



**TYPICAL CHARACTERISTICS  
ON  
P1T-500M40G-55-R-SFF**

**PMI MODEL P1T-500M40G-55-R-292FF IS A REFLECTIVE, HIGH SPEED, SINGLE POLE SINGLE THROW SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 500 MHz TO 40.0 GHz. THIS SWITCH HAS > 55 dB ISOLATION.**



June 03, 2016

DESIGNED BY: PMI ENGINEERING

TESTED & REPORTED BY: Jerry N



**TYPICAL CHARACTERISTICS  
ON  
P1T-500M40G-55-R-SFF**

**TABLE OF CONTENTS**

Outline Drawing..... Page 3

Summary Test Data.....Page 4

S-Parameter Data Insertion Loss and Return Loss..... Page 5

S-Parameter Data Isolation and Termination Return Loss.

Switching Speed..... Page 6



**TYPICAL CHARACTERISTICS  
ON  
P1T-500M40G-55-R-SFF**

**OUTLINE DRAWING**

REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
	1	ORIGINAL RELEASE	10/01/18

**DESCRIPTION**

PMI MODEL P1T-500M40G-55-R-292FF IS A REFLECTIVE, HIGH SPEED, SINGLE POLE SINGLE THROW SWITCH CAPABLE OF SWITCHING WITHIN 100 ns. THE FREQUENCY RANGE IS 500 MHz TO 40 GHz. THIS SWITCH HAS > 55 dB ISOLATION.

**SPECIFICATIONS**

- FREQUENCY RANGE: \_\_\_\_\_ 500 MHz TO 40 GHz
- ISOLATION: \_\_\_\_\_ 55 dB MIN
- INSERTION LOSS: \_\_\_\_\_ 5.0 dB TYP
- VSWR IN / OUT: \_\_\_\_\_ 2.5:1 TYP
- INPUT POWER: \_\_\_\_\_ +20 dBm CW MAX
- RF SWITCHING SPEED: \_\_\_\_\_ 100 ns MAX  
(10% TO 90% RF)
- DC VOLTAGE: \_\_\_\_\_ ±5 V
- CONTROL SIGNAL: \_\_\_\_\_ TTL COMPATIBLE  
0 VDC ON  
+5 VDC OFF
- CONNECTORS IN/OUT: \_\_\_\_\_ 2.92 mm (F)
- SIZE: \_\_\_\_\_ (L) 1.0" X (W) 1.0" 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.

**ENVIRONMENTAL RATINGS**

- TEMPERATURE: \_\_\_\_\_ -40°C TO +85°C (OPERATING)  
-55°C TO +125°C (STORAGE)

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

**MECHANICAL OUTLINE**

PMI CONFIDENTIAL AND PROPRIETARY

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.00X ±0.020  
X.00X ±0.010

**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

APPROVALS	DATE	TITLE	
CW	10/01/18	PRODUCT FEATURE P1T-500M40G-55-R-292FF	
CHECKED		SIZE	REV.
		A 05XQ0	1
ISSUED		DWG NO.	27027621
		SCALE	N: S
		SHEET	1 OF 1



**TYPICAL CHARACTERISTICS  
ON  
P1T-500M40G-55-R-SFF**

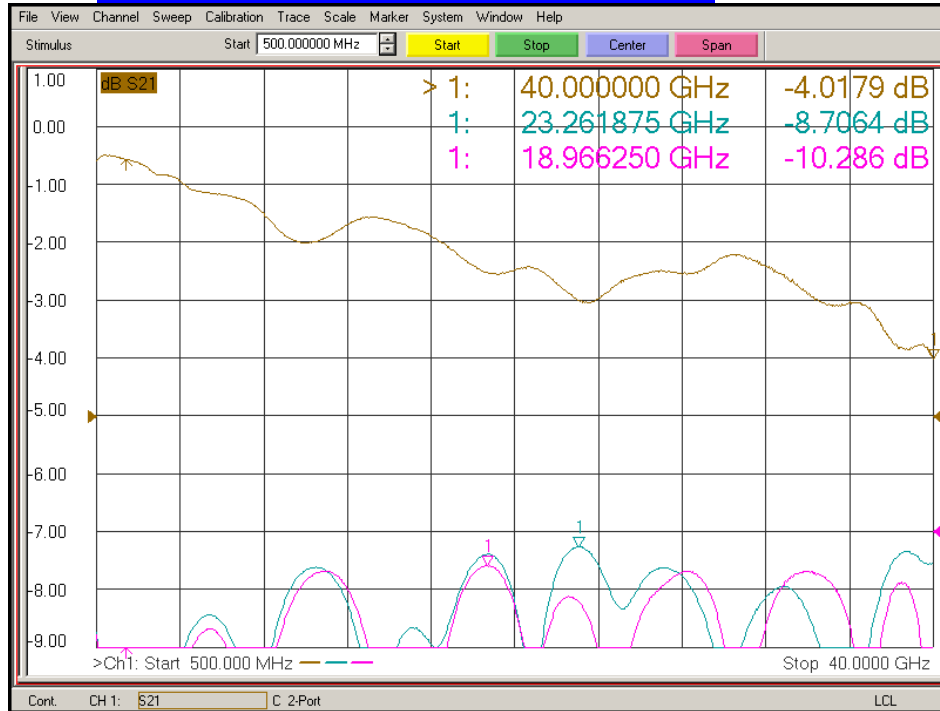
**TEST DATA SUMMARY**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	500 MHz to 40 GHz	<b>500 MHz to 40 GHz See Plot</b>	
2	Isolation:	55 dB Min.	<b>55.54 dB See Plot</b>	
3	Insertion Loss:	5.0 dB Typ.	<b>4.01 dB See Plot</b>	
4	VSWR: (In/Out)	2.5:1 Typ.	<b>2.16 :1 See Plot</b>	
5	Input Power:	+20 dBm CW Max.	<b>Pass</b>	
6	RF Switching Speed: (10% to 90% RF)	100 ns Max.	<b>22 ns See Plot</b>	
7	DC Voltage:	±5V	<b>±5V</b>	
8	Control Signal:	TTL Compatible 0 VDC On +5 VDC Off	<b>Pass</b>	

