



**TYPICAL CHARACTERISTICS  
ON  
P1T-6G12G-80-T-SFF-1W**

**THE MODEL P1T-6G12G-80-T-SFF-1W IS A HIGH SPEED SINGLE POLE,  
SINGLE THROW, ABSORPTIVE SWITCH CAPABLE OF SWITCHING WITHIN  
25ns WITH INPUT RF POWER LEVELS UP TO 1 WATT CW.. THE  
FREQUENCY RANGE IS 6.0 TO 12.0 GHz AND THIS SWITCH HAS OVER  
80dB OF ISOLATION.**



**December, 20 2017**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: Lee McGraw**



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**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-6G12G-80-T-SFF-1W

## OUTLINE DRAWING

REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
A1		ORIGINAL RELEASE	10/08/17
B1		ECN # 24-0081	08/28/18

**DESCRIPTION**

THE MODEL P1T-6G12G-80-T-SFF-1W IS A HIGH SPEED, SINGLE POLE, SINGLE THROW, ABSORPTIVE SWITCH CAPABLE OF SWITCHING WITHIN 25ns WITH INPUT RF POWER LEVELS UP TO 1 WATT CW. THE FREQUENCY RANGE IS 6.0 TO 12.0 GHz AND THIS SWITCH HAS OVER 80dB OF ISOLATION.

**SPECIFICATIONS:**

- FREQUENCY RANGE: 6.0 TO 12.0 GHz
- INSERTION LOSS: 1.75 dB MAXIMUM
- ISOLATION: 80 dB MINIMUM
- VSWR (ON/OFF): 2.0:1 MAXIMUM, 1.5:1 GOAL
- SWITCHING SPEED: 25 ns TYPICAL (50% TTL TO 10/90% RF)
- OPERATING POWER: +30dBm MAXIMUM
- CONTROL: TTL LOGIC "0" = INSERTION LOSS  
TTL LOGIC "1" = ISOLATION
- POWER SUPPLY: +5V @ 50 mA MAXIMUM  
-15V @ 75 mA MAXIMUM
- CONNECTORS:
  - RF: SMA FEMALE
  - CONTROL: SOLDER PIN
- SIZE: (L) 1.0" X (W) 1.0" X (H) 0.5"
- FINISH: BLUE EPOXY
- WEIGHT: 2.0 OZ MAXIMUM

• STATIC SENSITIVITY:  
These Devices are considered ESD Class 1A, HBM. Proper ESD techniques > should be used when handling

• Recommended Temperature for soldering to Voltage and CTL pins should not exceed 140 Degrees C.

**PMI CONFIDENTIAL AND PROPRIETARY**

**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

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

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ISO 9001 CERTIFIED

APPROVALS		DATE	TITLE	
DESIGN	JFH	6/15/17	PRODUCT FEATURE	
DESIGNER	JFH	10/08/17	P1T-6G12G-80-T-SFF-1W	
ISSUED			SIZE	PSGM NO.
			A	05XQ0
			DWG NO.	27033390
			REV.	B1
			SCALE	N:S
			SHEET	1 OF 1



