



**TYPICAL CHARACTERISTICS  
ON  
P4T-0R518G-60-T-515-SFF-MSN**

**PMI MODEL NO. P4T-0R518G-60-T-515-SFF-MSN IS AN ABSORPTIVE,  
SINGLE POLE, FOUR THROW PIN DIODE SWITCH THAT OPERATES OVER  
THE 0.5 TO 18.0 GHZ FREQUENCY RANGE.**



**April 04, 2018**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: CHRISTOPHER BENJAMINS**



**TYPICAL CHARACTERISTICS  
ON  
P4T-0R518G-60-T-515-SFF-MSN**

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**TYPICAL CHARACTERISTICS  
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**OUTLINE DRAWING**

**DESCRIPTION**

PMI MODEL NO. P4T-0R518G-60-T-515-SFF-MSN IS AN ABSORPTIVE, SINGLE POLE, FOUR THROW PIN DIODE SWITCH THAT OPERATES OVER THE 0.5 TO 18.0 GHZ FREQUENCY RANGE.

**SPECIFICATIONS**

- FREQUENCY: ----- 0.5 GHz TO 18.0 GHz
- INSERTION LOSS: ----- 3.75 dB
- ISOLATION: ----- 60 dB
- VSWR: ----- IN/OUT: 2.0:1  
OUT/OFF: 2.0:1
- SPEED: ----- RISE: 10ns TYPICAL, 15ns MAX.  
FALL: 10ns TYPICAL, 15ns MAX.  
DELAY ON: 75ns TYPICAL, 100ns MAX.  
DELAY OFF: 75ns TYPICAL, 100ns MAX.
- POWER INPUT: ----- (CW)+20dBm
- SURVIVAL POWER: ----- 1 WATT CW, 10 WATTS PEAK 1 usec
- CONTROL: ----- TTL LOGIC "0"=ON "1"=OFF
- POWER SUPPLY: ----- +5V @ 200 mA MAX.  
-15V @ 100mA MAX.
- SIZE: ----- 2.00" x 1.50" x 0.40"
- FINISH: ----- BLUE PAINTED

**LOGIC TABLE (J5: COMMON PORT)**

PORT	TTL INPUT LEVEL			
	E1	E2	E3	E4
J5 - J1	0	1	1	1
J5 - J2	1	0	1	1
J5 - J3	1	1	0	1
J5 - J4	1	1	1	0

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: ----- -55 °C TO +85 °C (OPERATING)  
-65 °C TO +125 °C (STORAGE)
- HUMIDITY: ----- MIL-STD-202, METHOD 103B COND. B
- SHOCK: ----- MIL-STD-202, METHOD 213B COND. B
- VIBRATION: ----- MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: ----- MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: ----- MIL-STD-202, METHOD 107D COND. A

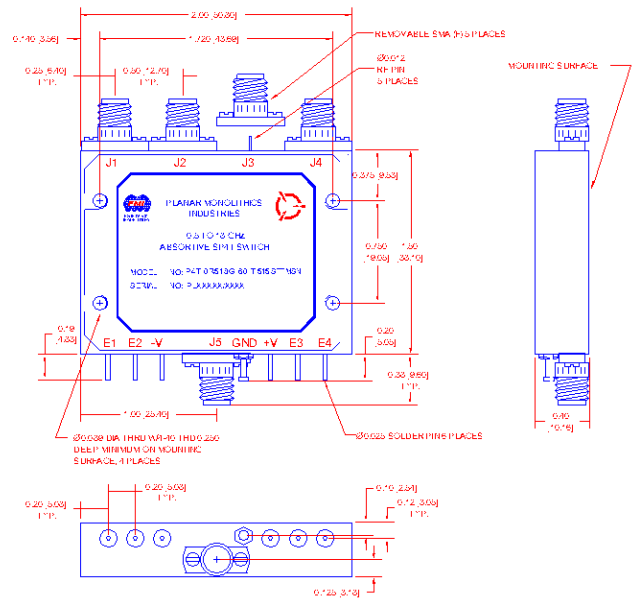
NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**PMI CONFIDENTIAL AND PROPRIETARY**

