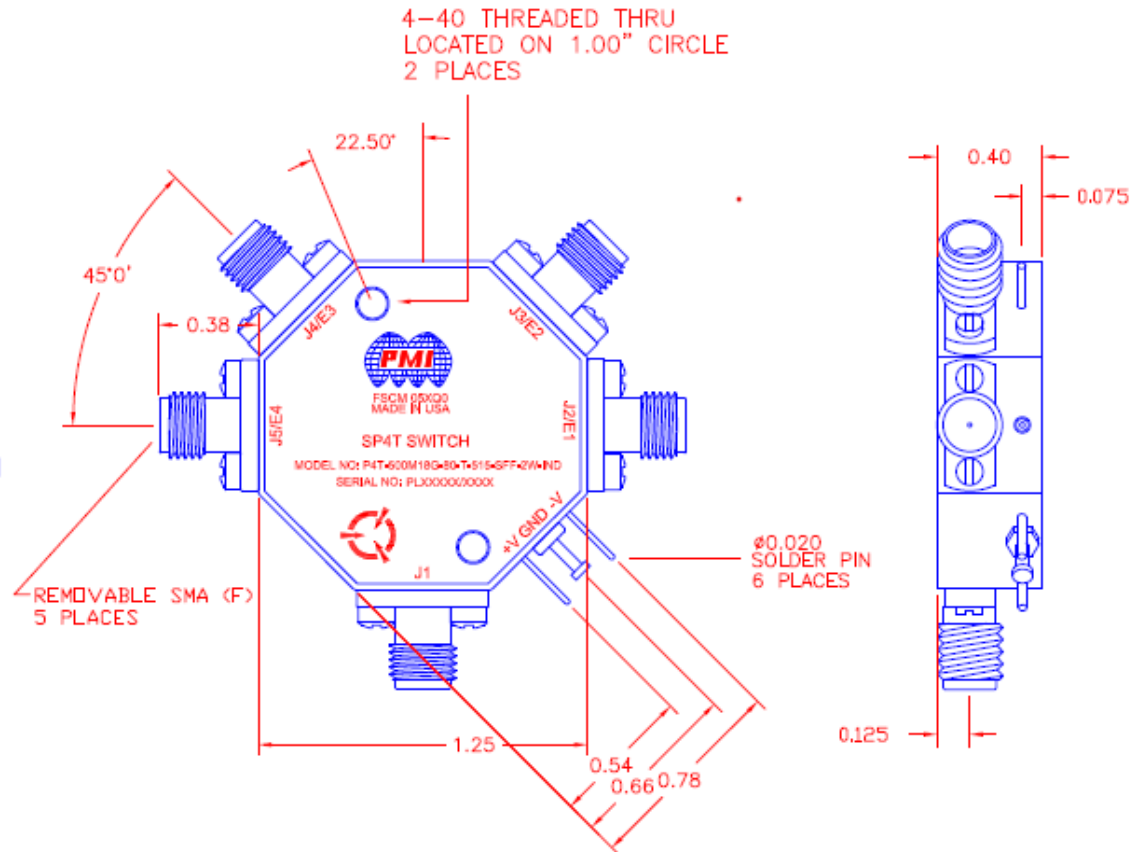




Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

PMI MODEL: P4T-500M18G-80-T-515-SFF-2W-IND IS A SINGLE POLE FOUR THROW ABSORPTIVE SWITCH WHICH HANDLES 2 WATTS INPUT POWER OPERATING FROM 500MHZ TO 18GHZ AND HAS A MAXIMUM SWITCHING SPEED OF 200NSEC.



April 1, 2024

Designed By: PMI Engineering
Tested and Reported By: Kevin Mansfield



Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

Product Feature

DESCRIPTION

PMI MODEL: P4T-500M18G-80-T-515-SFF-2W-IND IS A SINGLE POLE FOUR THROW ABSORPTIVE SWITCH. THIS MODEL HAS THE FOLLOWING SPECIFICATIONS.

SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 18.0 GHz
- INSERTION LOSS: 4.5dB TYP., 6.0dB MAX
- ISOLATION: 80dB MIN
- VSWR (ON/OFF): 2.0:1 MAX
- SWITCHING SPEED: 200ns MAX
- CONTROL LOGIC: INDIVIDUAL TTL CONTROL
"0" = LOW LOSS & "1" = ISOLATION
- OPERATING POWER: +33dBm CW MAX
- DC SUPPLY: +5 & -15VDC
- CONNECTORS IN/OUT: SMA (F) REMOVABLE
- CONTROL CONNECTORS: SOLDER PINS
- FINISH: EPOXY PAINTED BLUE

