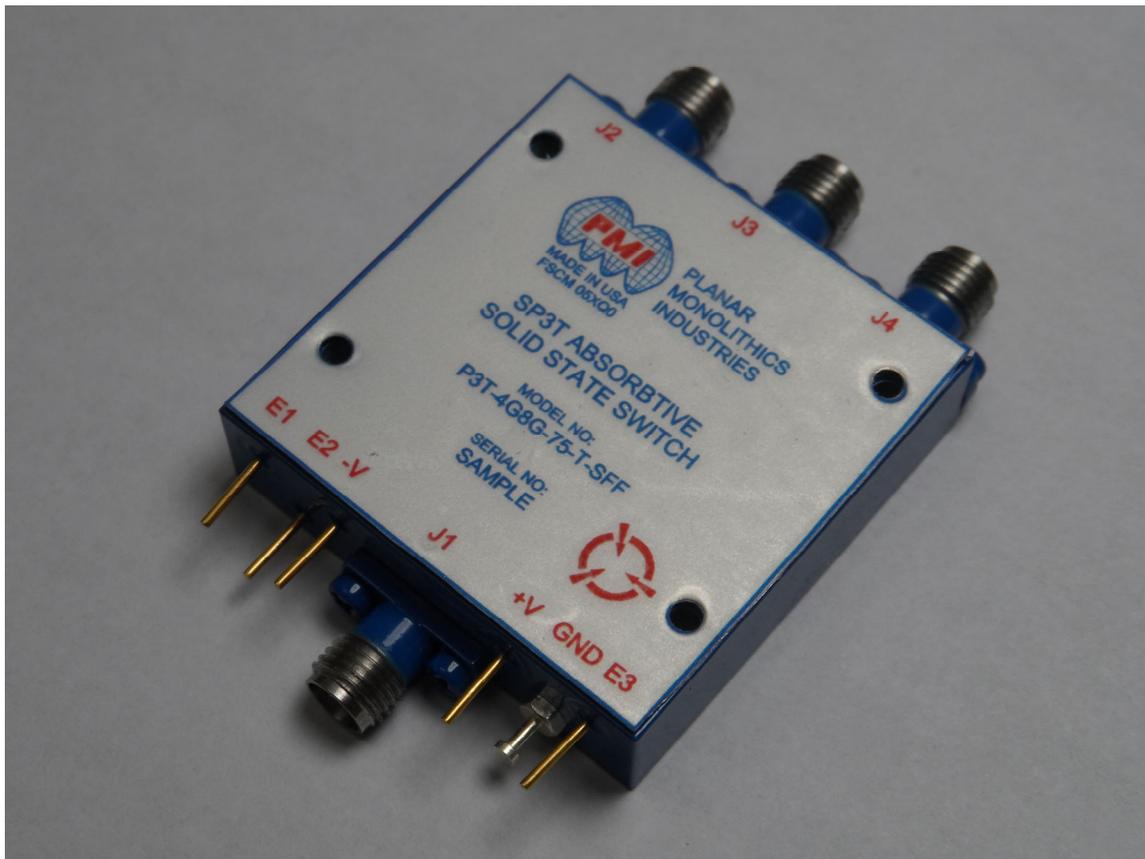




**TYPICAL CHARACTERISTICS  
ON  
P3T-4G8G-75-T-SFF**

**PMI MODEL P3T-4G8G-75-T-SFF IS AN ABSORPTIVE, HIGH SPEED SINGLE POLE, THREE THROW SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 4.0 GHz TO 8.0 GHz. THIS SWITCH HAS > 75 dB ISOLATION.**



**January, 20, 2016**

**DESIGNED BY: PMI ENGINEERING**

**TESTED & REPORTED BY: Eric Kretz**



**TYPICAL CHARACTERISTICS  
ON  
P3T-4G8G-75-T-SFF**

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## TYPICAL CHARACTERISTICS ON P3T-4G8G-75-T-SFF

# OUTLINE DRAWING

### DESCRIPTION

PMI MODEL P3T-4G8G-75-T-SFF IS AN ABSORPTIVE, HIGH SPEED, SINGLE POLE THREE THROW SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 4.0 GHz TO 8.0 GHz. THIS SWITCH HAS 75 dB ISOLATION.

