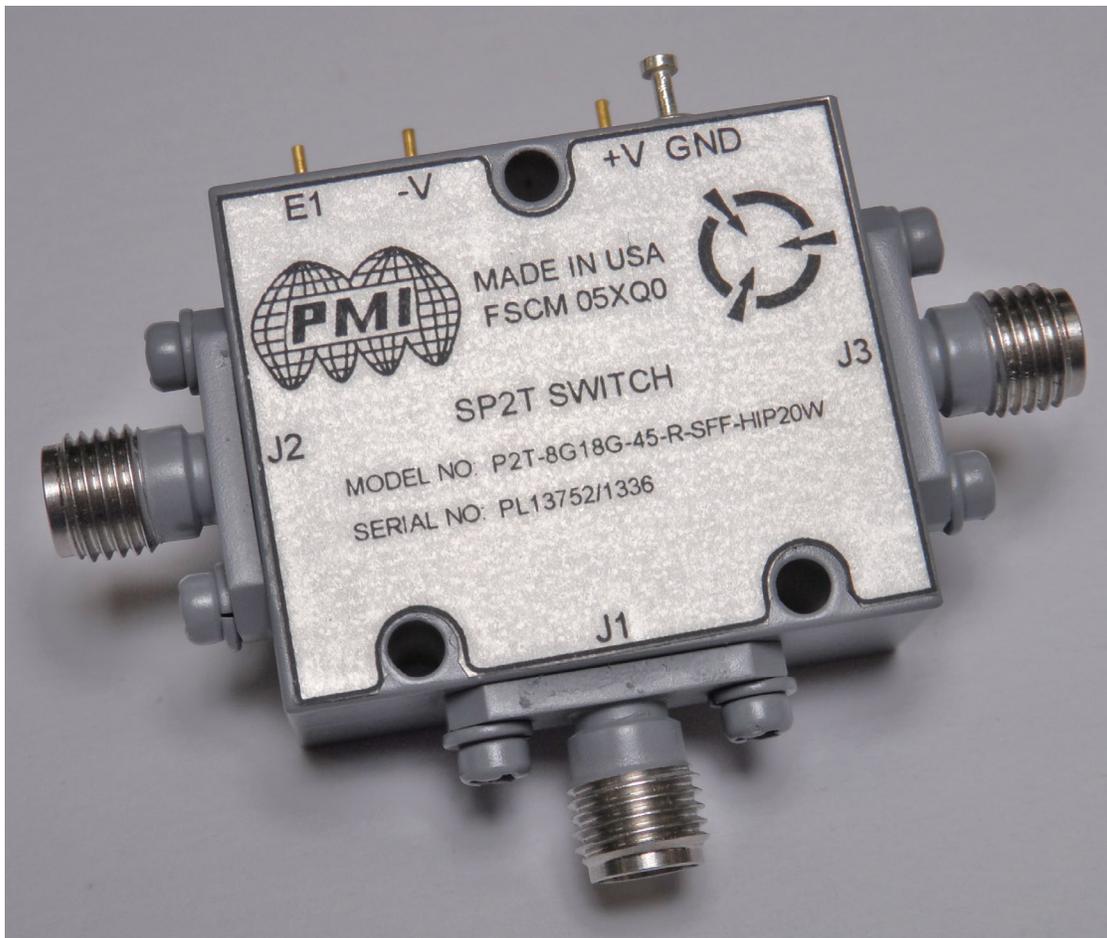




**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**

**THE PMI MODEL P2T-8G18G-45-R-SFF-HIP20W IS A HIGH POWER (20 WATT), SINGLE POLE, DOUBLE THROW, REFLECTIVE SWITCH MODULE WITH LOW INSERTION LOSS AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR 8 GHz TO 18 GHz OPERATION**



**August 5, 2014**

**Designed By: PMI Engineering**

**Tested and Reported By:  
Randy Combs  
Sebastian Palacio**

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Email: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)



