



**TYPICAL CHARACTERISTICS  
ON  
P1T-DC40G-65-T-292FF-1NS-OPT18G-55**

**PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT18G-55 IS AN ABSORPTIVE,  
SINGLE POLE, SINGLE THROW FET SWITCH THAT OPERATES FROM DC  
TO 18GHZ. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER  
FOR EASY SYSTEM INTEGRATION.**



**March 15, 2017**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: Jerry N**

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# TYPICAL CHARACTERISTICS ON P1T-DC40G-65-T-292FF-1NS-OPT18G-55

## OUTLINE DRAWING

REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
	A1	ORIGINAL RELEASE	01/04/17

**DESCRIPTION**

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT18G-55 IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW FET SWITCH THAT OPERATES FROM DC TO 18 GHZ. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

**SPECIFICATIONS**

- FREQUENCY RANGE: DC to 18GHz
- ISOLATION: 60dB Typical, 55dB Min.
- INSERTION LOSS: 4.5dB Typical, 5.0dB Max.
- VSWR IN / OUT: 2.0:1 Typical, 2.2:1 Max.
- INPUT POWER: +17 dBm CW MAX
- SWITCHING SPEED: 6ns Typical, 7ns Max.
- RISE/FALL TIME: 1ns Typical, 2ns Max.
- CONTROL SIGNAL: TTL "1" = ON
- VIDEO TRANSIENTS: 300 MHz BW (2-18 GHz) : 85mV P-P  
20 MHz BW (2-18 GHz) : 15mV P-P
- DC VOLTAGE: +5 V @ 15mA Max.  
-5 V @ 40mA Max.
- CONNECTORS IN/OUT: SMA FEMALE CONNECTORS
- CONTROL CONNECTORS: SMC
- 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.
- SIZE: 1.2" X 1.3" X 0.5"

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: -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
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

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

**MECHANICAL OUTLINE**

PMI CONFIDENTIAL AND PROPRIETARY

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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ISO 9001 CERTIFIED

APPROVALS	DATE	TITLE	REV.
DOWN	JPL	01/04/17	A1
CHECKED		PRODUCT FEATURE	
ISSUED		P1T-DC40G-65-T-292FF-1NS-OPT18G-55	
		SIZE: P18M NO. A 05XQ0	DWG NO. 27031532
		SCALE: N:S	SHEET 1 OF 1

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX ±0.020  
XXX ±0.010



**TYPICAL CHARACTERISTICS  
ON  
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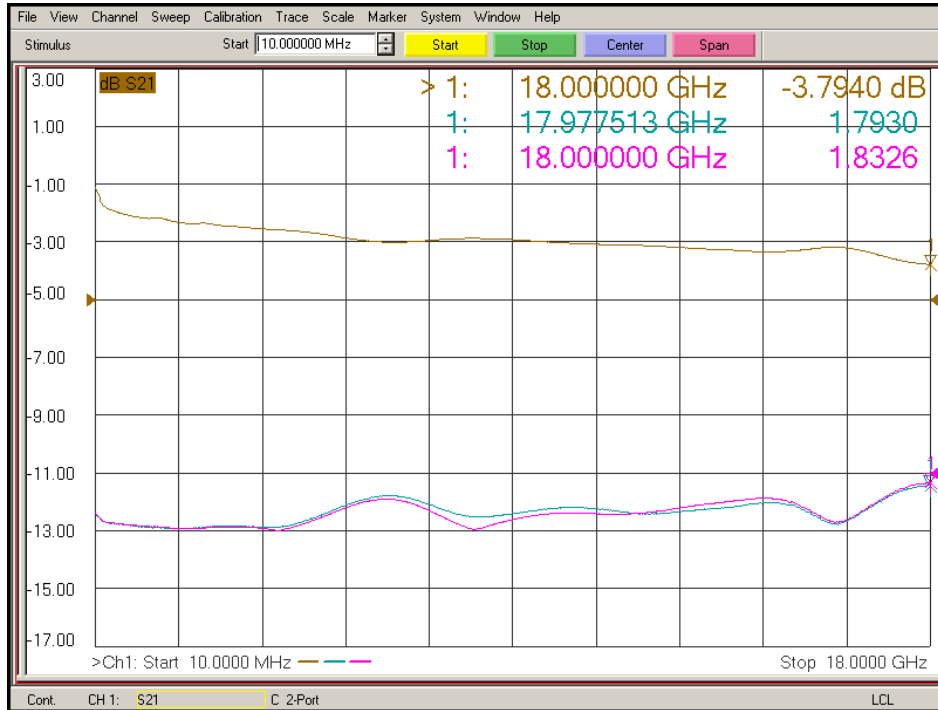
**SUMMARY TEST DATA**