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

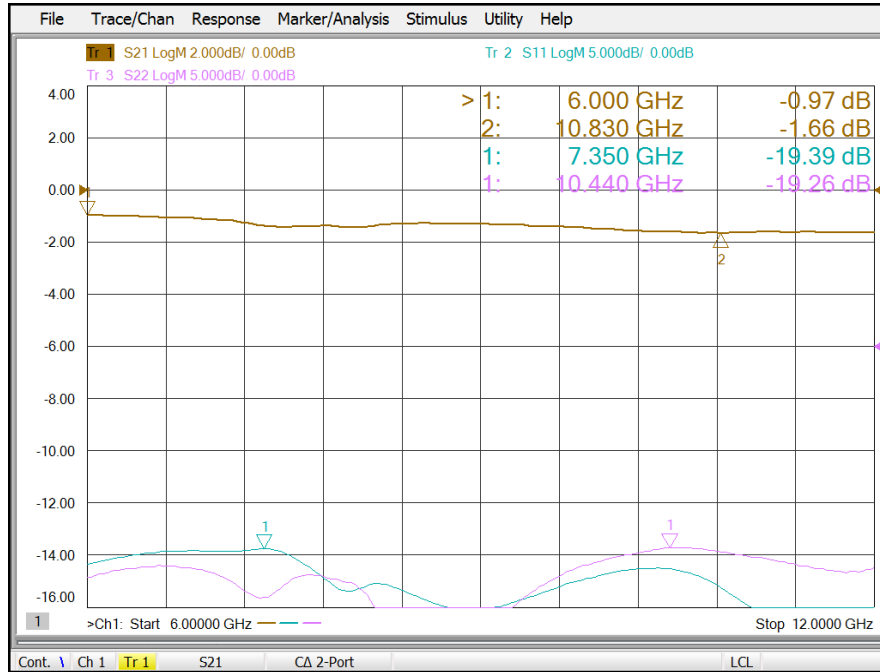
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	6.0 to 12.0 GHz	<b>6.0 to 18.0 GHz</b>	
2	Insertion Loss:	1.75dB Max	<b>1.66dB (See Plot)</b>	
3	Isolation:	80dB Min	<b>96dB (See Plot)</b>	
4	VSWR:	2.0:1 Max (1.5:1 Goal)	<b>1.9:1</b>	
5	Switching Speed:	25ns Typ	<b>23.8ns (See Plot)</b>	
6	Operating Power:	+30dBm Max	<b>Pass</b>	
7	Control	TTL Logic "0" = Insertion Loss "1" = Isolation	<b>Pass</b>	
8	Power Supply:	+5VDC @ 50mA Max -15VDC @ 75mA Max	<b>41mA 70mA</b>	

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

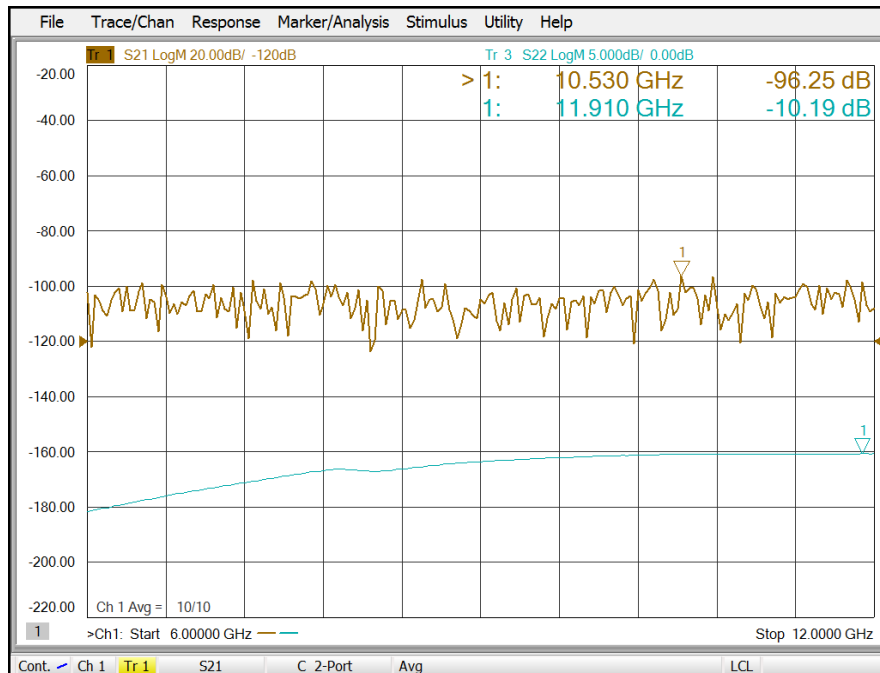


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**(J1-J2) Insertion Loss and Return Loss**