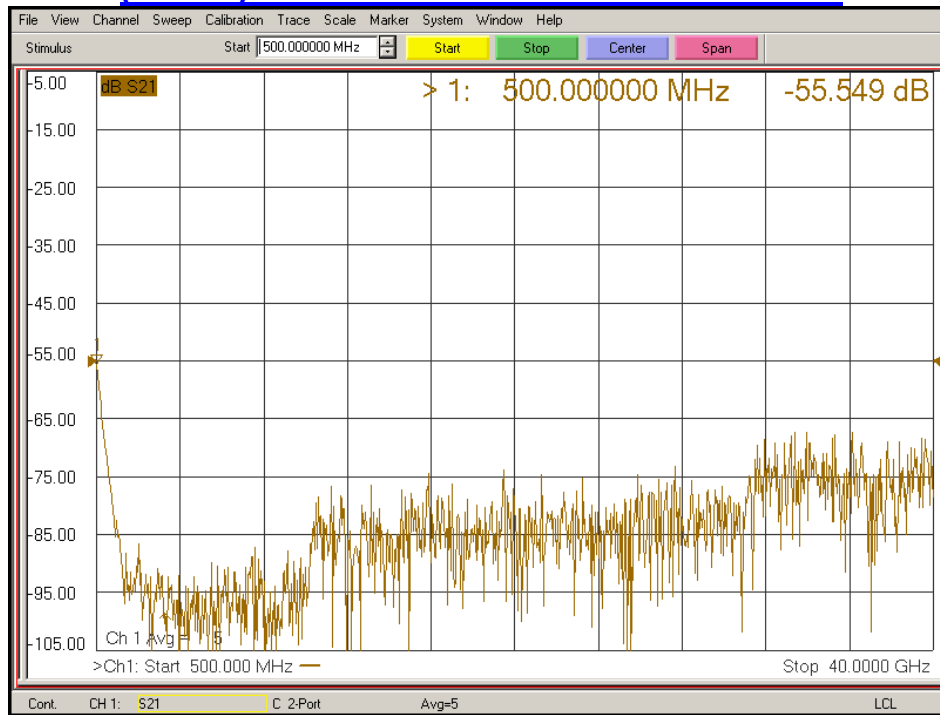


# TYPICAL CHARACTERISTICS ON P1T-500M40G-55-R-SFF

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



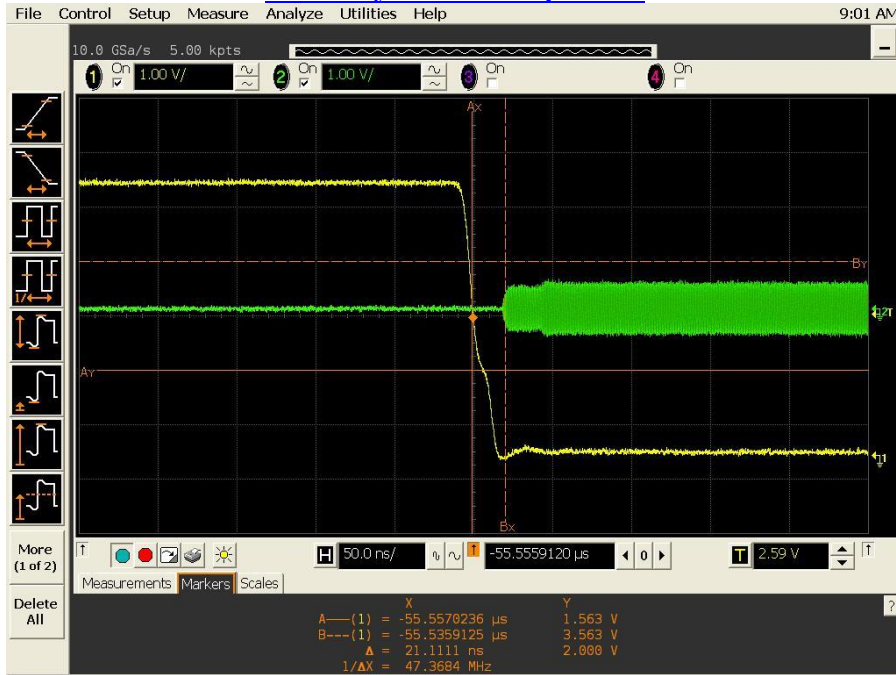
## (J1 – J2) Isolation and Termination Return Loss





**TYPICAL CHARACTERISTICS  
ON  
P1T-500M40G-55-R-SFF**

**Switching Speed TYP.  
ON Delay and – 50 ns per Div.**



**FULL PULSE– 20 us per Div.**