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

REVISIONS				
REV.	NO.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	1/17/2018	

**MECHANICAL OUTLINE**



**PLANAR MONOLITHICS INDUSTRIES, INC.**

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ISO 9001 CERTIFIED



APP'D/REV.		DATE	PRODUCT FEATURE			REV.
DESIGNER EW		12/1/17	P4T-0R518G-60-T-515-SFF-MSN 0.5 TO 18 GHZ ABSORPTIVE SP4T SWITCH			
CHECKER SPU		1/19/18	SEC. NO. A	QWG NO. 05XQ0	27033920	A1
ISSUED			REV. 1: N/S			1 OF 1



**TYPICAL CHARACTERISTICS  
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**TEST DATA SUMMARY**

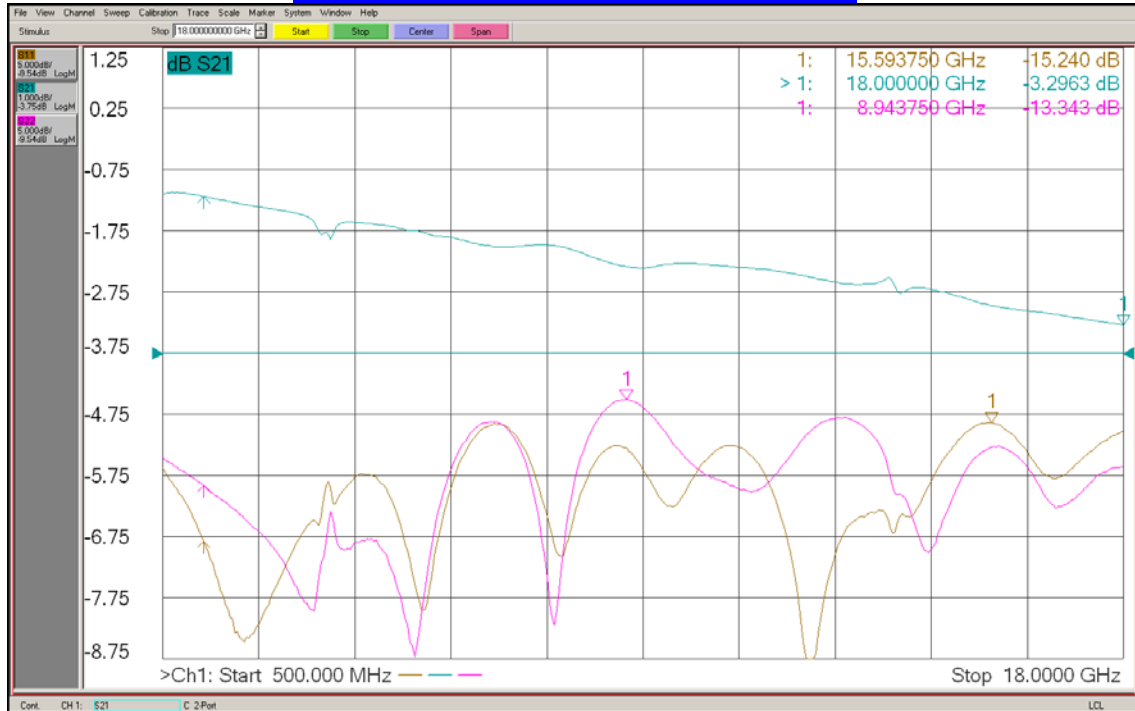
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency	0.5 GHz TO 18.0 GHz	<b>0.5 GHz TO 18.0 GHz</b>	
2	Insertion Loss	3.75 dB	<b>3.34 dB</b>	
3	Isolation	60 dB	<b>78.12 dB</b>	
4	VSWR	IN/OUT: 2.0:1 OUT/OFF: 2.0:1	<b>1.82:1 1.99:1</b>	
5	Speed	Rise: 10ns TYPICAL, 15ns MAX. Fall: 10ns TYPICAL, 15ns MAX. Delay ON: 75ns Typical, 100ns MAX. Delay OFF: 75ns Typical, 100ns MAX.	<b>4.20ns 5.71ns 19.81ns 32.79ns</b>	
6	Power Input	(CW)+20dBm	<b>PASS</b>	
7	Survival Power	1 WATT CW, 10 WATTS Peak 1 usec	<b>PASS (see plot)</b>	
8	Control	TTL LOGIC "0"=ON "1"=OFF	<b>PASS</b>	
9	Power Supply	+5V @ 400 mA MAX. -15V @ 100mA MAX.	<b>+5V @ 0.12mA -15V @ 0.04mA</b>	