## Typical Characteristics On P2T-8G18G-45-R-SFF-HIP20W

REVISIONS			
ZINC	REV.	DESCRIPTION	DATE
	A1	ORIGINAL RELEASE	03/22/11
	A2	ECN # 13-0141	03/26/11
	B1	ECN # 14-0127	8/4/2011
	B2	ECN # 14-0211	12/19/11

**DESCRIPTION:**  
 PMI MODEL: P2T-8G18G-45-R-SFF-HIP20W IS A HIGH POWER (20 WATT) SINGLE POLE TWO THROW, REFLECTIVE SWITCH MODULE WITH LOW INSERTION LOSS AND WITH INTEGRAL TTL DRIVER, DESIGNED FOR 8 GHz TO 18 GHz OPERATION.

**SPECIFICATIONS:**

- FREQUENCY: 8.0 GHz TO 18.0 GHz
- INSERTION LOSS: 2.5dB Max, 2.0dB Typ
- ISOLATION: 45dB Min
- VSWR: 2.0:1 Max
- RISE TIME: 75ns Typ
- FALL TIME: 25ns Typ
- DELAY ON: 150ns Typ
- DELAY OFF: 100ns Typ
- CONTROL: TTL (SEE TABLE)
- OPERATING INPUT POWER: 20W CW Max  
PRF 1MHz Max
- HOT SWITCHING: 10W CW Max
- DC SUPPLY: +5V @ 200 mA  
-28V @ 100 mA
- CONNECTORS: SMA (F)
- SIZE: (L) 1.2" X (W) 1.0" X (H) 0.5"
- SEALING: HERMETIC
- FINISH: GRAY EPOXY POLIMIDE COATING IAW MIL-C-22750, TYPE I OVER EPOXY POLIMIDE PRIMER IAW MIL-P-23377, TYPE I, CLASS 1 OR 3.

**MECHANICAL OUTLINE**

**PMI CONFIDENTIAL AND PROPRIETARY**

LOGIC TABLE	
E1	LOGIC
0	J1 - J2
1	J1 - J3

\*E1 PULLED LOW

**ENVIRONMENTAL RATINGS:**

- TEMPERATURE: -20°C TO +50°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 107

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

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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 ISO 9001 CERTIFIED

APPROVALS	DATE	TITLE
DRAWN		PRODUCT FEATURE
CHECKED	03/22/11	P2T-8G18G-45-R-SFF-HIP20W
ISSUED		

SIDE	PSOM NO.	DWG NO.	REV.
A	05XQ0	27017981	B2
SCALE	N:S	SHEET	1 OF 1



**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8 GHz TO 18 GHz	<b>8 GHz TO 18 GHz See Plot</b>	
2	Insertion Loss:	2.5dB Max, 2.0dB Typ	<b>1.95dB See Plot</b>	
3	Isolation:	45dB Min	<b>46.03dB See Plot</b>	
4	VSWR:	2.0:1 Max	<b>1.74:1dB See Plot</b>	
5	Rise Time:	75ns Typ	<b>25ns 10ns 55ns 30ns See Plots</b>	
	Fall Time:	25ns Typ		
	Delay On:	150ns Typ		
	Delay Off:	100ns Typ		
6	Control:	TTL	<b>Pass</b>	
7	Operating Input Power:	20W CW Max PRF 1MHz Max	<b>Pass</b>	
8	Hot Switching:	10W CW Max	<b>Pass</b>	
9	Video Transients:	Not Specified	<b>8V Peak to Peak Typ.</b>	
10	DC Supply:	+5VDC @ 200 mA -28VDC @ 100 mA	<b>+5VDC @ 70mA -28VDC @ 3mA</b>	