<b>TEST. ITEM NO</b>	<b>PARAMETERS</b>	<b>SPECIFIED VALUE</b>	<b>TEST RESULTS</b>	<b>QA QC</b>
1	Frequency Range:	DC to 18GHz	<b>DC to 18GHz See Plot</b>	
2	Isolation:	60dB Typ, 55dB Min	<b>62.10 dB See Plot</b>	
3	Insertion Loss:	4.5dB Typ, 5.0dB Max	<b>3.79 dB See Plot</b>	
4	VSWR In/Out:	2.0:1 Typ, 2.2:1 Max	<b>1.83 :1 See Plot</b>	
5	Input Power:	+17dBm CW Max	<b>Pass</b>	
6	Switching Speed:	6ns Typ, 7ns Max	<b>7 ns See Plot</b>	
7	Rise/Fall Time:	1ns Typ, 2ns Max	<b>2 ns See Plot</b>	
8	Control Signal:	TTL "1" On	<b>Pass</b>	
9	Video Transients:	300 MHz BW (2-18GHz) : 85mV P-P 20 MHz BW (2-18 GHz) : 15mV P-P	<b>Pass</b>	
10	DC Voltage:	+5 V @ 15mA Max -5 V @ 40mA Max	<b>+5 V @ 4 mA -5 V @ 24 mA</b>	

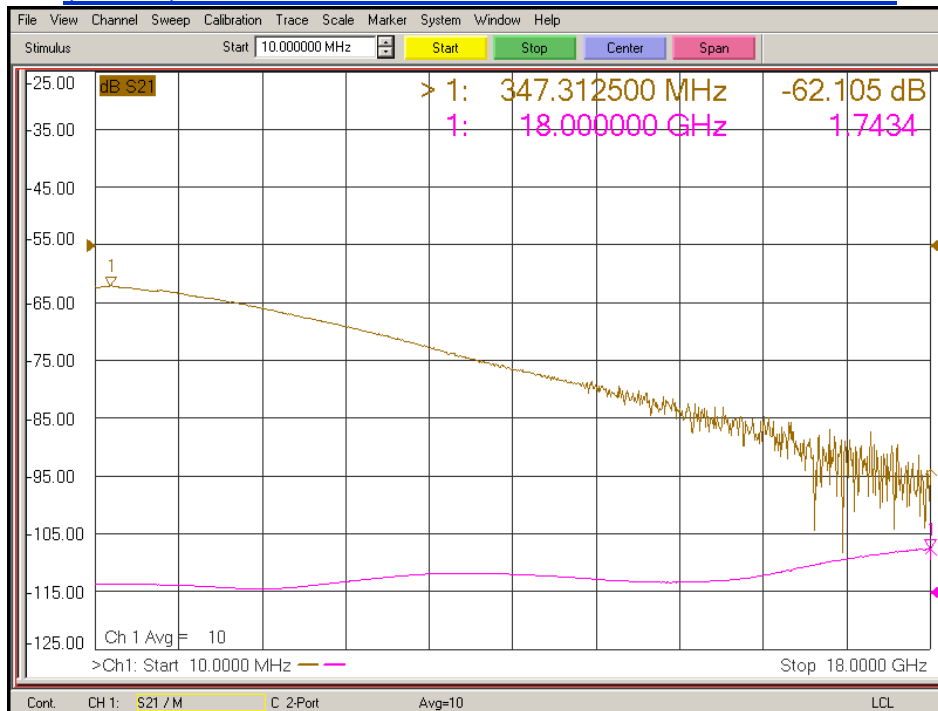


**TYPICAL CHARACTERISTICS  
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**(J1-J2) INSERTION LOSS AND RETURN LOSS**