QA/QC Approval: \_\_\_\_\_ Date: \_\_\_\_\_

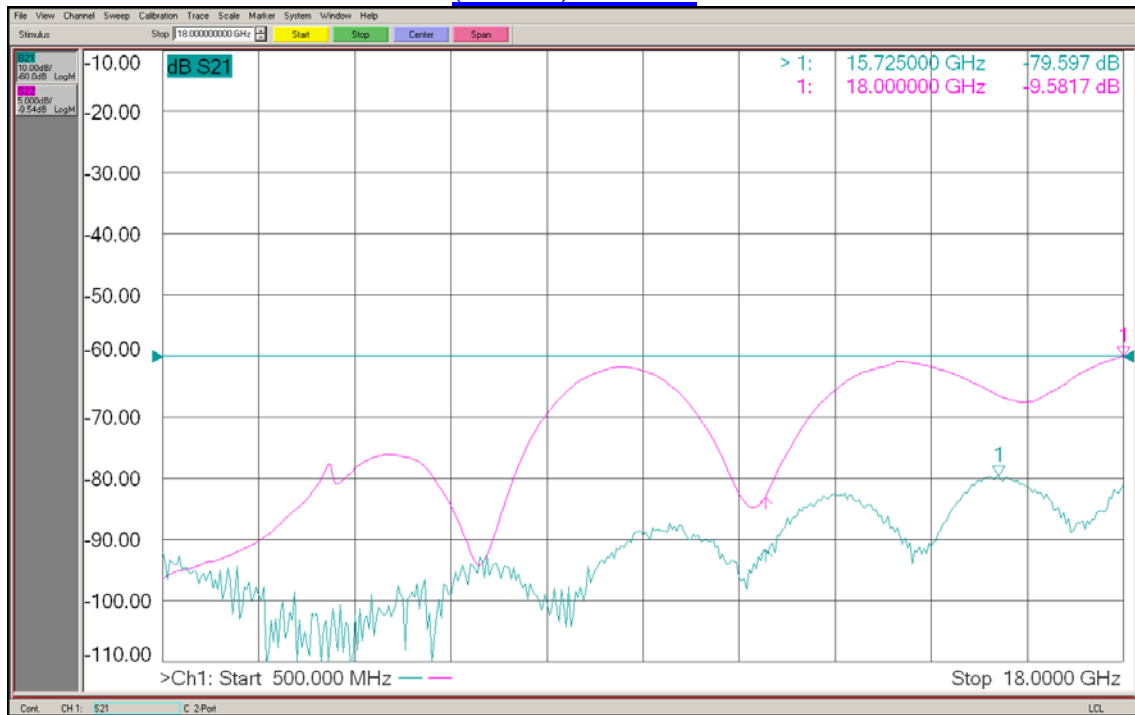


**TYPICAL CHARACTERISTICS  
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**(J0 – J1) Insertion Loss and Return Loss**



