



**TYPICAL CHARACTERISTICS  
ON  
P2T-500M40G-60-R-55-292SFF**

**PMI MODEL P2T-500M40G-60-R-55-292FF IS A REFLECTIVE, SINGLE POLE,  
TWO THROWS PIN DIODE SWITCH THAT OPERATES OVER THE 0.5 GHz  
TO 40 GHz FREQUENCY RANGE .THIS MODEL INCORPORATES A TTL  
COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.**



**December 28, 2016**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: Jerry N**



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P2T-500M40G-60-R-55-292SFF**

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**OUTLINE DRAWING**

**DESCRIPTION**

PMI MODEL P2T-500M40G-60-R-55-292FF IS A REFLECTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 0.5 GHz TO 40 GHz FREQUENCY RANGE. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

**SPECIFICATIONS**

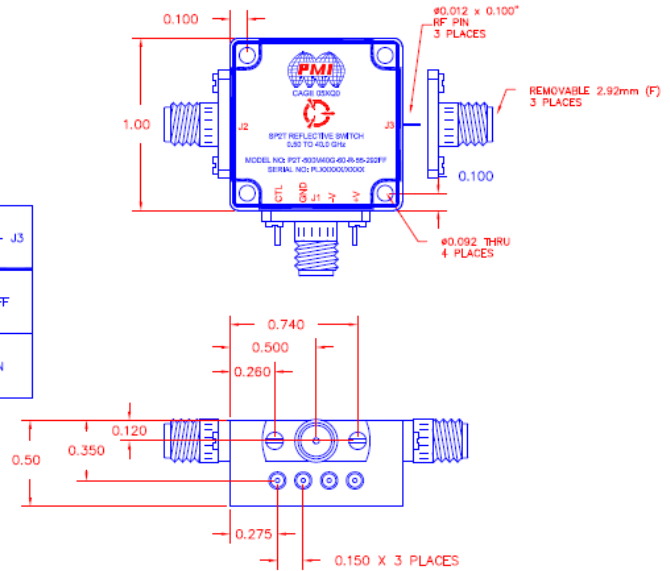
- FREQUENCY RANGE: ..... 0.5 TO 40 GHz
- ISOLATION: ..... 55 dB MIN
- INSERTION LOSS: ..... 5.5 dB TYP
- VSWR IN / OUT: ..... 2.5:1 TYP
- INPUT POWER: ..... +20 dBm CW MAX
- SURVIVAL POWER: ..... 1W PEAK 1 us
- RF SWITCHING SPEED: ..... RISE: 15 ns MAX  
FALL: 15 ns MAX  
DELAY ON: 50 ns MAX  
DELAY OFF: 50 ns MAX
- DC VOLTAGE: ..... +5 V @ 200 mA MAX  
-5 V @ 100 mA MAX
- CONTROL SIGNAL: ..... TTL LOGIC  
SEE LOGIC TABLE
- CONNECTORS IN/OUT: ..... 2.92 mm FEMALE CONNECTORS
- CONTROL CONNECTORS: ..... SOLDER PINS
- 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.

LOGIC TABLE

CTL	J1 - J2	J1 - J3
0	ON	OFF
1	OFF	ON

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/05/15	
	A1	ECN # 16-0150	10/24/16	

**MECHANICAL OUTLINE**



PMI CONFIDENTIAL AND PROPRIETARY

**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

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX ±0.010  
XXXX ±0.005

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ISO 9001:2008 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	CW	10/05/15	OUTLINE DRAWING P2T-500M40G-60-R-55-292FF		
CHECKED			SIZE	FSOM NO.	DWG NO.
ISSUED			A	05XQ0	27027641
			SCALE	N: S	SHEET 1 OF 1
			REV.	A1	



