TYPICAL CHARACTERISTICS
ON
P1T-8G12G-70-R-SFF

PMI MODEL P1T-8G12G-70-R-SFF IS A REFLECTIVE, HIGH SPEED SINGLE POLE, SINGLE THROW SWITCH CAPABLE OF SWITCHING WITHIN 50 ns MAXIMUM. THE FREQUENCY RANGE IS 8.0 GHz TO 12.0 GHz. THIS SWITCH HAS >70 dB ISOLATION.

DECEMBER 1, 2015

DESIGNED BY: PMI ENGINEERING

TESTED & REPORTED BY: L. McGraw / Jerry N.

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TYPICAL CHARACTERISTICS
ON
P1T-8G12G-70-R-SFF

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OUTLINE DRAWING

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/12/15	

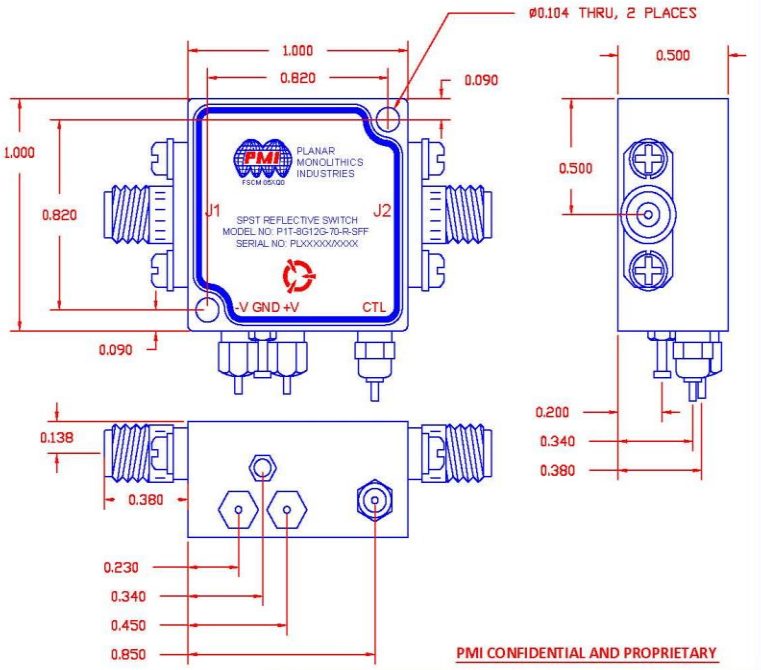
DESCRIPTION

PMI MODEL P1T-8G12G-70-R-SFF IS A REFLECTIVE, HIGH SPEED, SINGLE POLE SINGLE THROW SWITCH CAPABLE OF SWITCHING WITHIN 50 ns MAXIMUM. THE FREQUENCY RANGE IS 8.0 GHz TO 12.0 GHz. THIS SWITCH HAS > 70 dB ISOLATION.

SPECIFICATIONS

- FREQUENCY RANGE: — 8.0 GHz TO 12.0 GHz
- IMPEDANCE: — 50 Ω
- INPUT POWER: — +30dBm MAX (SURVIVAL)
  +20dBm MAX (OPERATING)
- INPUT VSWR: — 1.8:1 TYP.
- INSERTION LOSS: — 1.8dB TYP.
- ISOLATION: — 70dB MIN
- SWITCHING SPEED: — 50ns MAX
- DC VOLTAGE: — +5VDC, 20mA TYP.
  −15VDC, 20mA TYP.
- CONTROL: — SOLDER PIN
  TTL COMPATIBLE
  "0" = INSERTION LOSS
  "1" = ISOLATION
- CONNECTORS IN/OUT: — SMA (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.