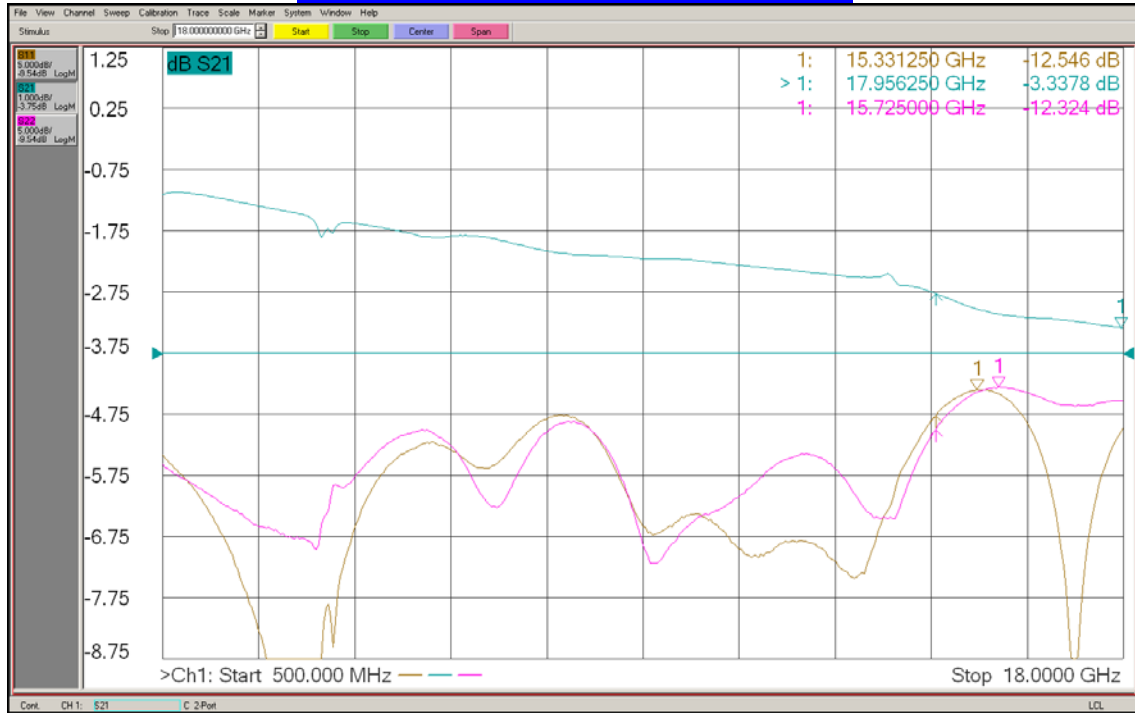
**(J0 – J1) Isolation**



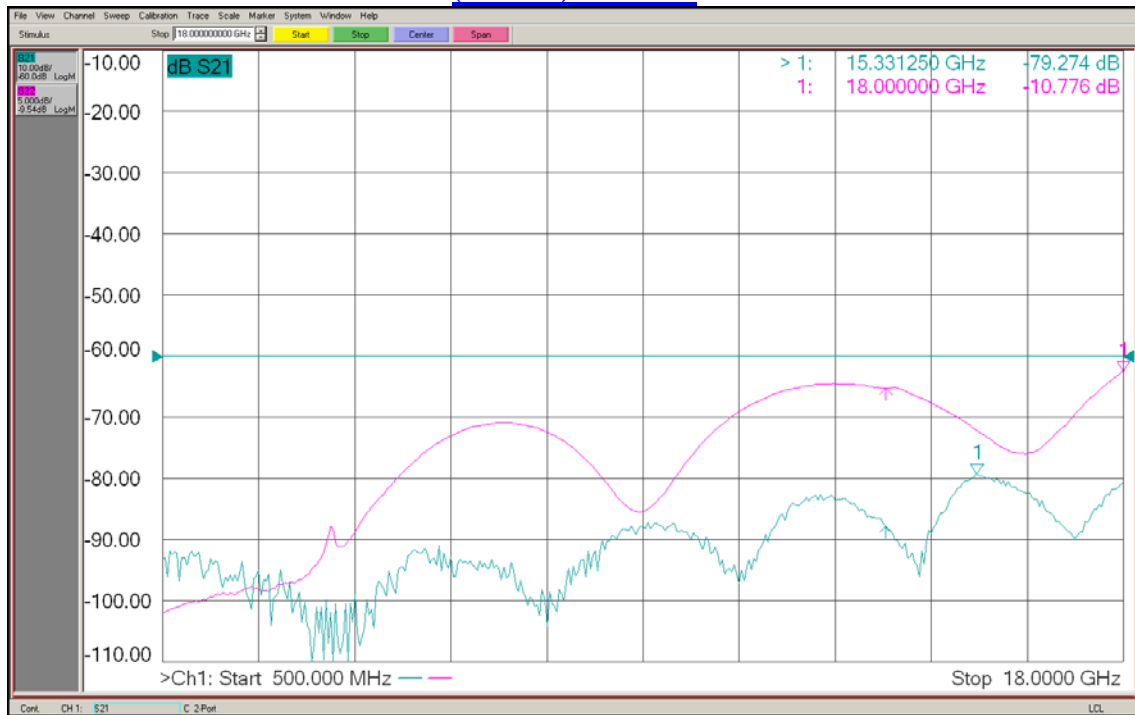


**TYPICAL CHARACTERISTICS  
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**(J0 – J2) Insertion Loss and Return Loss**