**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**

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



**(J1-J3) Insertion Loss and Return Loss**



**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**



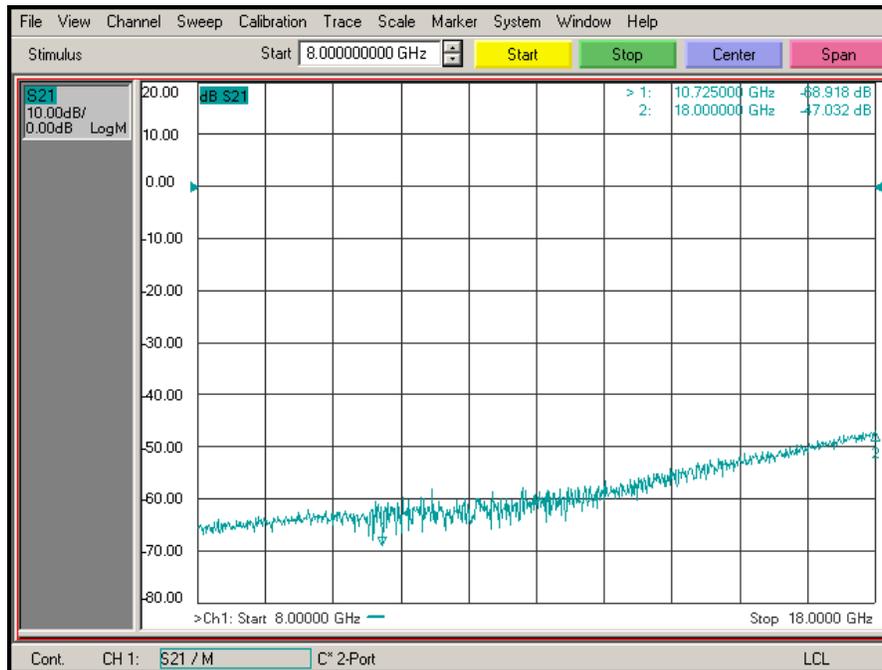
**(J1 - J2) Isolation and Return Loss**



**(J1 - J3) Isolation and Return Loss**



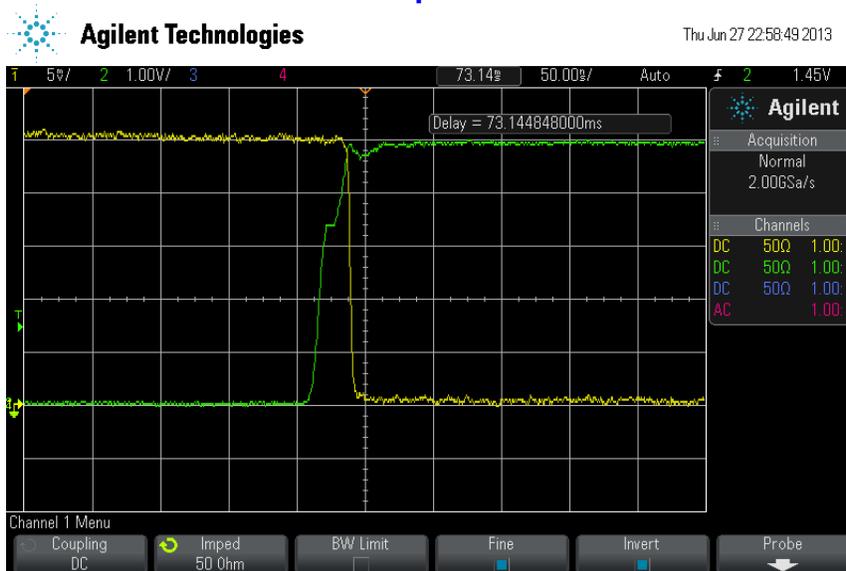
## Typical Characteristics On P2T-8G18G-45-R-SFF-HIP20W



Switching Speed

OFF Delay & Fall Time

50ns per Div.

