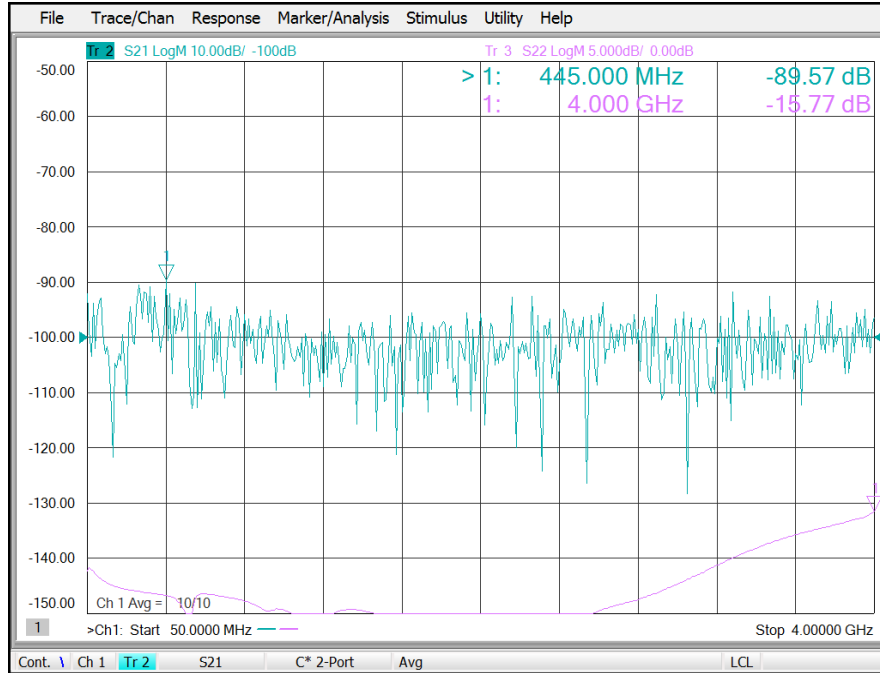
## (J1 – J5) Isolation and Return Loss



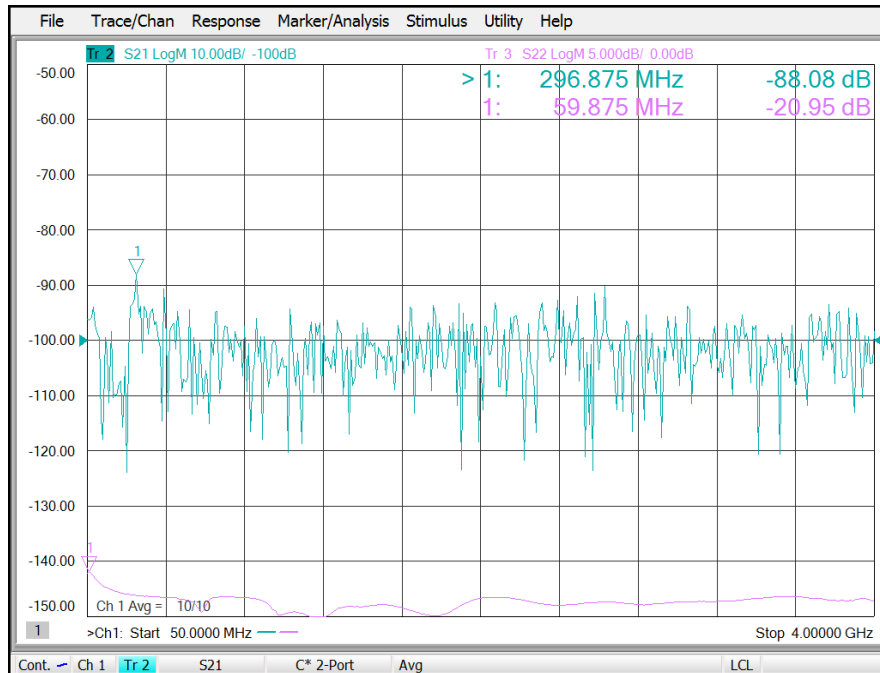


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## (J1 – J6) Isolation and Return Loss