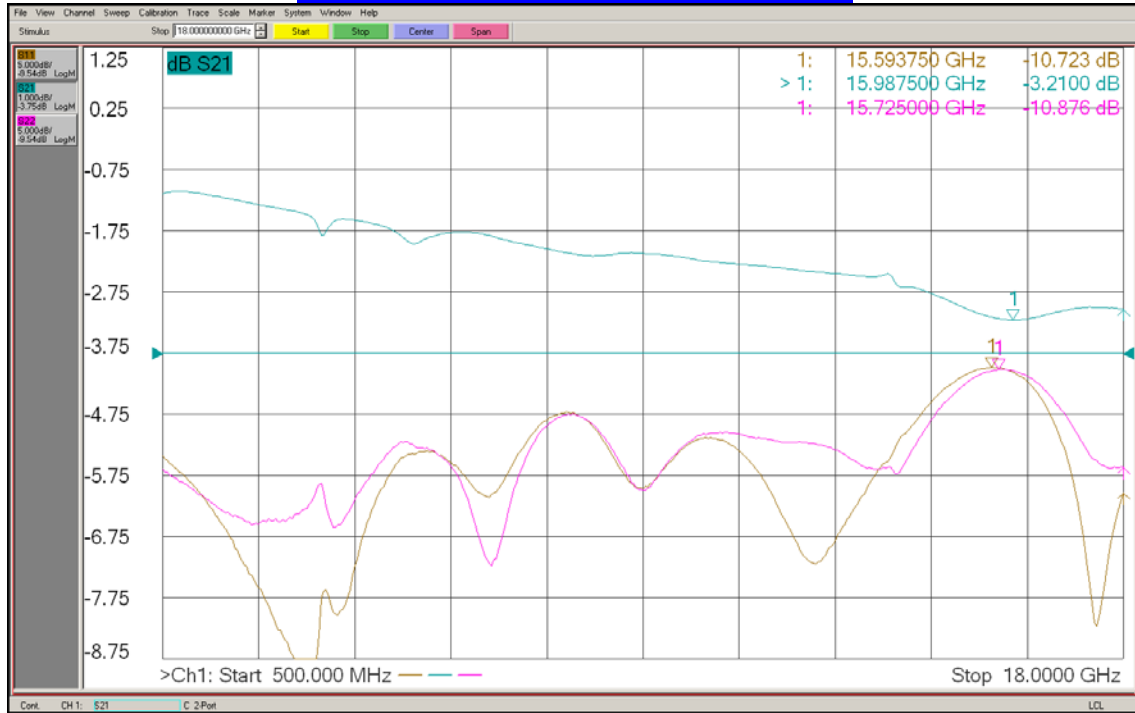
**(J0 – J2) Isolation**



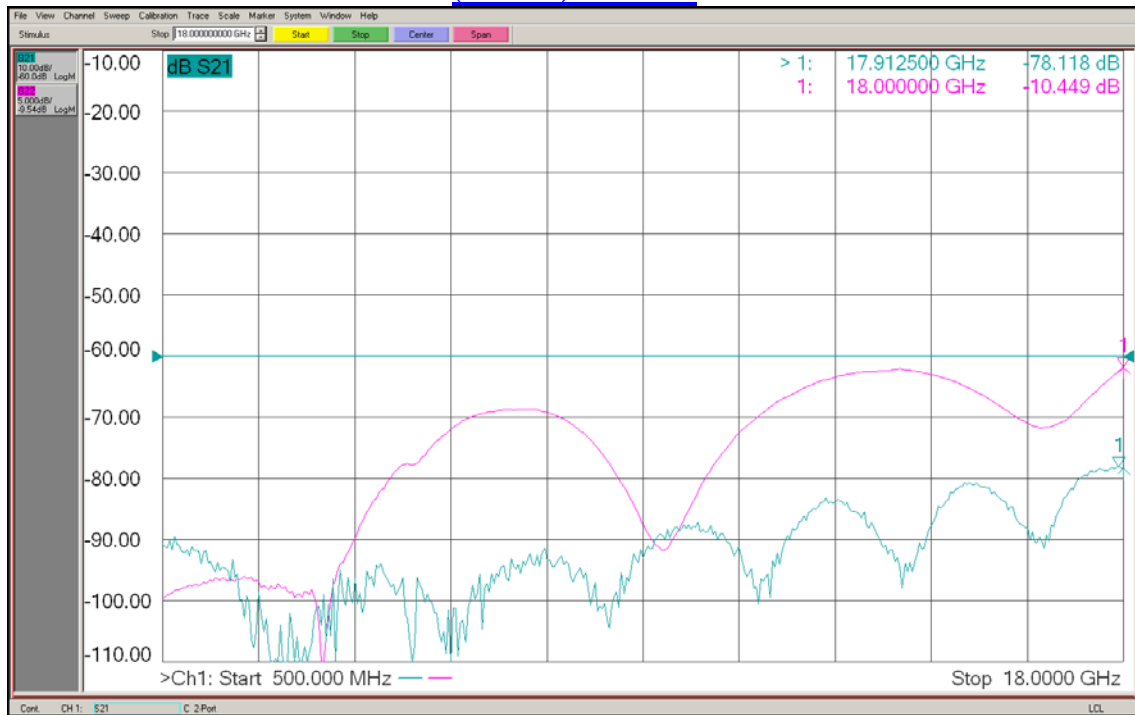


**TYPICAL CHARACTERISTICS  
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**(J0 – J3) Insertion Loss and Return Loss**