### SPECIFICATIONS

- FREQUENCY RANGE: 4.0 GHz TO 8.0 GHz
- IMPEDANCE: 50 Ω
- INPUT POWER: +30dBm MAX (SURVIVAL)  
+20dBm MAX (OPERATING)
- VSWR: 1.6:1 TYP.
- INSERTION LOSS: 2.5dB MAX
- ISOLATION: 75dB TYP.
- SWITCHING SPEED: 100ns MAX
- DC VOLTAGE: +5VDC, 150mA TYP.  
-15VDC, 100mA TYP.
- CONTROL: SOLDER PIN  
TTL COMPATIBLE - SEE LOGIC TABLE
- CONNECTORS IN/OUT: SMA (F)
- SIZE: (L) 1.5" X (W) 1.5" X (H) 0.4"
- 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 |    |    |                  |
|-------------|----|----|------------------|
| E1          | E2 | E3 | FUNCTION         |
| 0           | 1  | 1  | J1-J2 "LOW LOSS" |
| 1           | 0  | 1  | J1-J3 "LOW LOSS" |
| 1           | 1  | 0  | J1-J4 "LOW LOSS" |

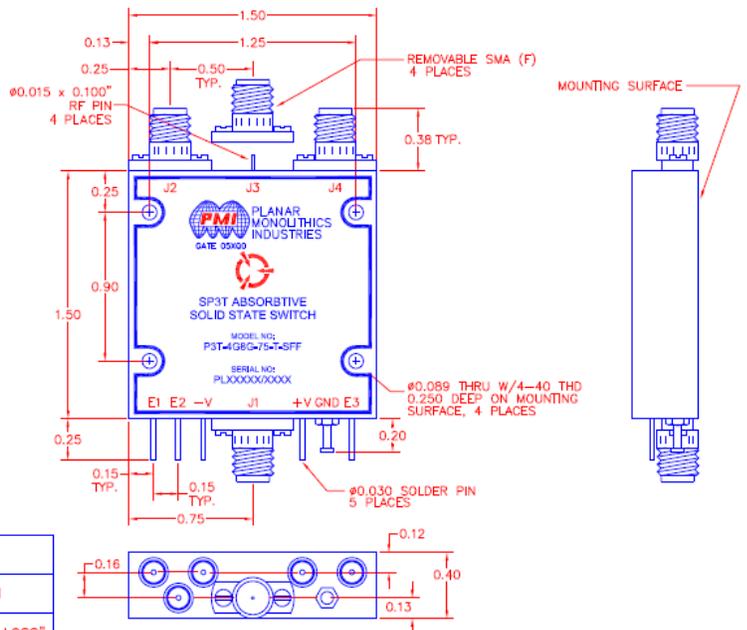
### ENVIRONMENTAL RATINGS

- 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

| REVISIONS |     |                  |          |          |
|-----------|-----|------------------|----------|----------|
| ZONE      | REV | DESCRIPTION      | DATE     | APPROVED |
|           | 1   | ORIGINAL RELEASE | 11/18/15 |          |
|           | A1  | ECN # 16-0098    | 8/18/16  |          |

### MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

### 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



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

| APPROVALS          |  | DATE     | TITLE                                |          |              |
|--------------------|--|----------|--------------------------------------|----------|--------------|
| DRAWN <i>Sol B</i> |  | 11/18/15 | PRODUCT FEATURE<br>P3T-4G8G-75-T-SFF |          |              |
| CHECKED            |  |          | SIZE                                 | FSCM NO. | DWG NO.      |
| ISSUED             |  |          | A                                    | 05XQ0    | 27026581     |
|                    |  |          | SCALE                                | N:S      | SHEET 1 OF 1 |
|                    |  |          |                                      |          | REV. A1      |