MECHANICAL OUTLINE



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:
X.XX ±0.020
X.XXX ±0.010

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ISO 9001 CERTIFIED

APPROVALS	DATE
DRAWN GAB	10/12/15
CHECKED	
ISSUED	

TITLE: PRODUCT FEATURE
P1T-8G12G-70-R-SFF

SIZE	FSCM NO.	DWG NO.	REV.
A	05XQ0	27027061	1

SCALE N: S — SHEET 1 OF 1

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TEST DATA SUMMARY

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range	8.0 TO 12.0 GHz	**8.0 TO 12.0 GHz**	
2	Insertion Loss	1.8 dB Typ	**1.13dB (See Plot)**	
3	VSWR	1.8:1 Typ	**1.30:1 (See Plot)**	
4	Isolation	70 dB Min	**82.44dB (See Plot)**	
5	Switching Speed	50 ns Max	**48.6 ns Max**	
6	Input Power	+30dBm Max (Survival) +20dBm Max (Operating)	**Pass**	
7	DC Supply	+5VDC @ 20 mA Typ -15VDC @ 20 mA Typ	**10 mA** **5 mA**	
8	Control Signal	TTL "0" ➔ (Insertion Loss) TTL "1" ➔ (Isolation)	**Pass**	

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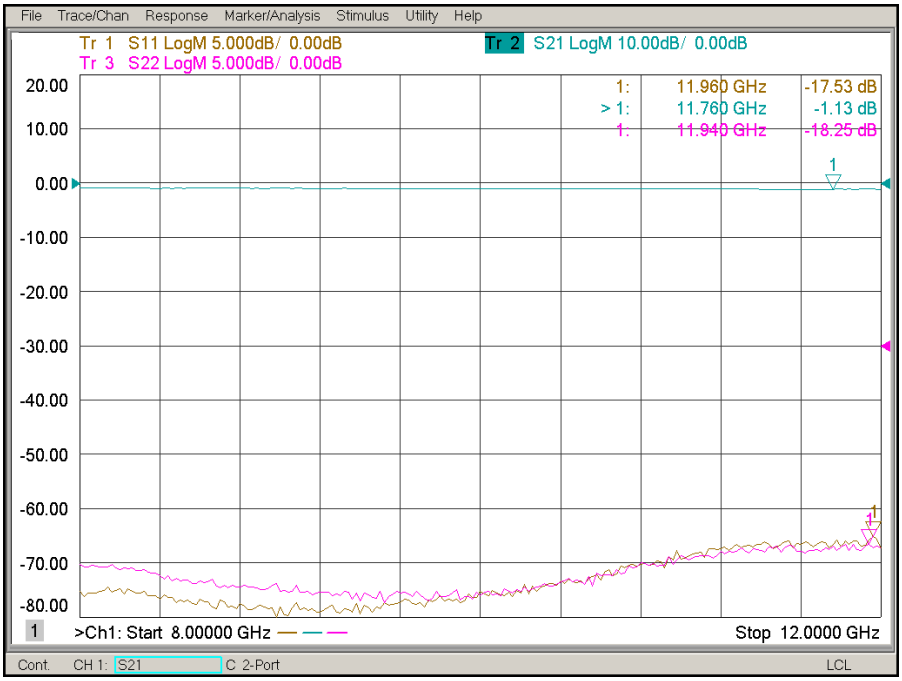
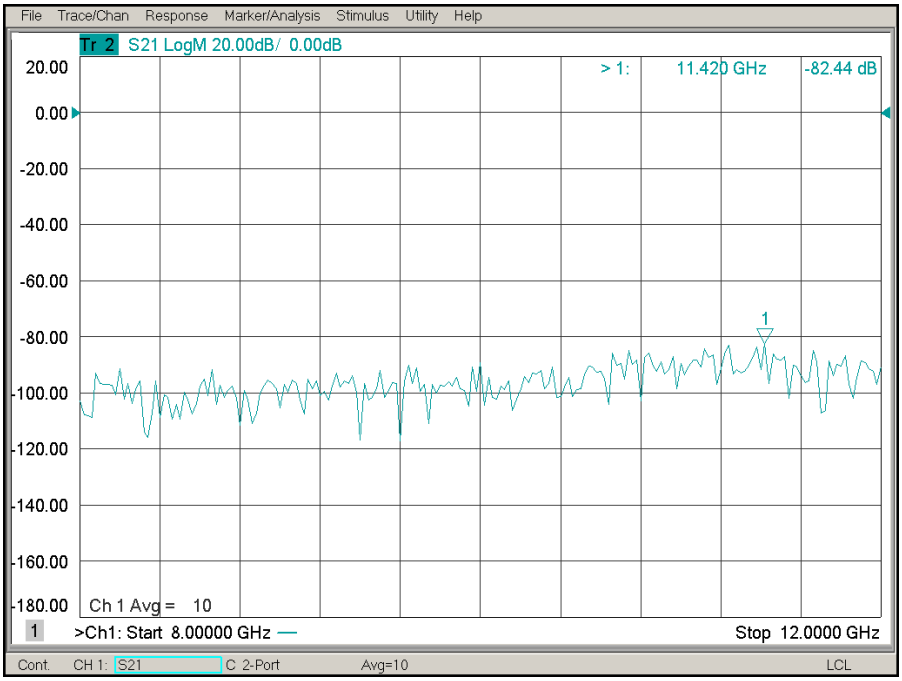
(J1 – J2) Insertion Loss and Return Loss