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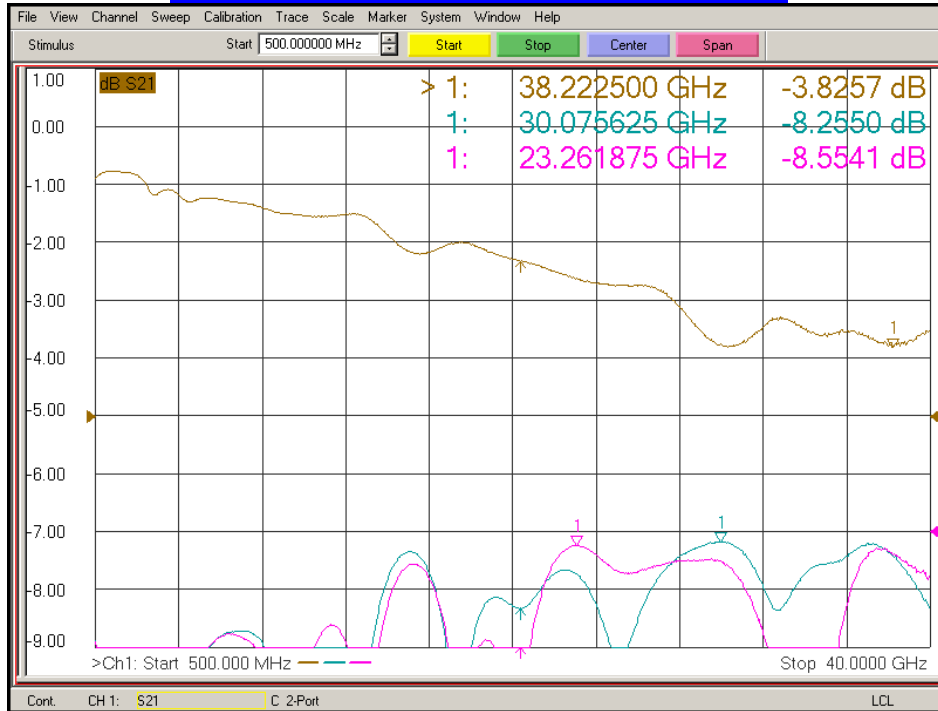
**TEST DATA SUMMARY**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range	0.5 GHz - 40.0 GHz	<b>0.5 GHz - 40.0 GHz</b>	
2	Insertion Loss	5.5 dB Typ.	<b>4.22 dB (See Plot)</b>	
3	Isolation	55 dB Min	<b>55.43 dB (See Plot)</b>	
4	VSWR : In/Out	2.5:1 Typ	<b>2.33 :1 (See Plot)</b>	
5	Switching Speed	Rise/Fall : 15 ns Max. Delay ON/OFF : 50 ns Max.	<b>Rise/Fall : 3 ns Delay ON/OFF : 25 ns (See Plots)</b>	
6	Input Power:	+20dBm CW Max.	<b>Pass</b>	
7	Survival Power:	1W Peak 1us	<b>Pass</b>	
8	DC Supply:	+5VDC @ 200 mA Max. -5VDC @ 100 mA Max.	<b>50 mA 18 mA</b>	
9	Control Signal:	TTL LOGIC SEE LOGIC TABLE	<b>Pass</b>	