**TYPICAL CHARACTERISTICS  
ON  
P3T-4G8G-75-T-SFF**

**TEST DATA SUMMARY**

| TEST. ITEM NO | PARAMETERS      | SPECIFIED VALUE  | TEST RESULTS         | QA QC |
|---------------|-----------------|--|----------------------|-------|
| 1             | Frequency Range | 4.0 TO 8.0 GHz   | 4.0 TO 8.0 GHz       |       |
| 2             | Insertion Loss  | 2.5 dB Max   | 1.6 dB<br>(See Plot) |       |
| 3             | VSWR            | 1.6:1 Typ  | 1.4 :1<br>(See Plot) |       |
| 4             | Isolation       | 75 dB Typ  | 87 dB<br>(See Plot)  |       |
| 5             | Switching Speed | 100 ns Max   | 55 ns<br>(See Plot)  |       |
| 6             | Input Power     | +30dBm Max (Survival)<br>+20dBm Max (Operating)  | Pass By Design       |       |
| 7             | DC Supply       | +5VDC @ 150 mA Typ<br>-15VDC @ 100 mA Typ  | 76 mA<br>55 mA       |       |
| 8             | Control Signal  | LOGIC TABLE<br>E1 E2 E3 FUNCTION<br>0 1 1 J1-J2 "LOW LOSS"<br>1 0 1 J1-J3 "LOW LOSS"<br>1 1 0 J1-J4 "LOW LOSS" | Pass                 |       |