ENVIRONMENTAL RATINGS

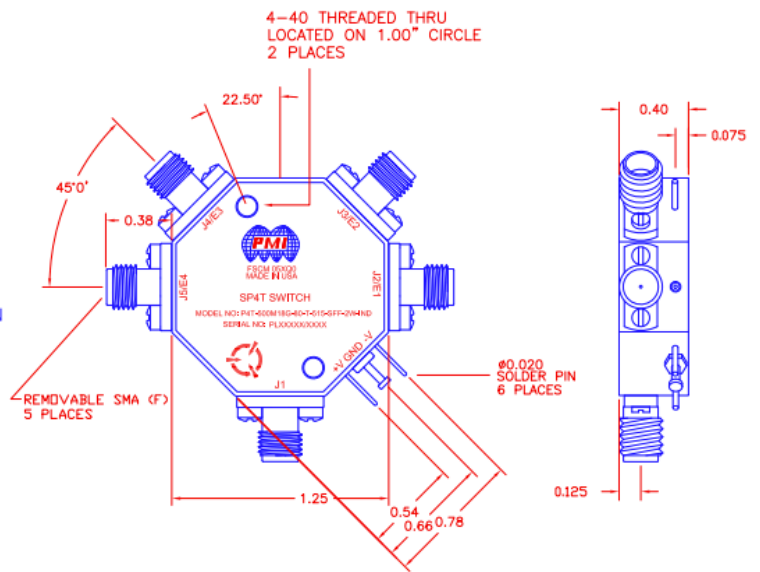
- TEMPERATURE: -40°C TO + 85°C (OPERATING)
-55°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202G, METHOD 103B COND. B
- SHOCK: MIL-STD-202G, METHOD 213B COND. B
- VIBRATION: MIL-STD-202G, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202G, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202G, METHOD 107G COND. 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.XXX ±0.020
X.XXX ±0.010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	12/23/14	
A1		ECN # 15-0027	03/09/15	

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
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN K. MASON		12/23/14	PRODUCT FEATURE		
CHECKED			P4T-500M18G-80-T-515-SFF-2W-IND		
ISSUED			SIZE A	FIGM NO. 05XQ0	DWG NO. 27024562
			SCALE N:S		REV. A1
					SHEET 1 OF 1



Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 to 18 GHz	0.5 to 18 GHz See Plots	
2	Insertion Loss:	4.5dB Typ, 6.0dB Max	4.9 dB See Plots	
3	Isolation:	80dB Min	83.8 dB See Plots	
4	VSWR:	2.0:1 Max	1.9:1 See Plots	
5	Switching Speed:	200ns Max	174ns See Plots	
6	Operating Power:	+33 dBm CW	Pass	
8	Control:	Individual TTL Control "0" = Low Loss & "1" = Isolation	Pass	
9	Power Supply:	+5V -15V	144 mA 116 mA	



Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

(J1 – J2) Insertion Loss and Return Loss



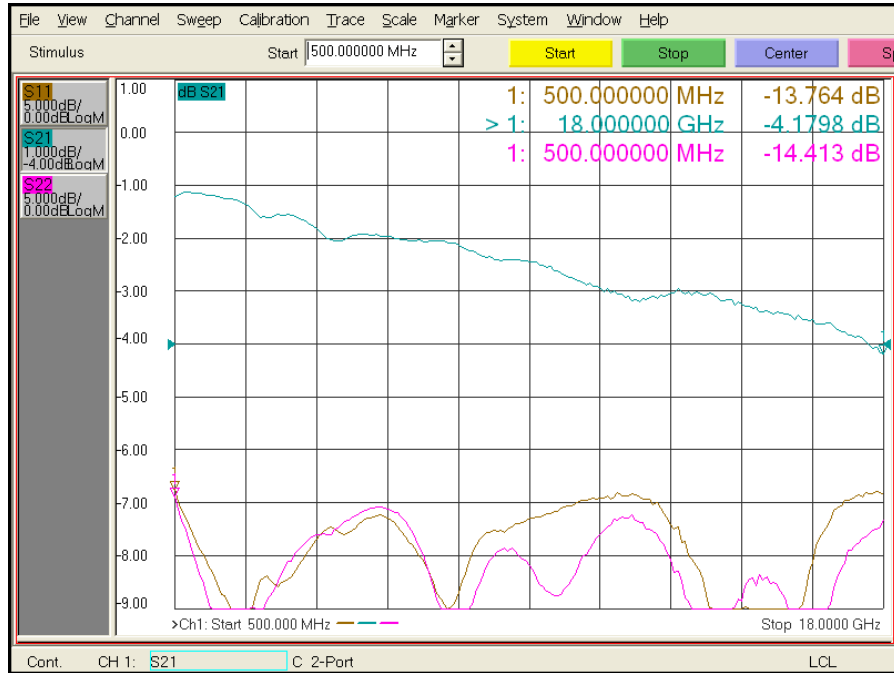
(J1 – J3) Insertion Loss and Return Loss