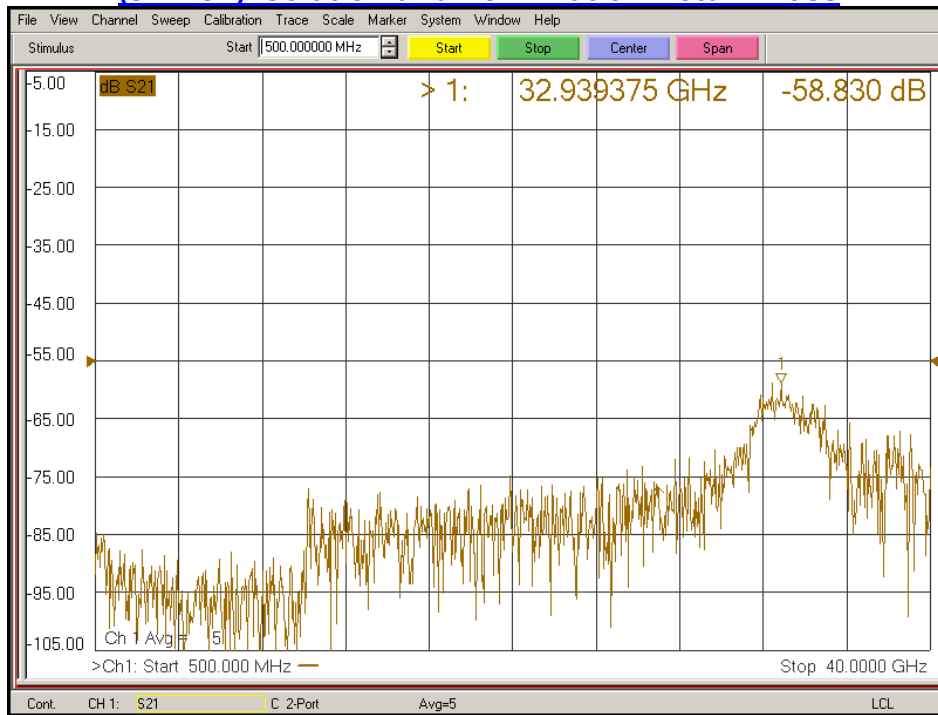


# TYPICAL CHARACTERISTICS ON P2T-500M40G-60-R-55-292SFF

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



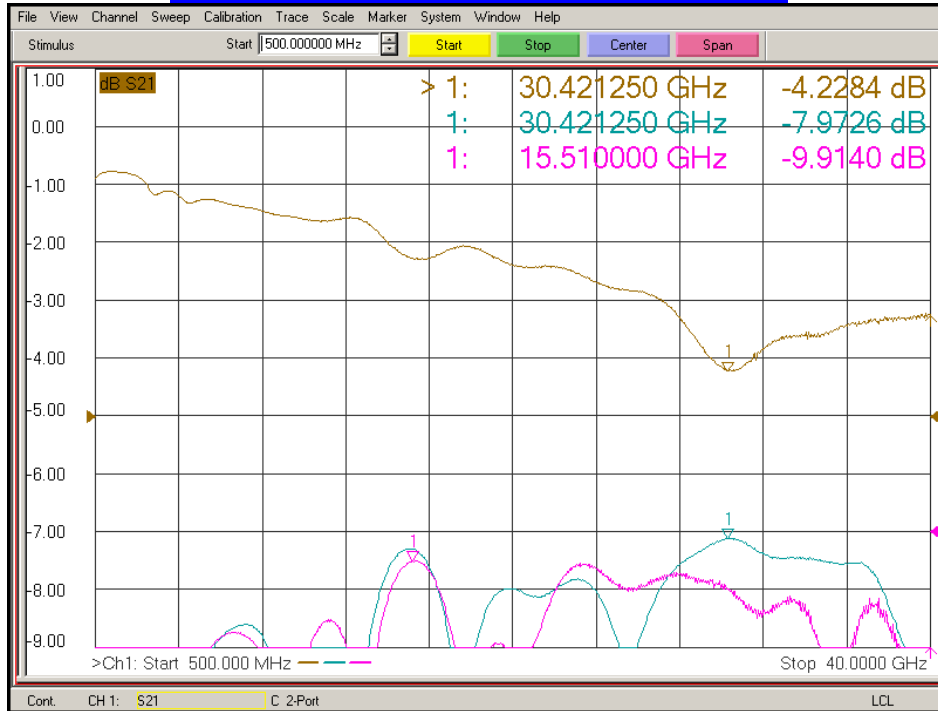
## (J1 – J2) Isolation and Termination Return Loss