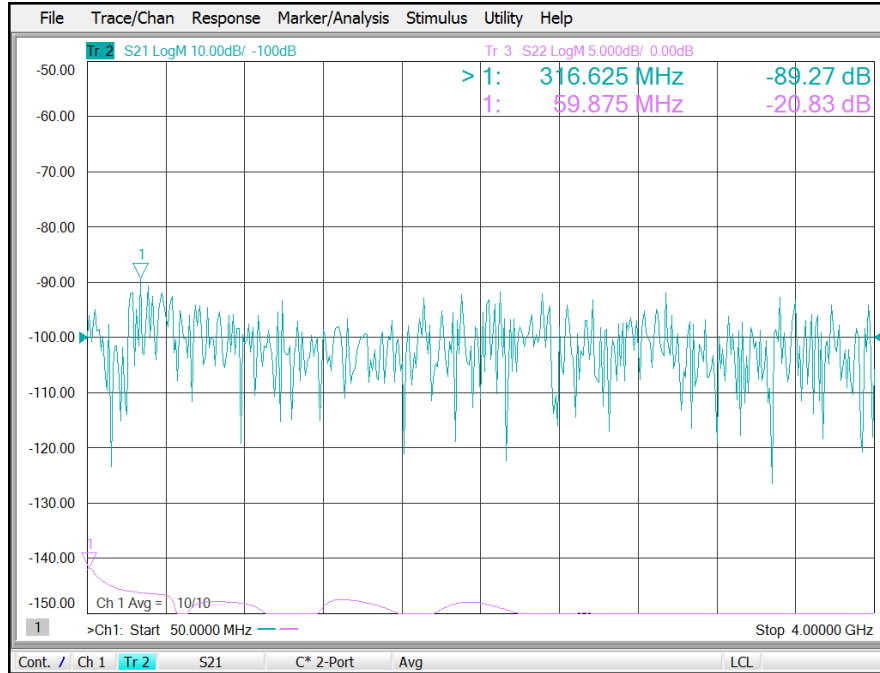
## (J1 – J7) Isolation and Return Loss



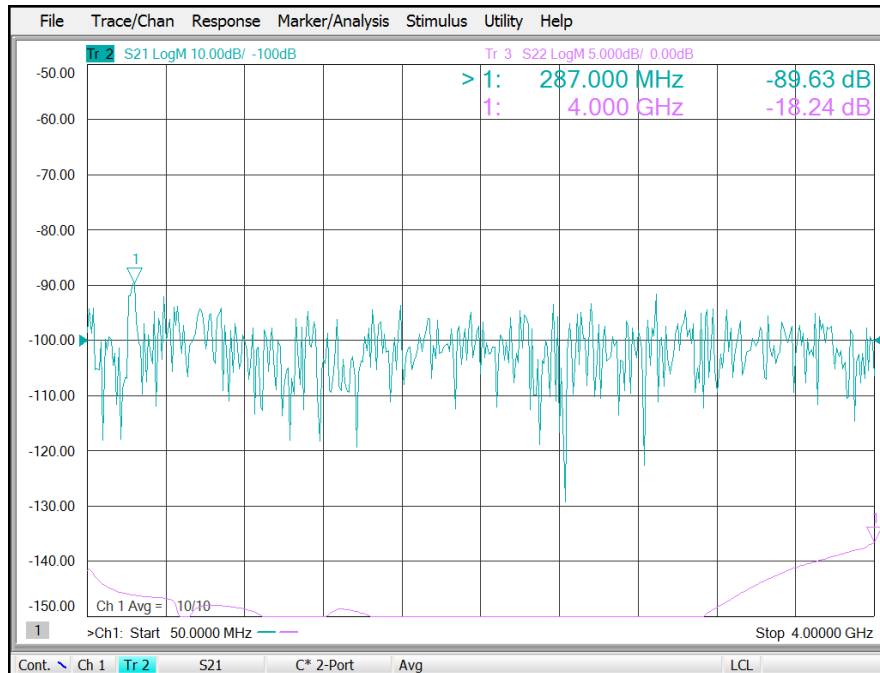


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## (J1 – J8) Isolation and Return Loss