(J1 – J2) Isolation and Return Loss



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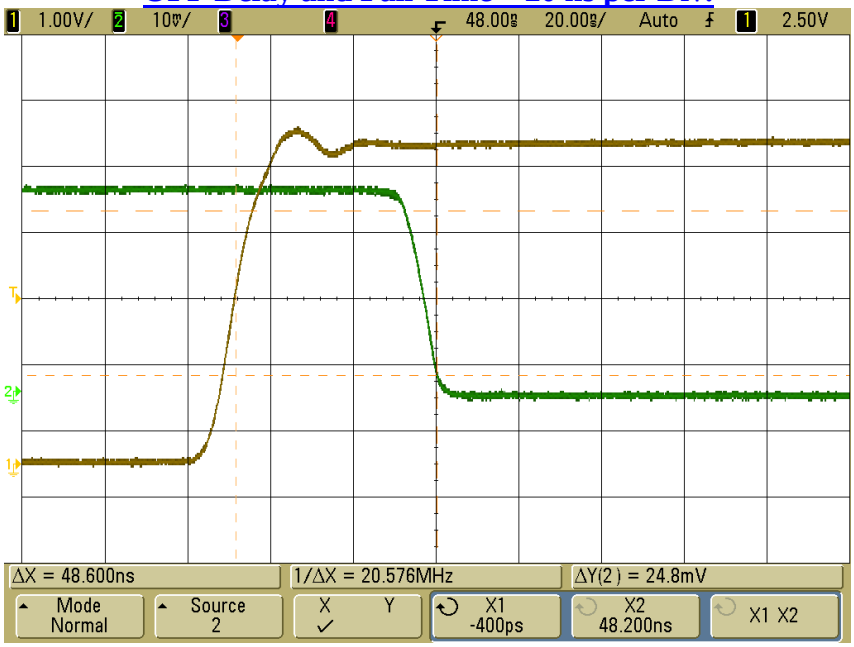
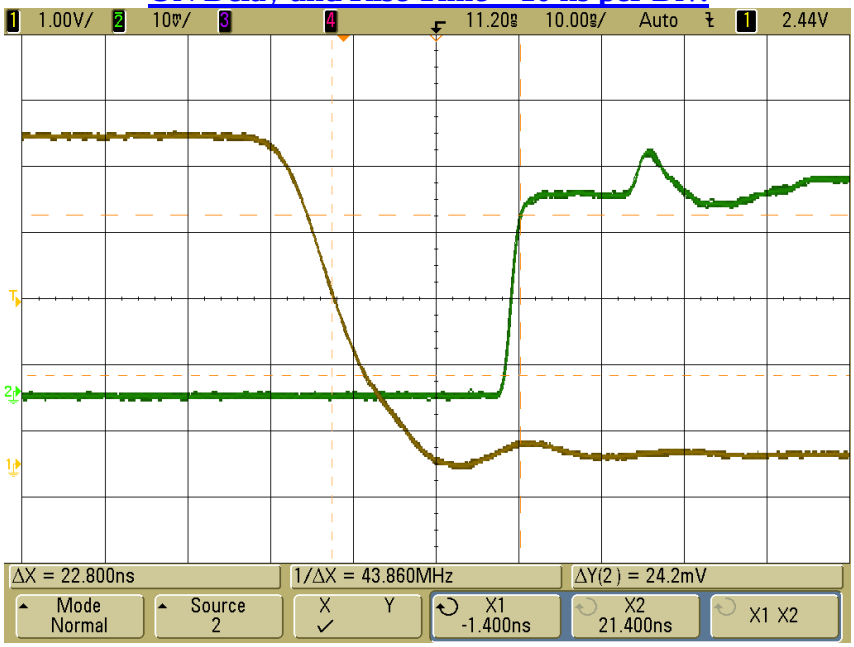
Switching Speed TYP.