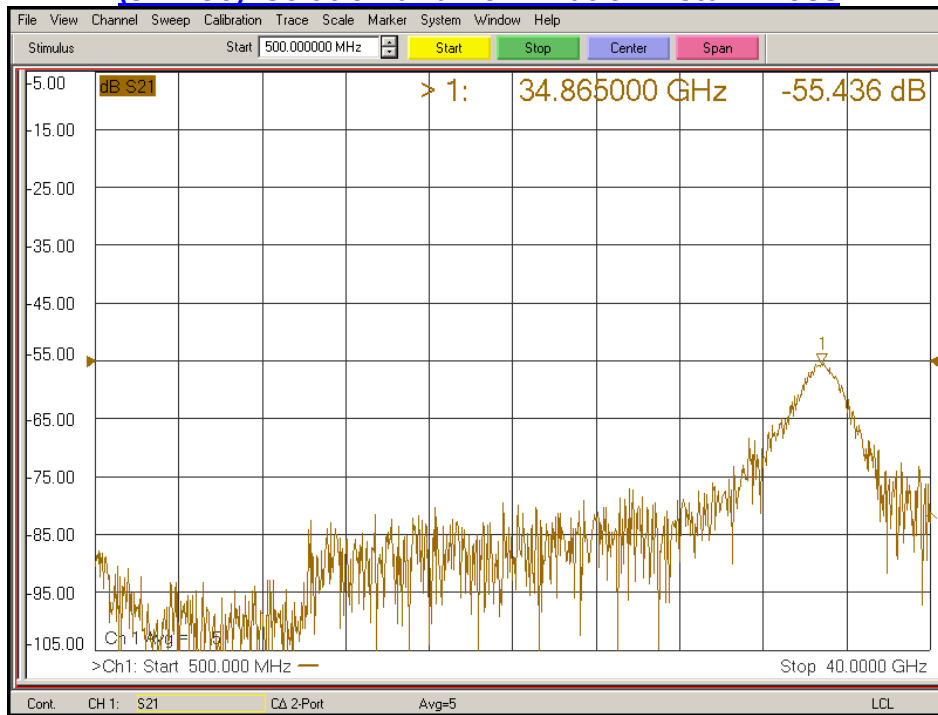


**TYPICAL CHARACTERISTICS  
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**(J1 – J3) Insertion Loss and Return Loss**



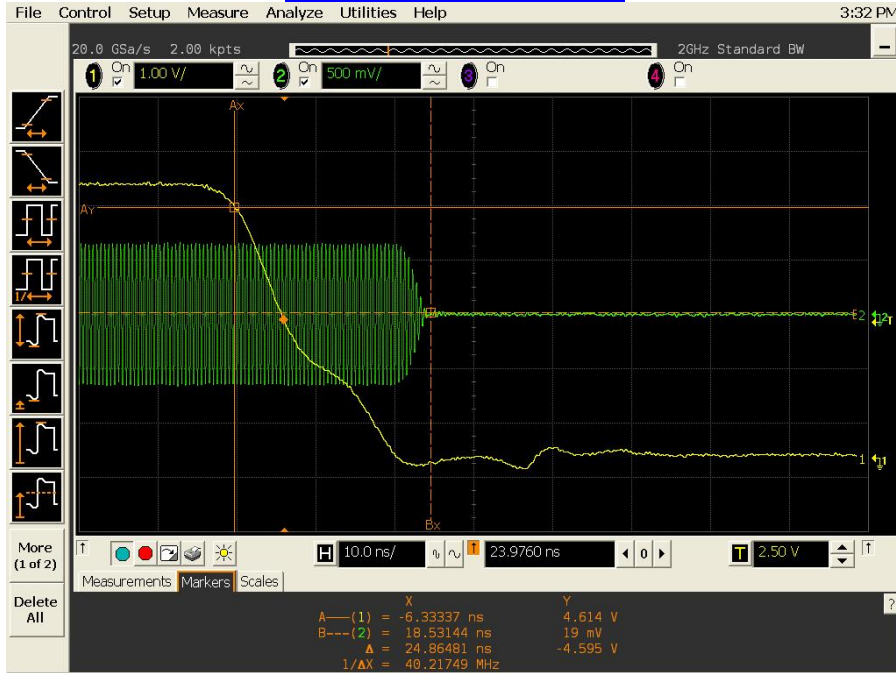
**(J1 – J3) Isolation and Termination Return Loss**