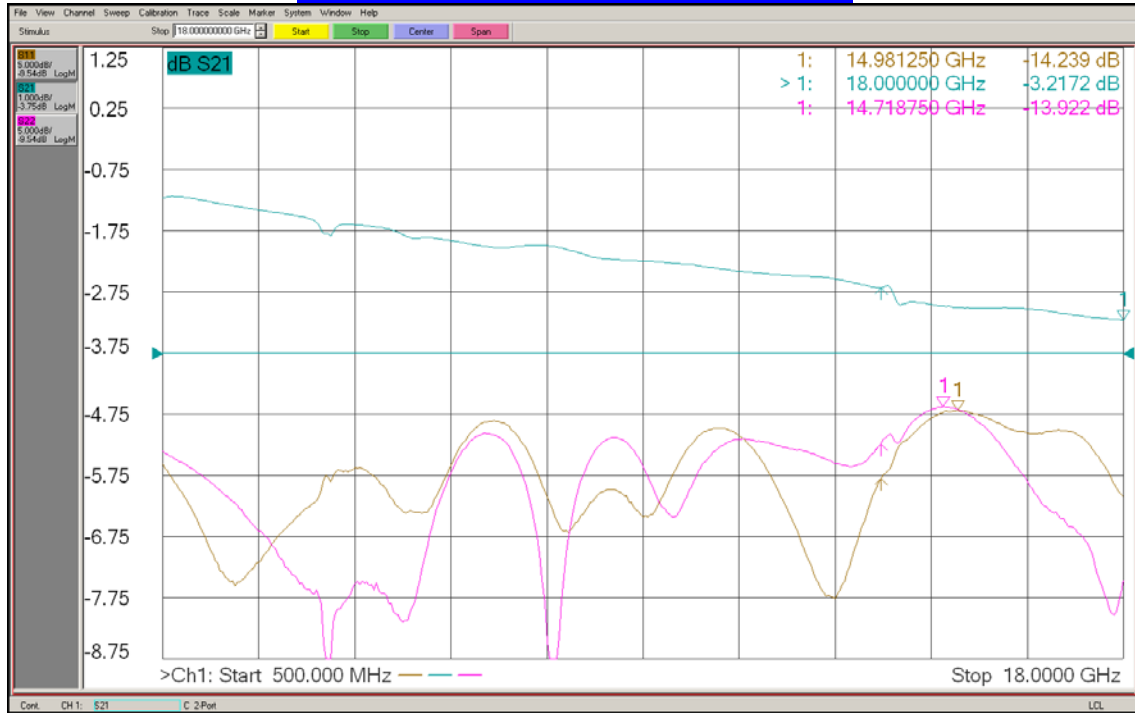
**(J0 – J3) Isolation**



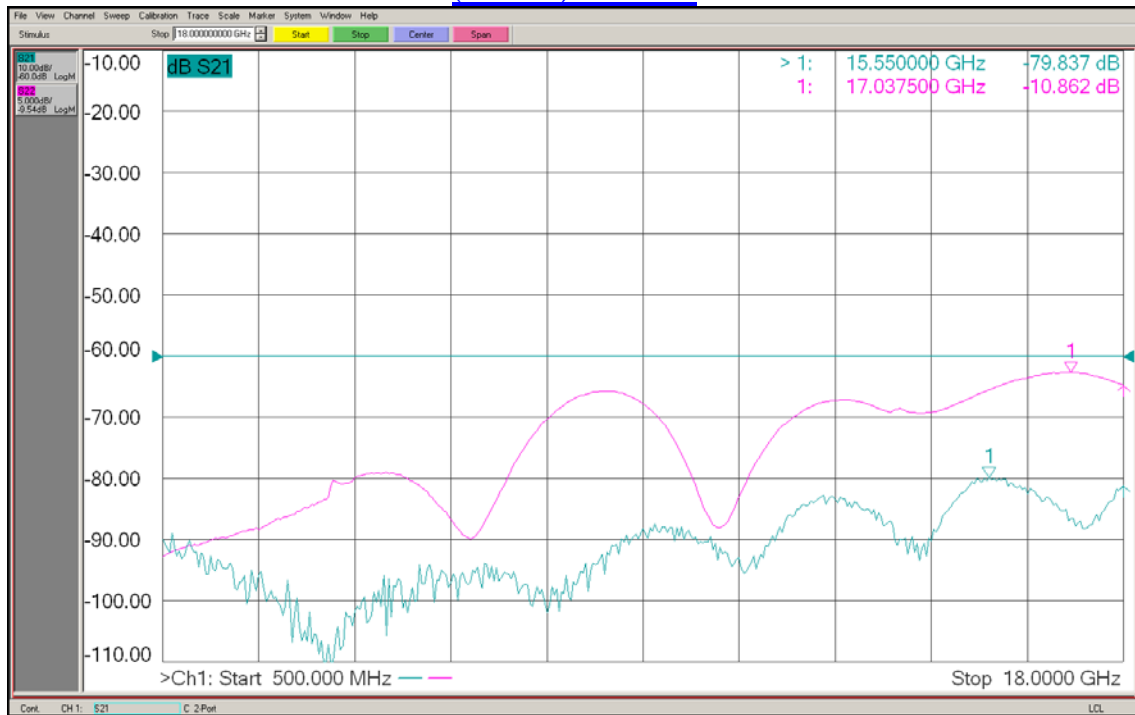


**TYPICAL CHARACTERISTICS  
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**(J0 – J4) Insertion Loss and Return Loss**