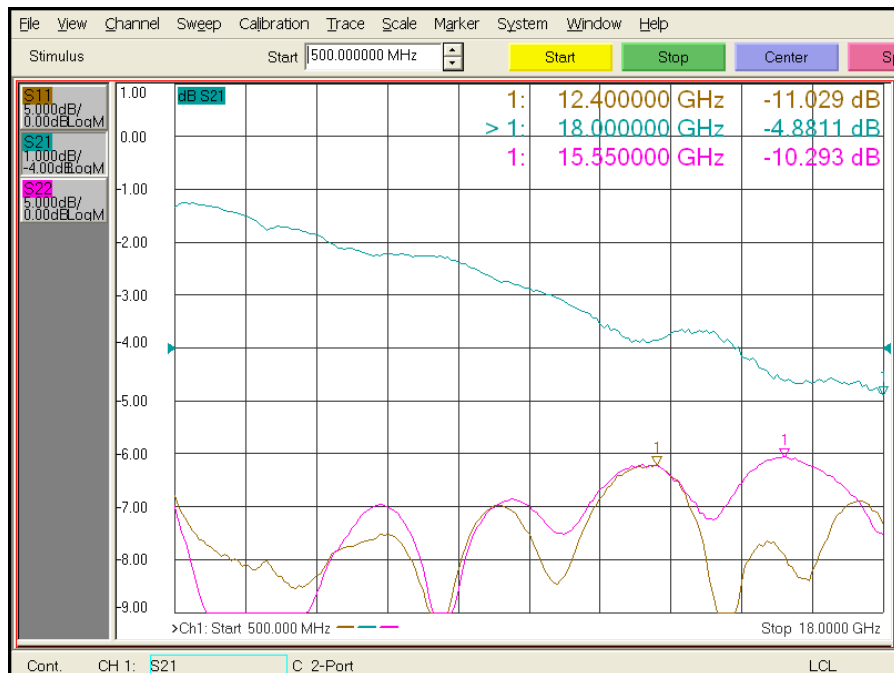


Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

(J1 – J4) Insertion Loss and Return Loss



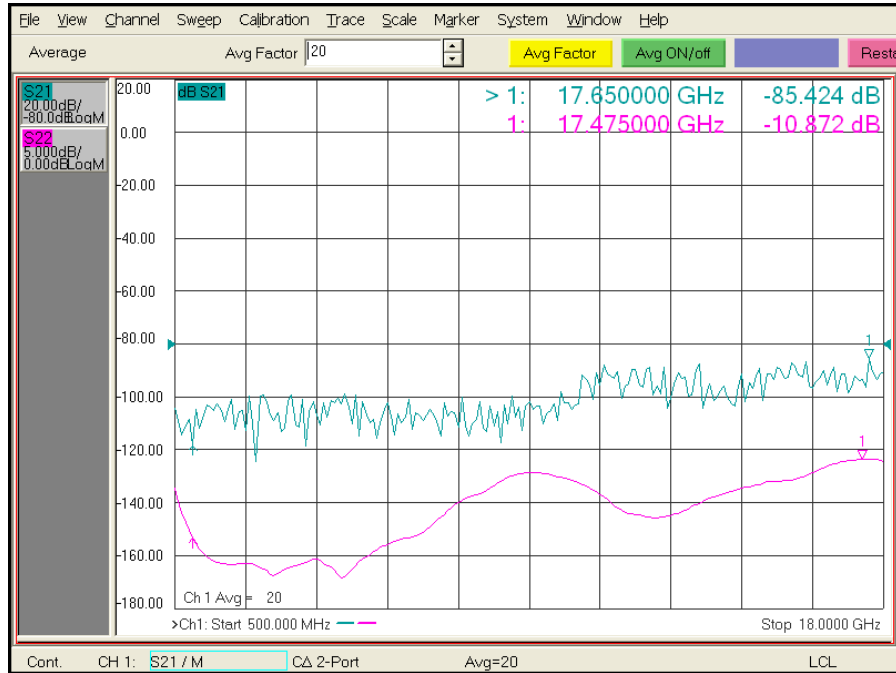
(J1 – J5) Insertion Loss and Return Loss