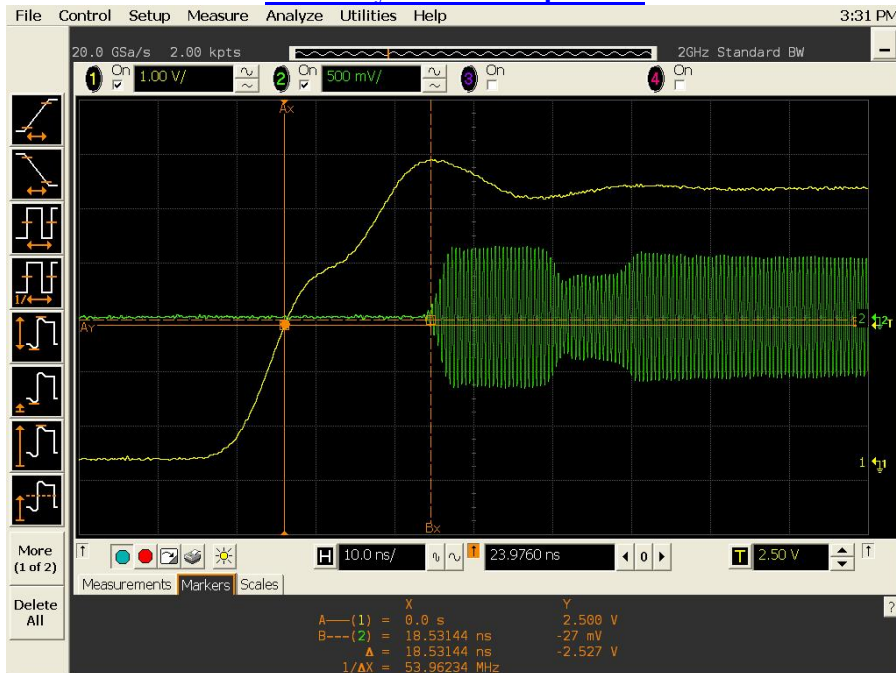


# TYPICAL CHARACTERISTICS ON P2T-500M40G-60-R-55-292SFF

## Switching Speed TYP. OFF Delay – 10 ns per Div.



## ON Delay and – 10 ns per Div.



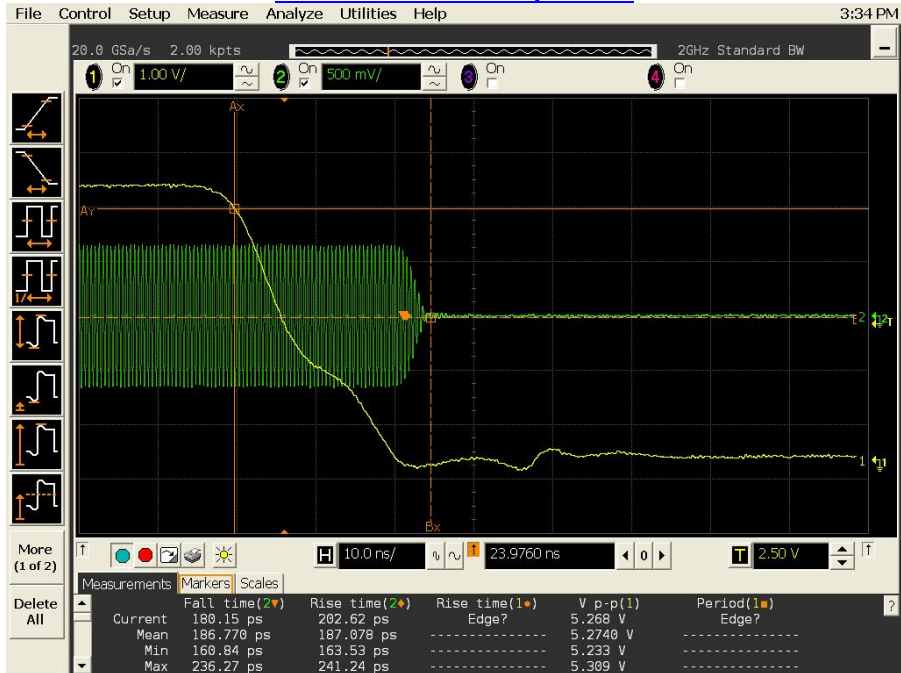


**TYPICAL CHARACTERISTICS  
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**RISE TIME– 10 ns per Div.**



**FALL TIME– 10 ns per Div.**



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