**(J0 – J4) Isolation**







**TYPICAL CHARACTERISTICS  
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**Switching Speed Delay TYP.**

**ON Delay – 10 ns per Div.**



**OFF Delay – 10 ns per Div.**



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



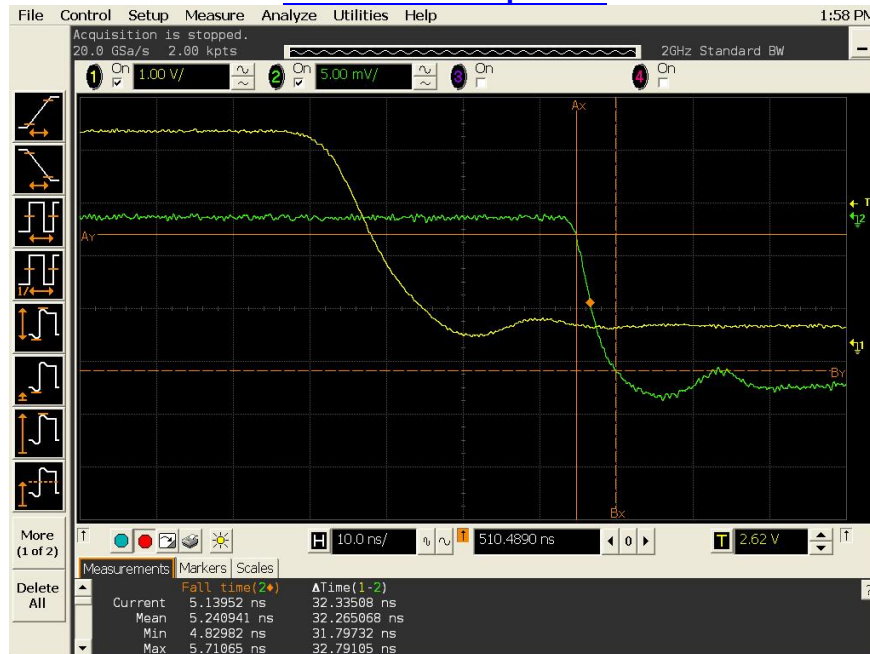
# TYPICAL CHARACTERISTICS ON P4T-0R518G-60-T-515-SFF-MSN

## Switching Speed Rise/Fall TYP.

### Rise Time – 10 ns per Div.



### Fall Time – 10 ns per Div.

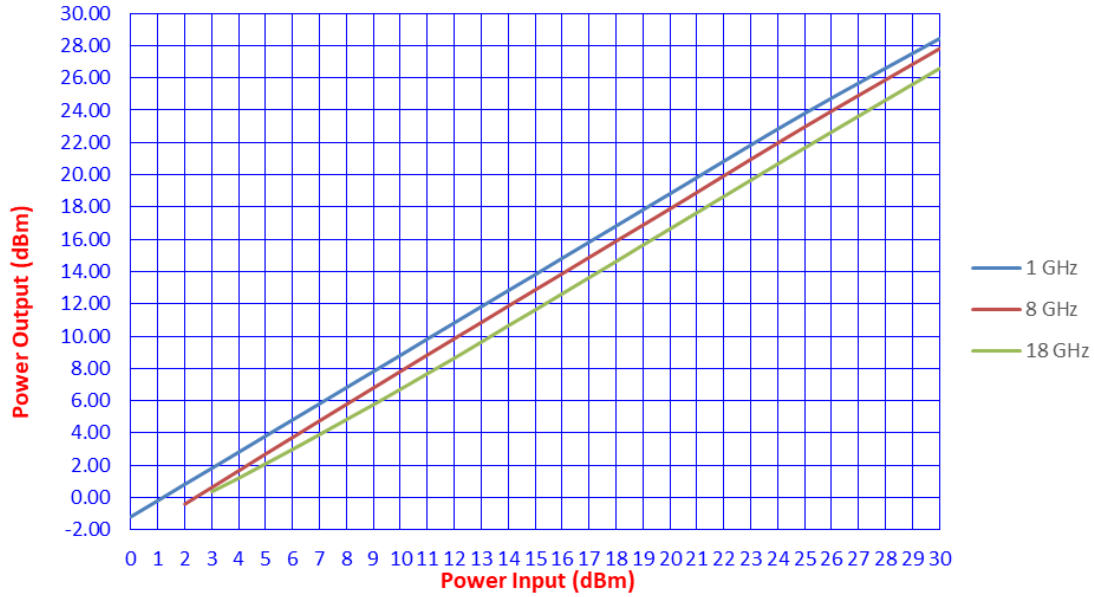


**GREEN TRACE: RF**  
**YELLOW TRACE: TTL**



## TYPICAL CHARACTERISTICS ON P4T-0R518G-60-T-515-SFF-MSN

### Input Power Vs Output Power



### 10W Pulse @ 1usec