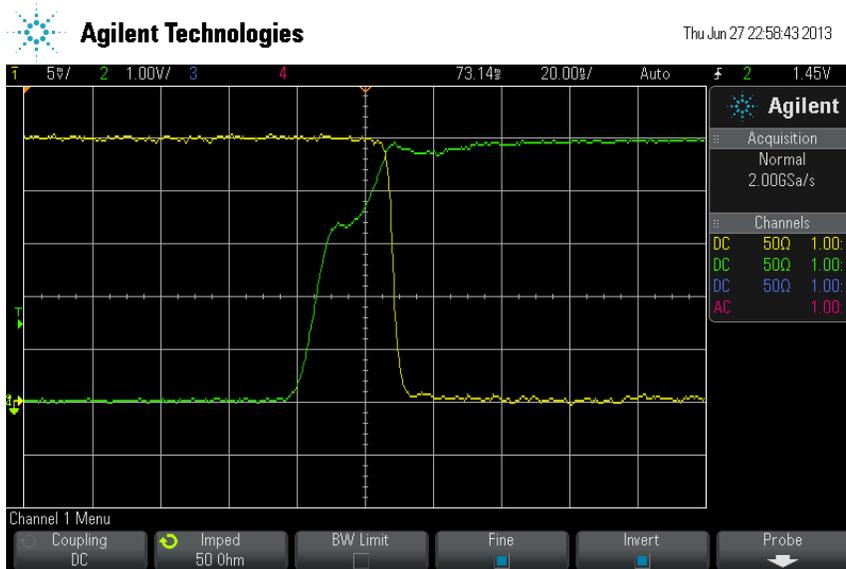


20ns per Div.

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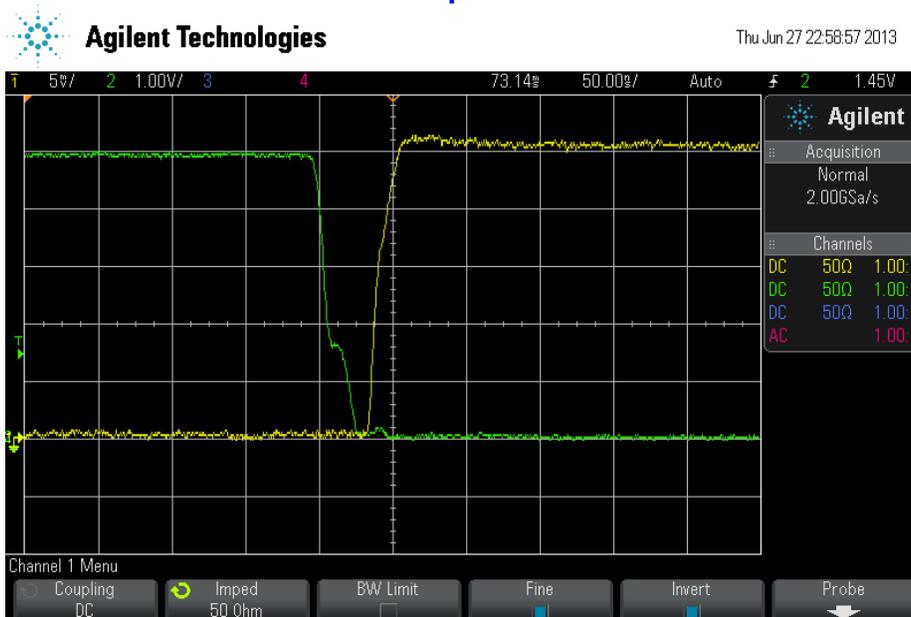
# Typical Characteristics On P2T-8G18G-45-R-SFF-HIP20W



Green Trace: TTL Signal  
Yellow Trace: RF Signal

ON Delay & Rise Time

50ns per Div.