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

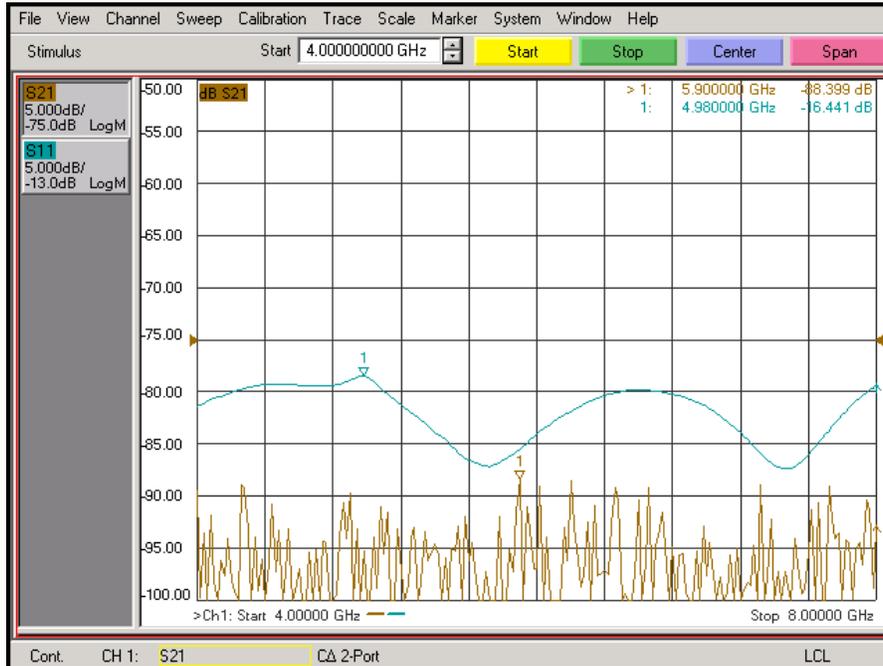


# TYPICAL CHARACTERISTICS ON P3T-4G8G-75-T-SFF

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



## (J1 – J2) Isolation and Return Loss



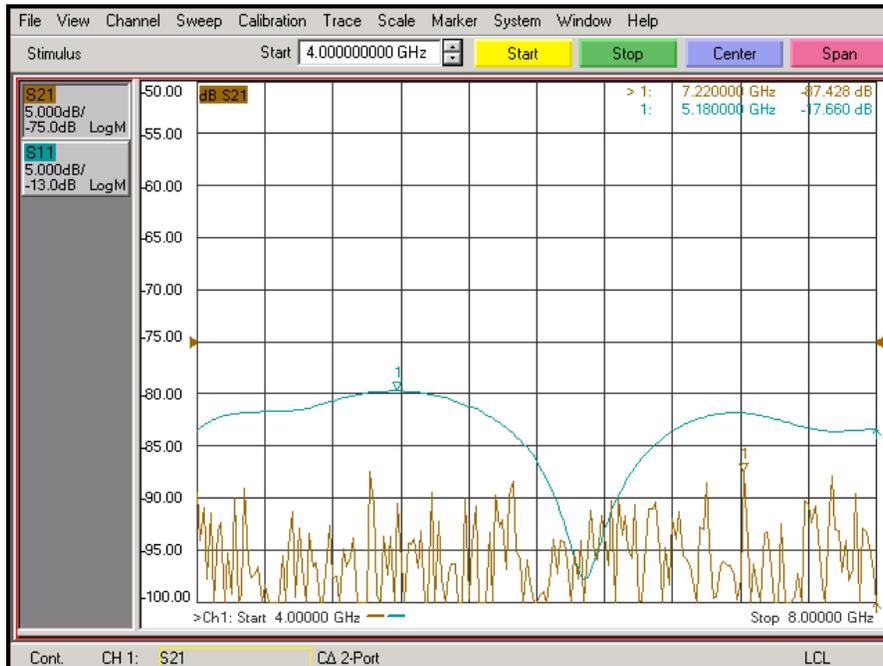


## TYPICAL CHARACTERISTICS ON P3T-4G8G-75-T-SFF

### (J1 – J3) Insertion Loss and Return Loss



### (J1 – J3) Isolation and Return Loss



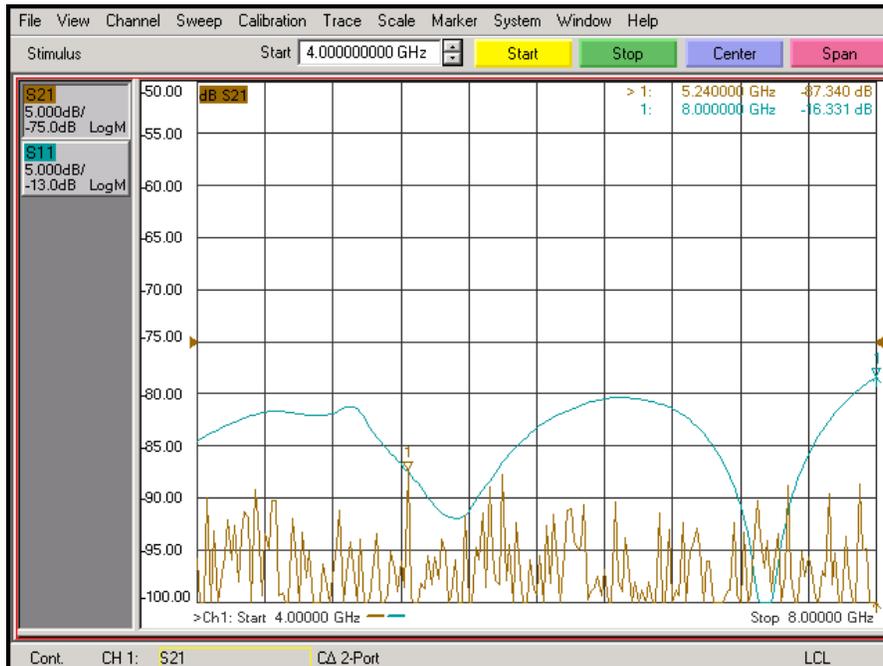