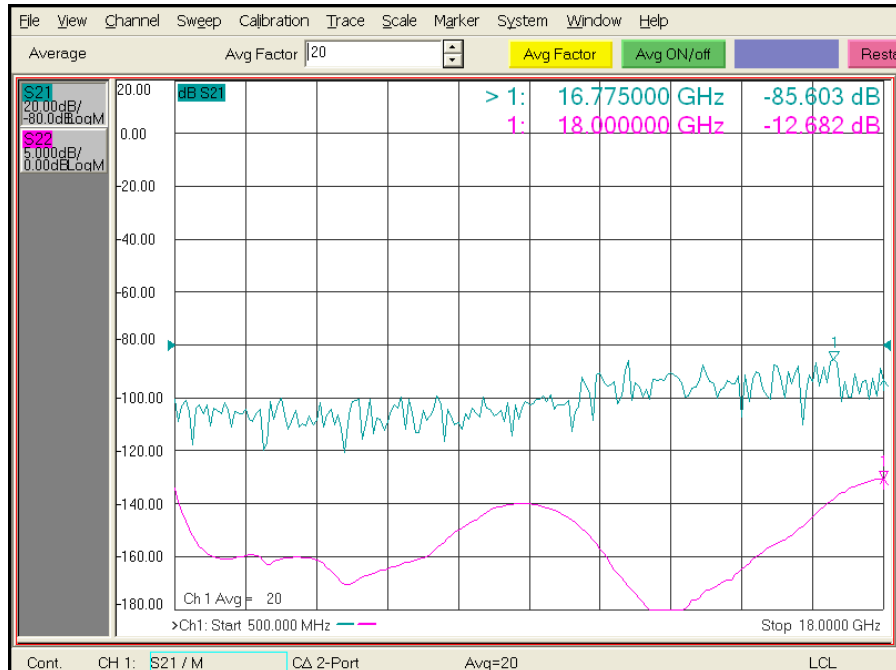


Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

(J1 – J2) Isolation and Termination Return Loss



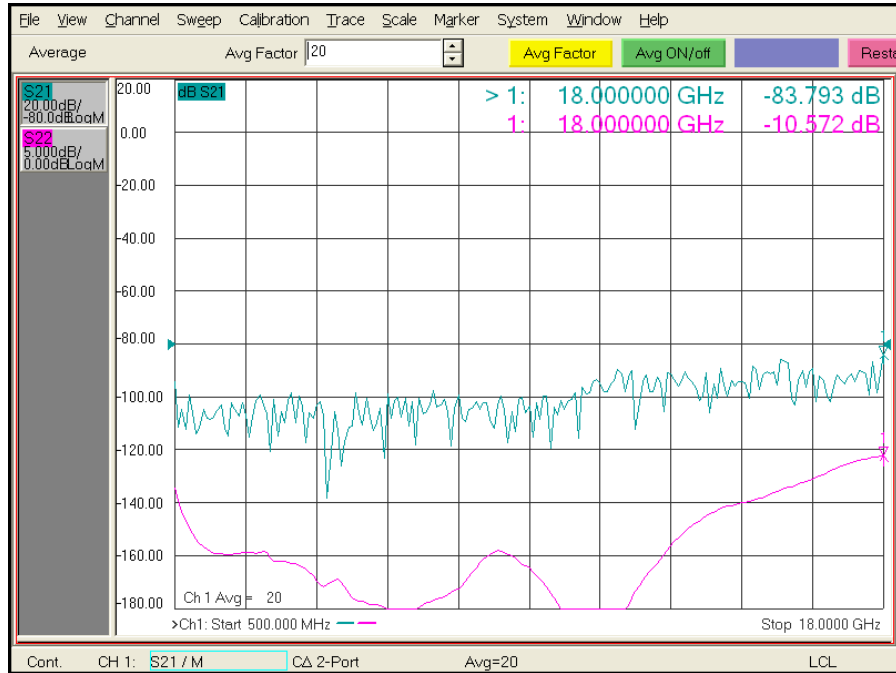
(J1 – J3) Isolation and Termination Return Loss