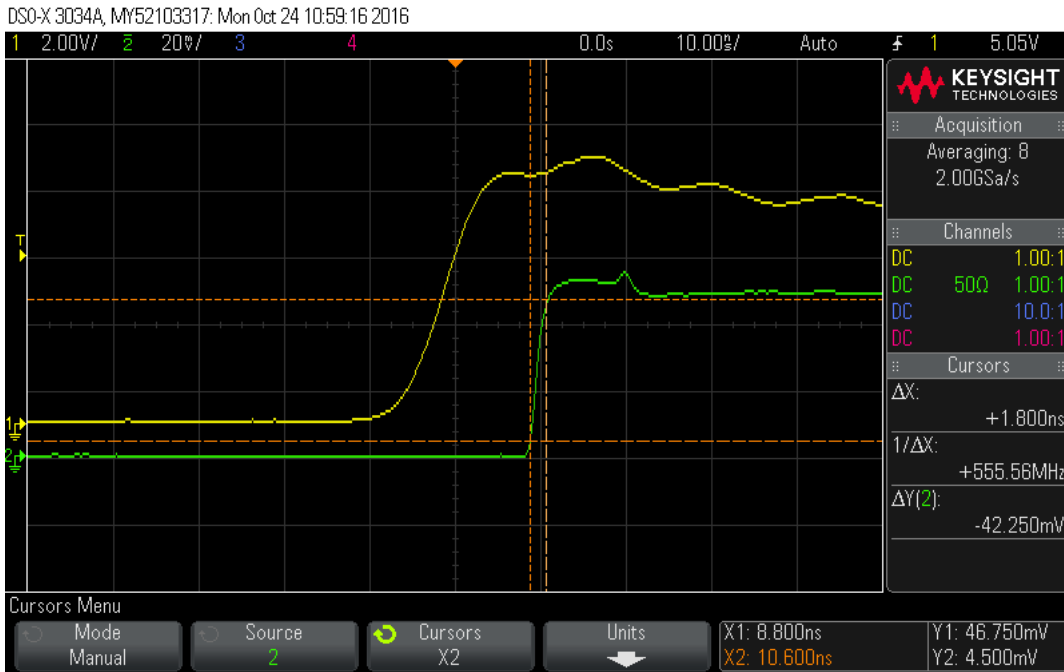
**(J1-J2) ISOLATION AND TERMINATION LOSS**