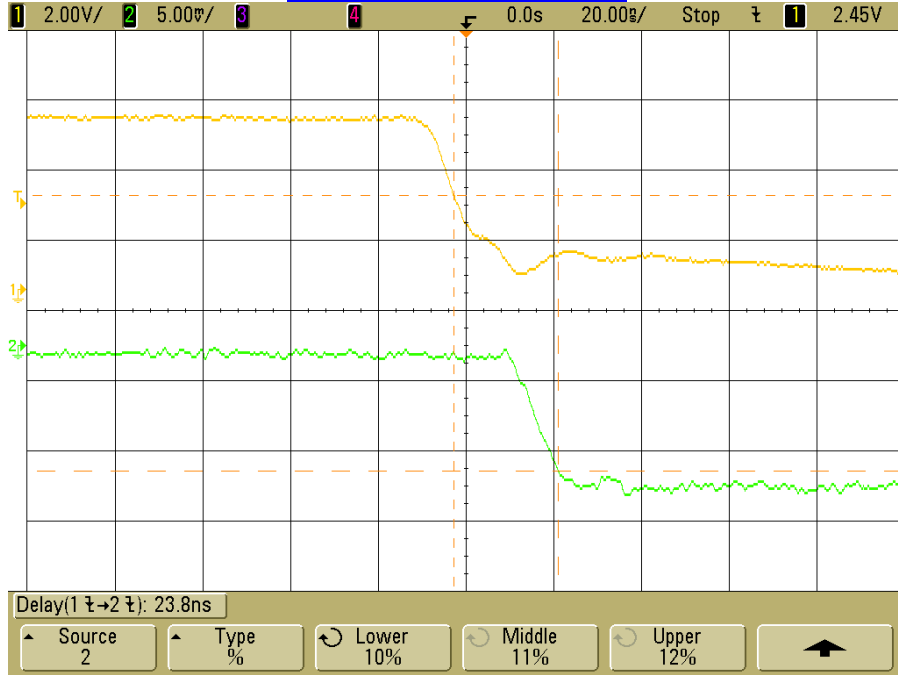
**(J1 - J2) Isolation and Termination Return Loss**



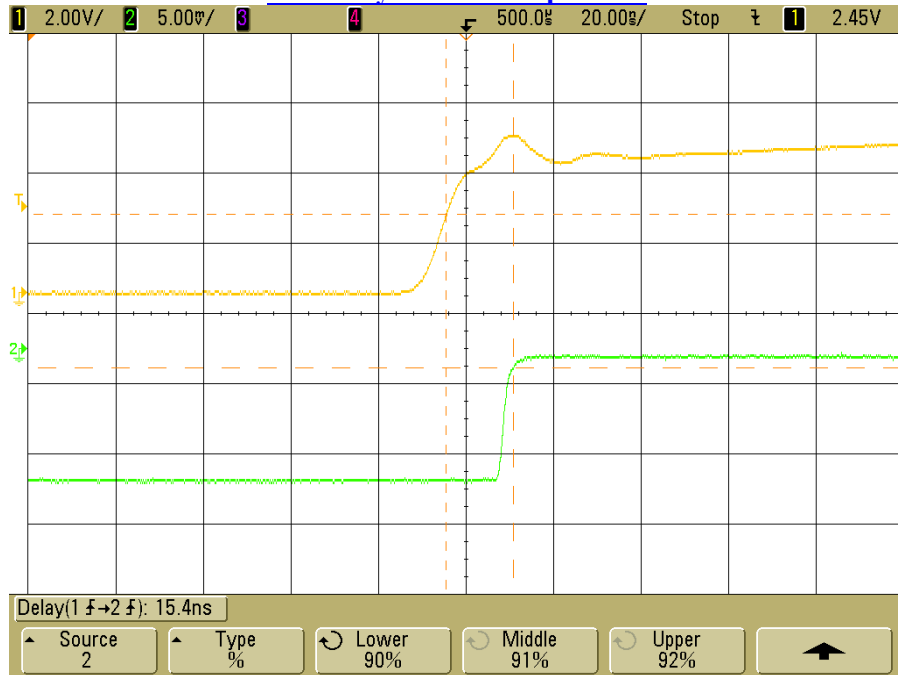


**TYPICAL CHARACTERISTICS  
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**Switching Speed TYP.  
OFF Delay – 20 ns per Div.**



**ON Delay and – 20 ns per Div.**



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