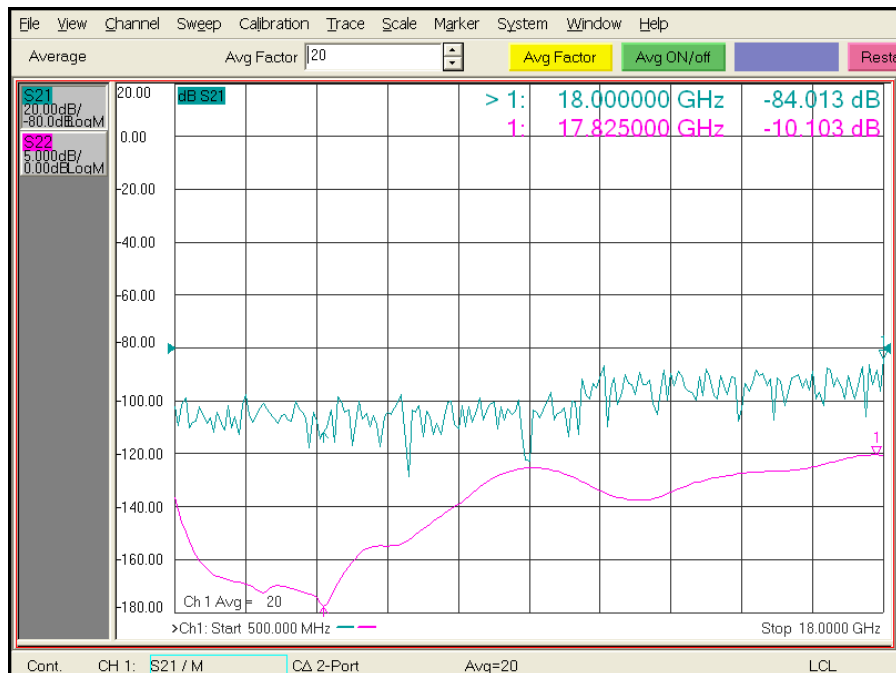


Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

(J1 – J4) Isolation and Termination Return Loss



(J1 – J5) Isolation and Termination Return Loss

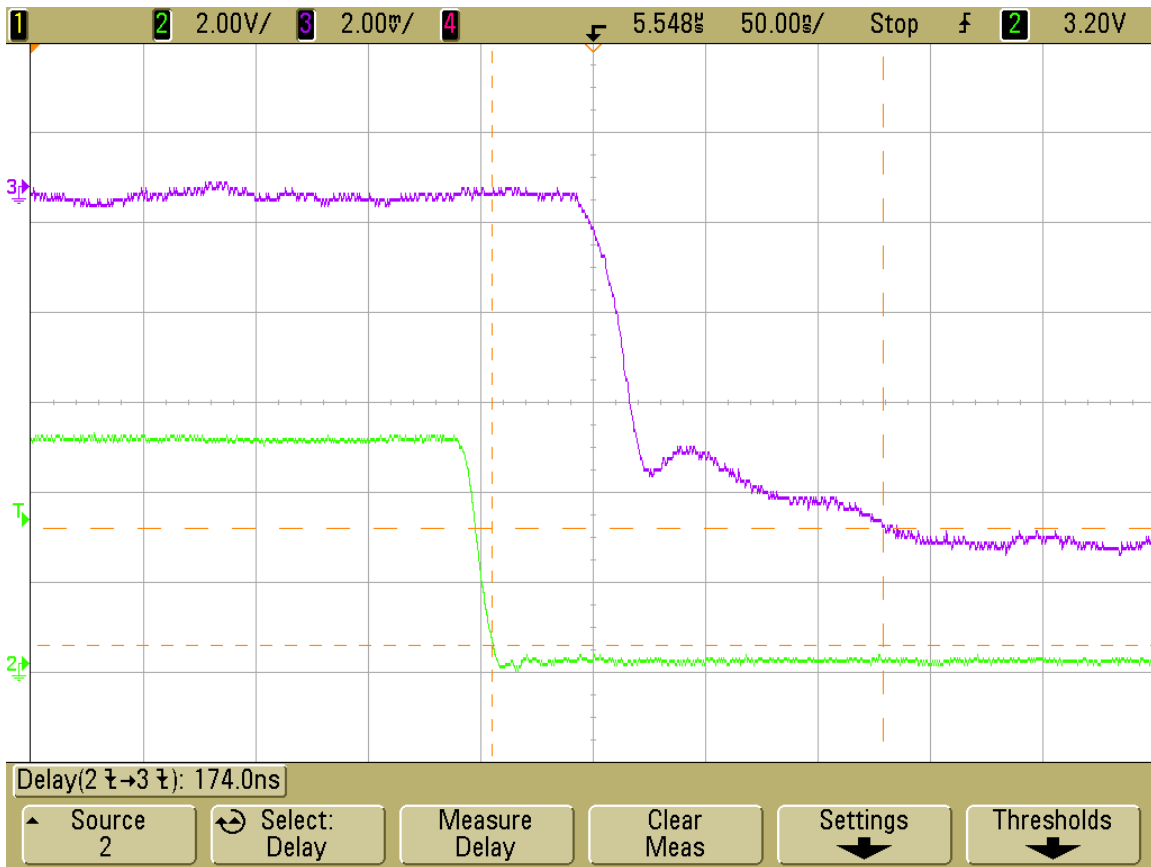




Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Switching Speed

On Delay



Channel 3 (Violet Trace): RF Output (Negative Output – Crystal Detector)