OFF Delay and Fall Time – 20 ns per Div.



ON Delay and Rise Time – 10 ns per Div.



GREEN TRACE : RF

YELLOW TRACE: TTL

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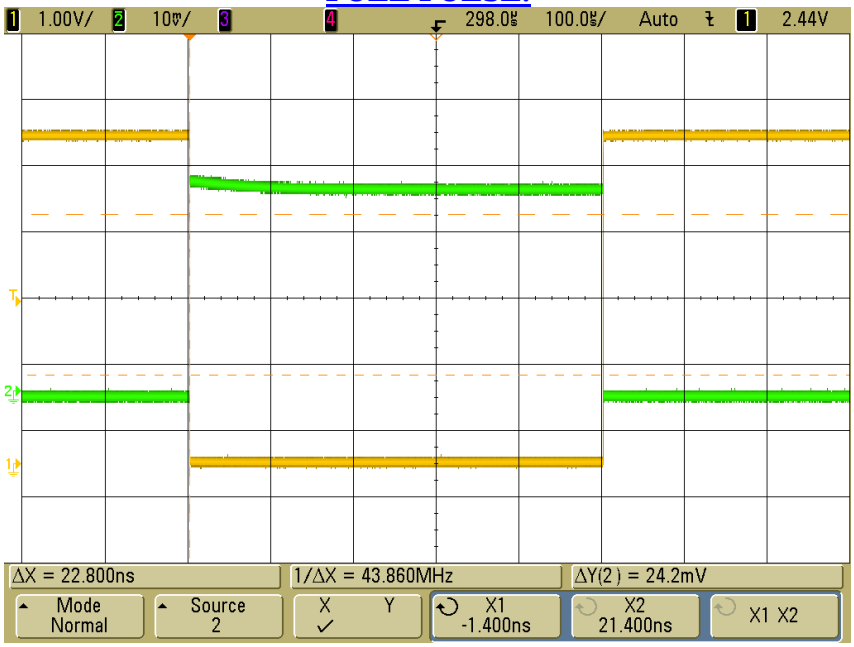
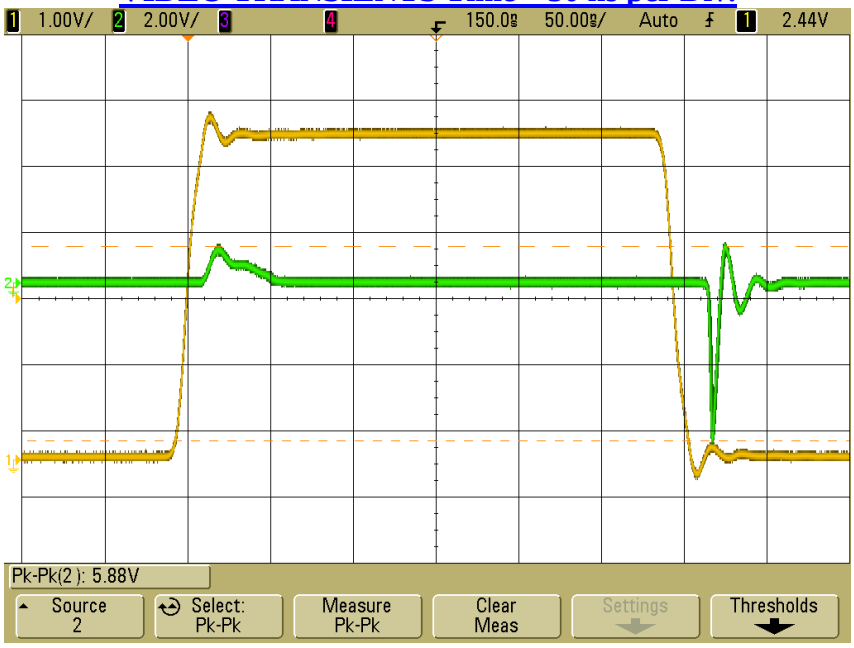
FULL PULSE.



VIDEO TRANSIENTS Time – 50 ns per Div.



GREEN TRACE : RF
YELLOW TRACE: TTL

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