## TYPICAL CHARACTERISTICS ON P3T-4G8G-75-T-SFF

### (J1 – J4) Insertion Loss and Return Loss



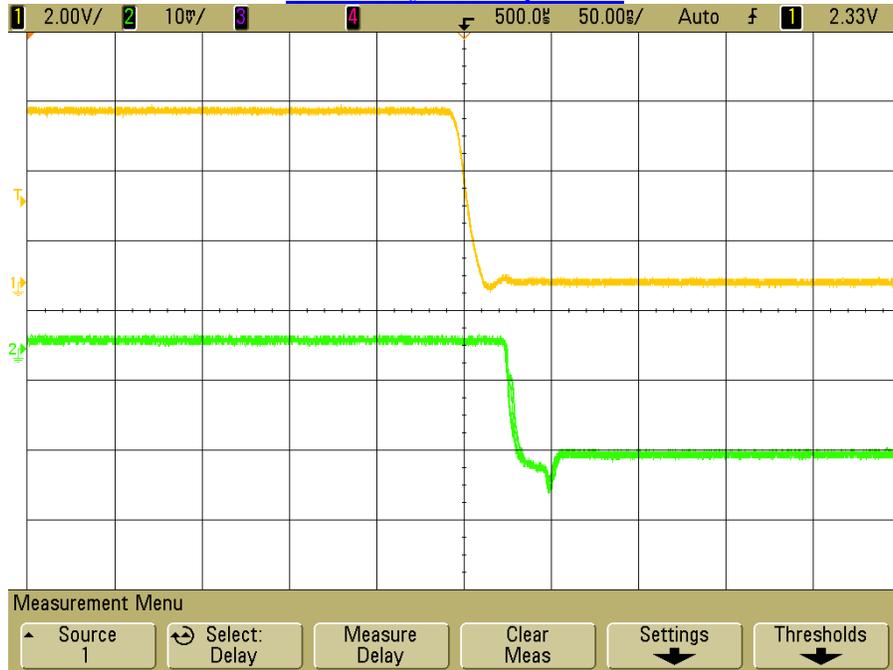
### (J1 – J4) Isolation and Return Loss



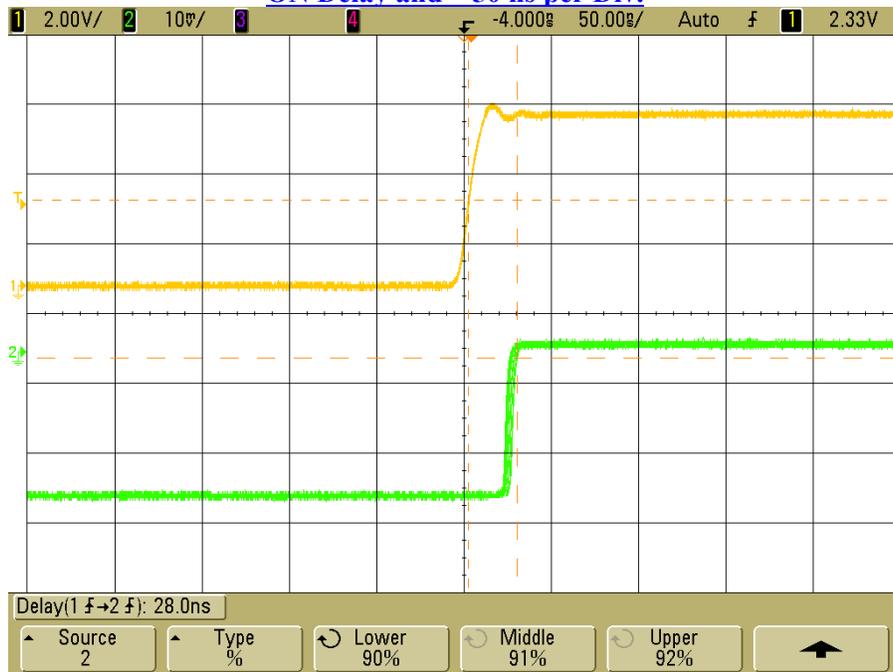


**TYPICAL CHARACTERISTICS  
ON  
P3T-4G8G-75-T-SFF**

**Switching Speed TYP.  
OFF Delay – 50 ns per Div.**



**ON Delay and – 50 ns per Div.**



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