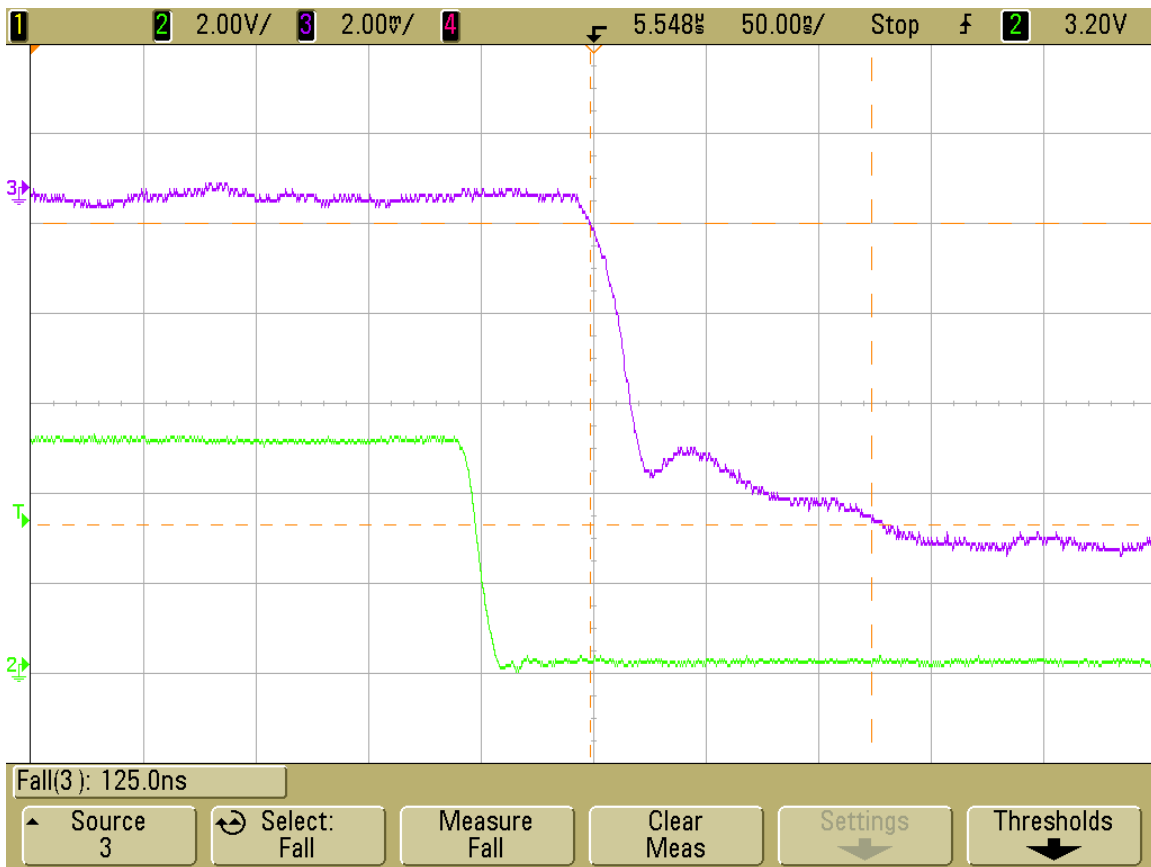
Channel 2 (Green Trace): TTL Input



Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Switching Speed

Rise Time



Channel 3 (Violet Trace): RF Output (Negative Output – Crystal Detector)

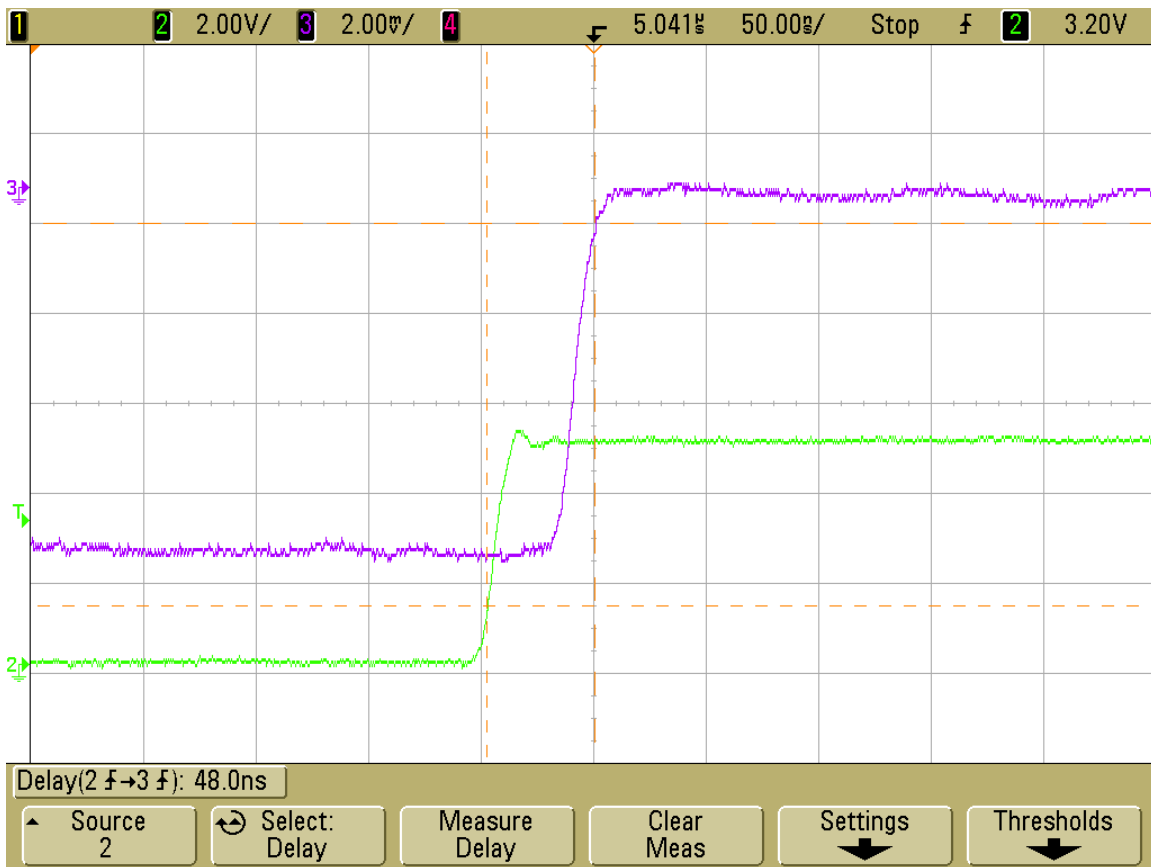
Channel 2 (Green Trace): TTL Input



Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Switching Speed

Off Delay



Channel 3 (Violet Trace): RF Output (Negative Output – Crystal Detector)