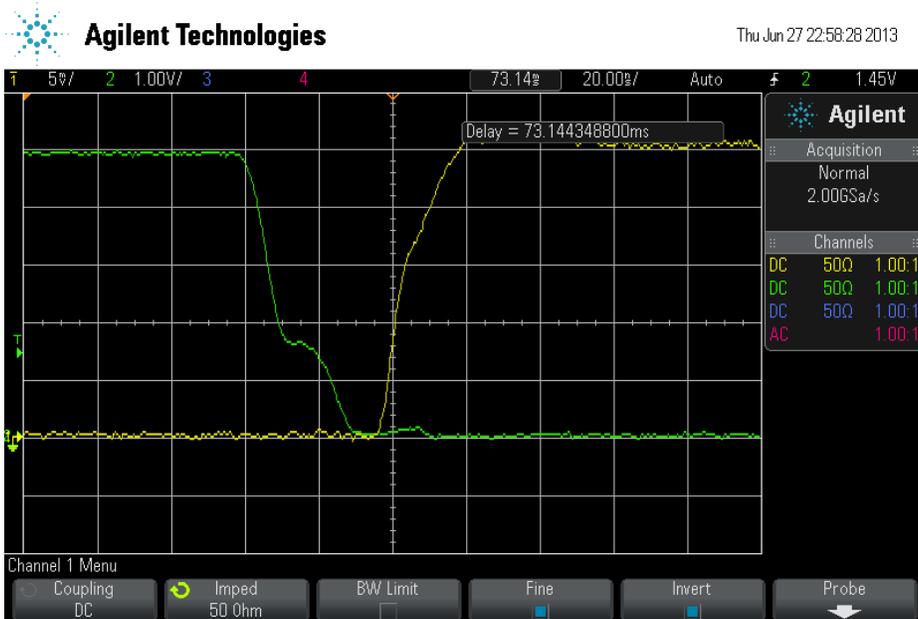


20ns per Div.

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**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**



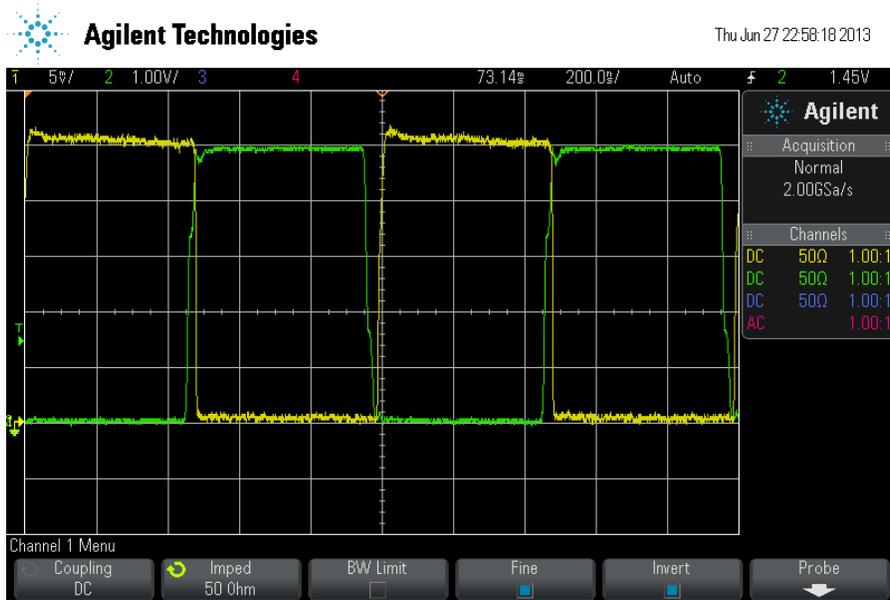
**Green Trace: TTL Signal  
Yellow Trace: RF Signal**