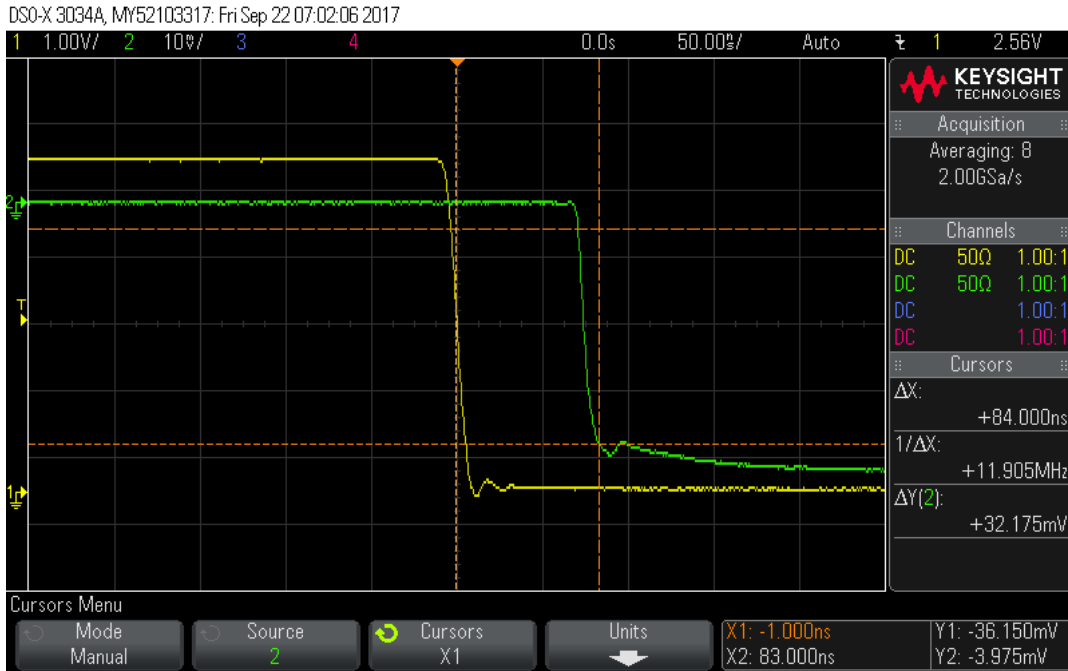
## (J1 – J9) Isolation and Return Loss



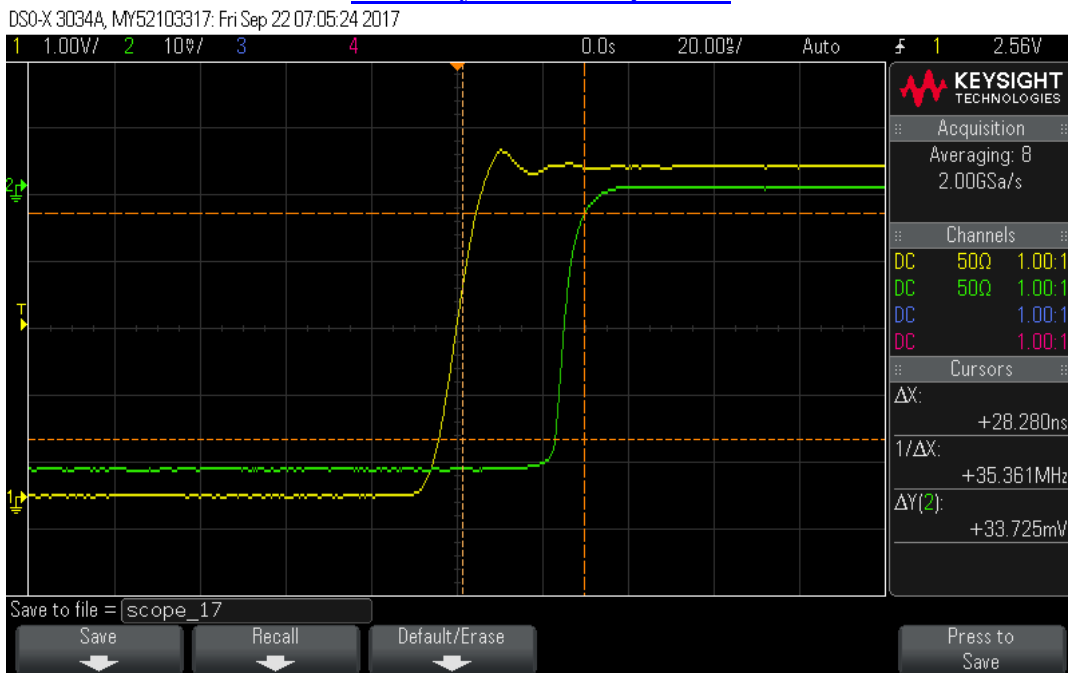


# TYPICAL CHARACTERISTICS ON P4T-0R5G18G-50-T-SFF-OPT50M4G

## Switching Speed TYP. OFF Delay – 50 ns per Div.



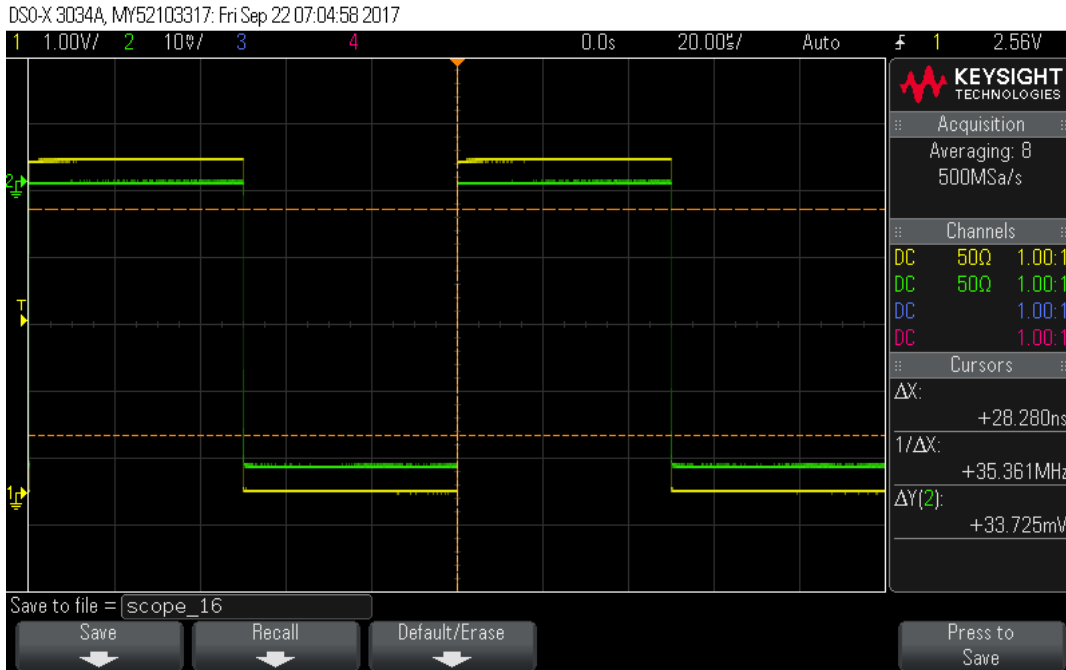