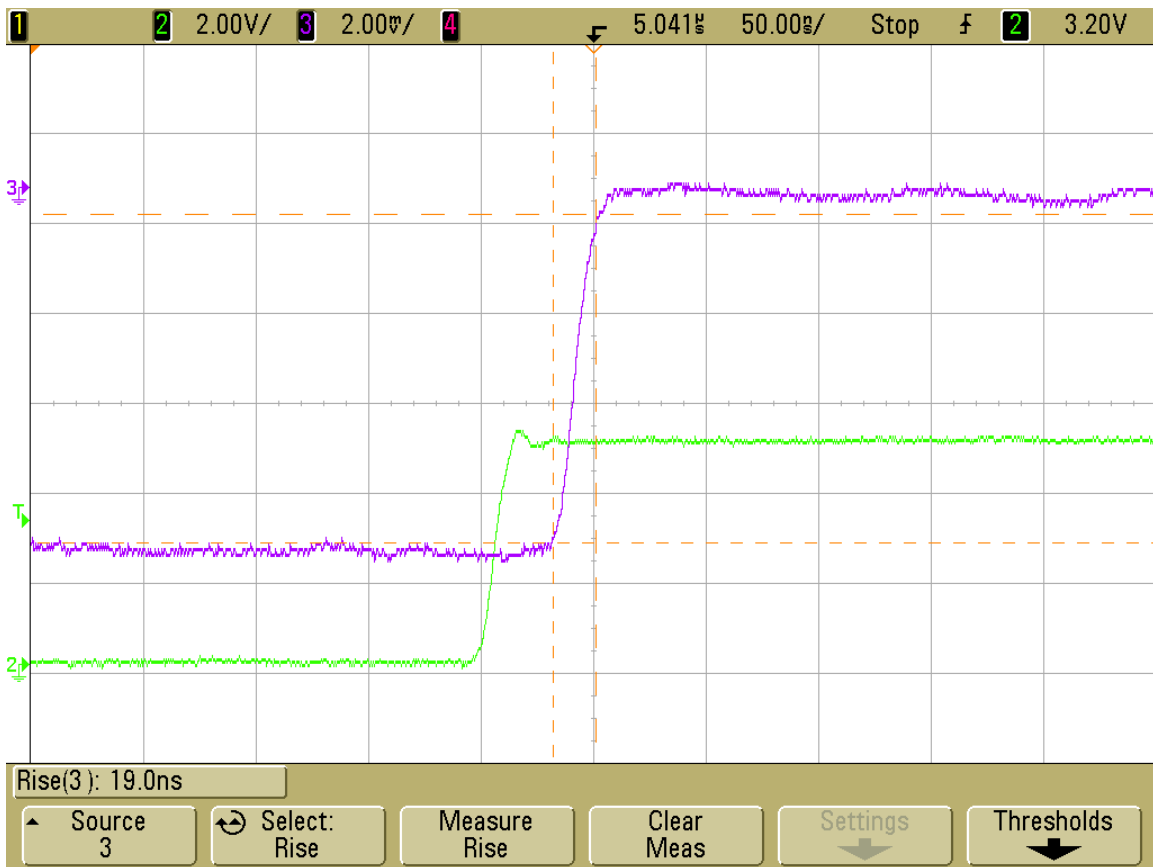
Channel 2 (Green Trace): TTL Input



Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Switching Speed

Fall Time



Channel 3 (Violet Trace): RF Output (Negative Output – Crystal Detector)