**Full Pulse**

**200ns per Div.**



**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**



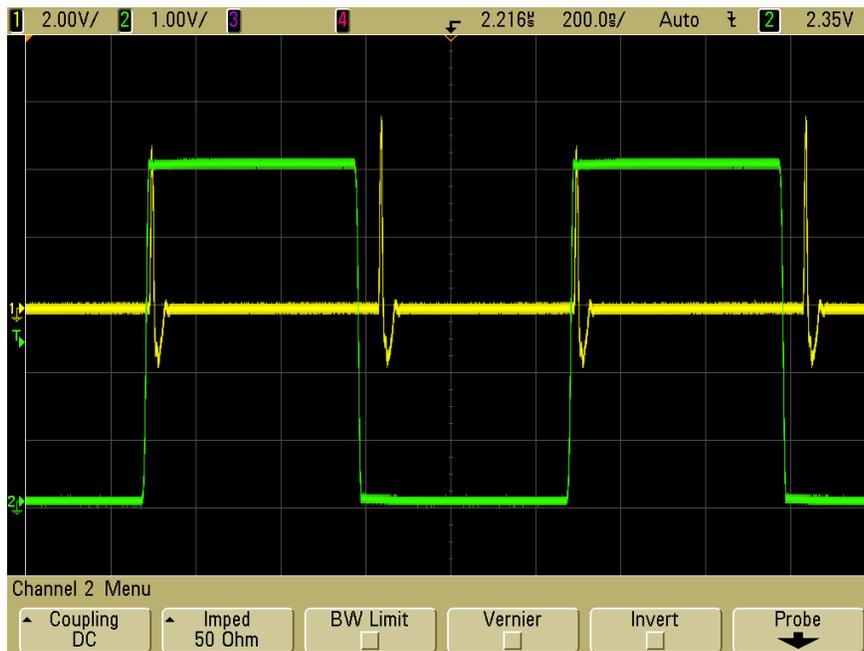
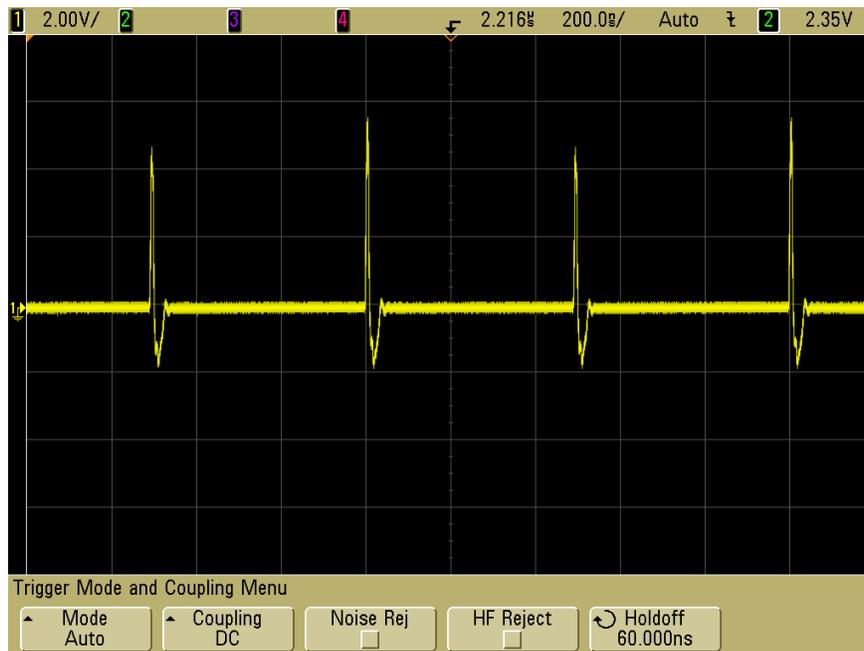
**Green Trace: TTL Signal  
Yellow Trace: RF Signal**

**Video Transients**

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**Typical Characteristics  
On  
P2T-8G18G-45-R-SFF-HIP20W**



**GREEN TRACE: TTL SIGNAL  
YELLOW TRACE: VIDEO TRANSIENTS**