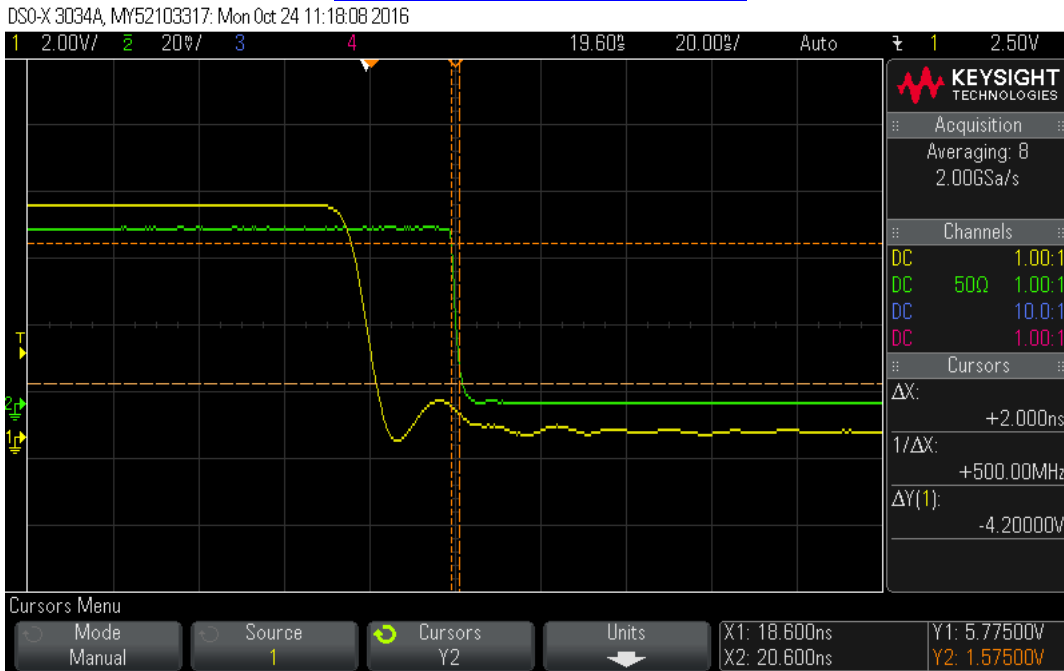


# TYPICAL CHARACTERISTICS ON P1T-DC40G-65-T-292FF-1NS-OPT18G-55

## Switching Speed ON Delay – 10 ns per Div.



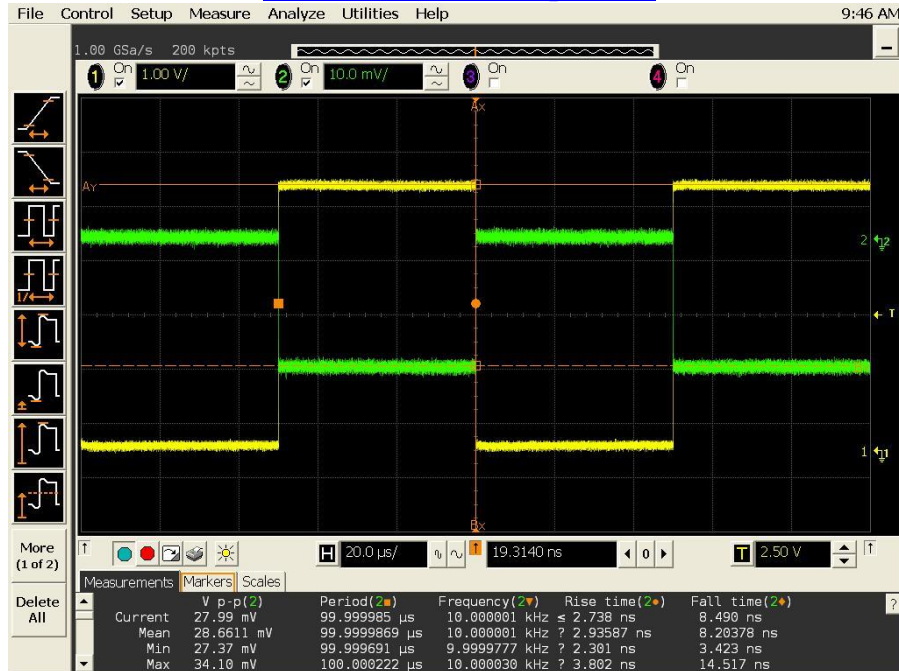
## OFF Delay and – 20 ns per Div.



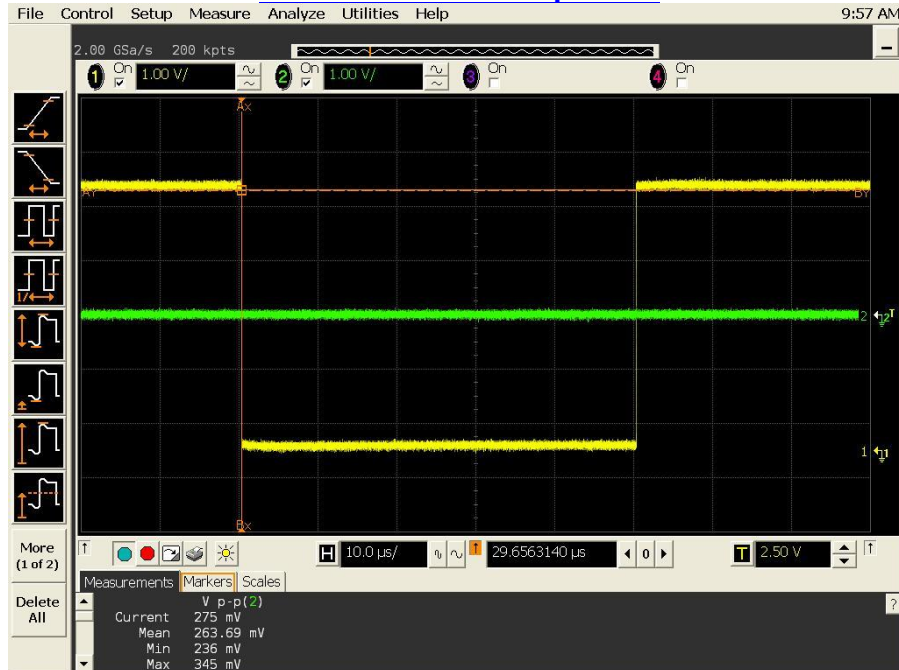


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**FULL PULSE– 20 ns per Div.**



**TRANSIENT– 100 ns per Div.**



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