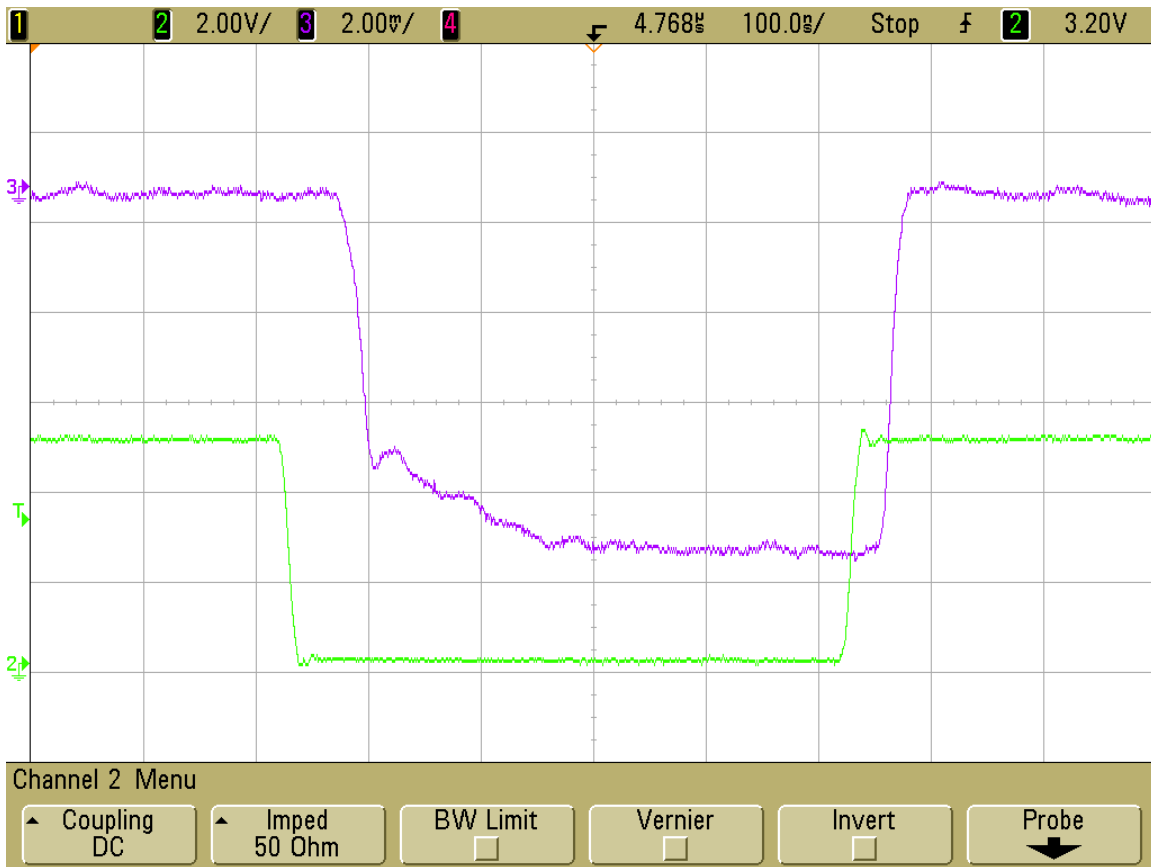
Channel 2 (Green Trace): TTL Input



Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Switching Speed

Full Pulse



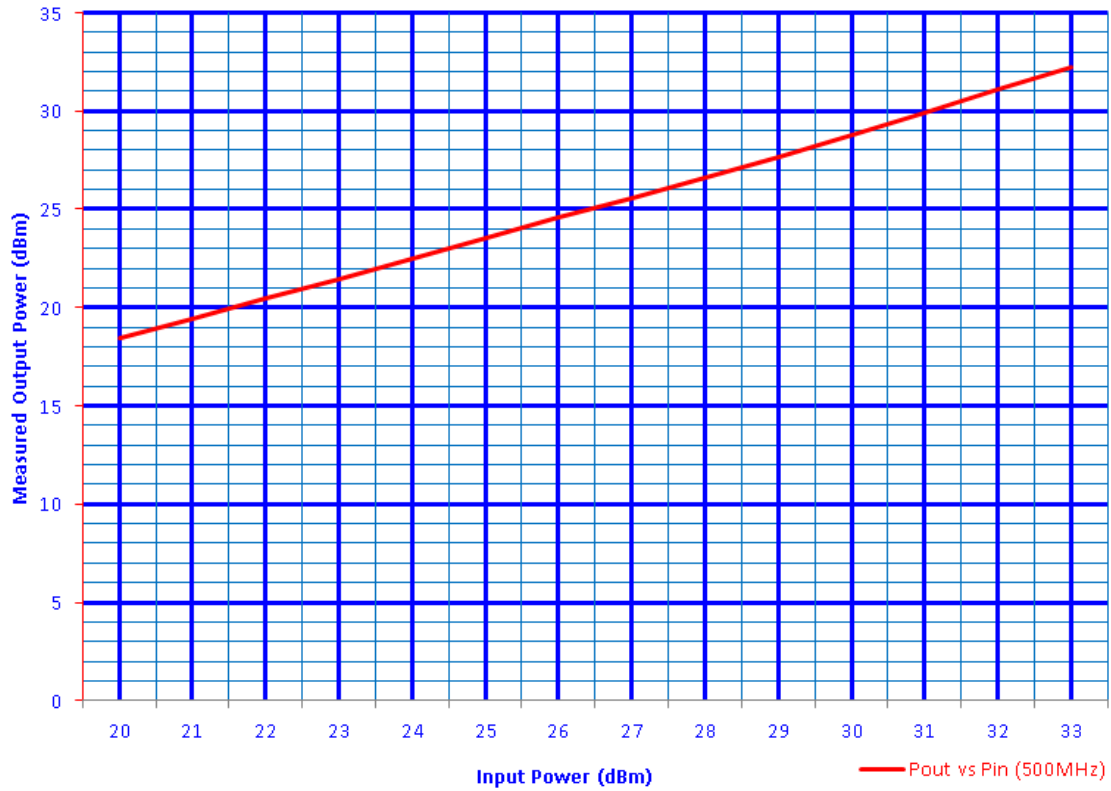
Channel 3 (Violet Trace): RF Output (Negative Output – Crystal Detector)

Channel 2 (Green Trace): TTL Input



Typical Characteristics on P4T-500M18G-80-T-515-SFF-2W-IND

Output Power vs. Input Power





Typical Characteristics
on
P4T-500M18G-80-T-515-SFF-2W-IND

Input Power to Switch (dBm)	Input Power to Switch (W)	Output Power of Switch (dBm)	Output Power of Switch (W)
20	0.100	18.43	0.070
21	0.126	19.43	0.088
22	0.158	20.47	0.111
23	0.200	21.45	0.140
24	0.251	22.5	0.178
25	0.316	23.54	0.226
26	0.398	24.58	0.287
27	0.501	25.59	0.362
28	0.631	26.64	0.461
29	0.794	27.69	0.587
30	1.000	28.76	0.752
31	1.259	29.92	0.982
32	1.585	31.09	1.285
33	1.995	32.24	1.675