## ON Delay and – 20 ns per Div.



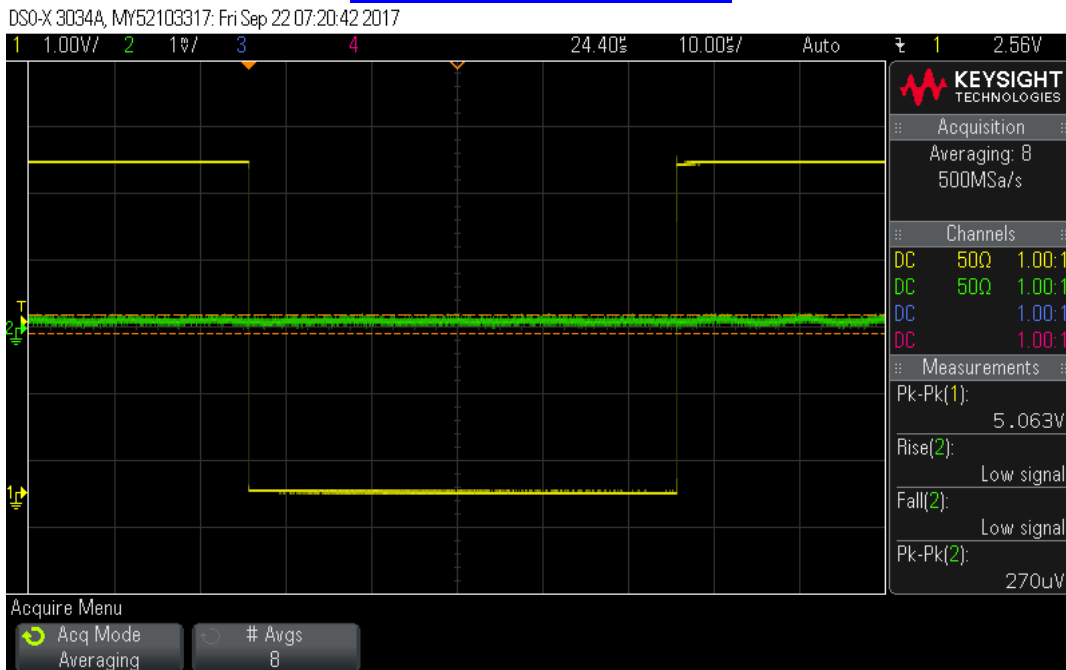


**TYPICAL CHARACTERISTICS  
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**FULL PULSE– 20  $\mu$ s per Div.**



**TRANSIENT– 100  $\mu$ s per Div.**



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