



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

PMI MODEL P2T-8G18G-40-R-TFF-120W IS A REFLECTIVE
120 WATT HIGH-POWER COLD SWITCHING SINGLE POLE DOUBLE THROW SWITCH
OPERATING IN THE 8-18 GHz FREQUENCY RANGE.



Revised on November 11, 2017
Designed by: Dr. Ashok Gorwara & N. Shanmugam & S. Palacio &
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Table of Contents

1. Product Feature Drawing	Page 3
2. Summary Data	Page 4
3. Insertion Loss and Return Loss	Page 5
4. Isolation	Page 6
5. Switching Speed	Page 7-8
6. High Power Test.	Page 9-12



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

Product Feature Drawing

DESCRIPTION

PMI MODEL P2T-8G18G-40-R-TFF-120W IS A REFLECTIVE 120 WATT HIGH-POWER COLD SWITCHING SINGLE POLE DOUBLE THROW SWITCH OPERATING IN THE 8-18 GHz FREQUENCY RANGE.

SPECIFICATIONS

- FREQUENCY RANGE: 8-18 GHz
- POWER: 120W (CW)
- INSERTION LOSS: 2.2dB MAX. AT BAND EDGES FOR 20% BANDWIDTH AND TYPICALLY 1.75 dB GOAL. FOR MID-BAND OF 80% OF THE BANDWIDTH 2.0 dB MAX., AND TYPICALLY 1.5dB GOAL.
- ISOLATION: 40dB
- SWITCHING SPEED: 200 ns MAX. (50% TTL TO 90% RF & 50% TTL TO 10% RF).
- VSWR IN/OUT: 2:1 MAX.
- LOAD VSWR: BETTER THAN 1.5:1
- DC VOLTAGE & CURRENT: +5V @ 300mA AND -70V @ 60mA
- CONTROL: SINGLE TTL (TTL "0" J1-J3 " LOW LOSS)
- CONNECTOR FOR RF PORT: TNC FEMALE
- CONNECTOR FOR CONTROL: 9 PIN MICRO D TYPE FEMALE, MATING WITH M83513/03A/03C (SEE CONNECTION TABLE BELOW)
- SIZE (NOT INCL. CONNECTORS: (L) 2.00" X (W) 2.00" X (H) 0.75"
- FINISH: PAINTED BLUE -- NO PAINT ON MOUNTING SURFACE
- J4 CONNECTIONS

J4 PIN	CONNECT TO
1	U1 -70V
2	GROUND
3	U1 CONTROL
4	U1 +5V
5	U1 NC
6	U1 GROUND
7	U1 GROUND
8	U1 GROUND
9	U1 GROUND

ENVIRONMENTAL RATINGS

- TEMPERATURE: -40°C TO +85°C
- ENVIRONMENTAL: MIL-STD-810E
- EMI/EMC: MIL-STD-461

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	06/27/10	

MECHANICAL OUTLINE

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

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ISO 9001 CERTIFIED

APPROVALS		DATE	TITLE	
DRAWN	<i>B. Thomas</i>	05/27/10	PRODUCT FEATURE	
CHECKED			P2T-8G18G-40-R-TFF-120W	
ISSUED			SIZE	FROM NO.
			A	05XQ0
			DWG NO.	27029671
			REV.	1
			SCALE	N: S
			SHEET	1 OF 1

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
XXX ±0.020
XXX ±0.010



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

Summary Data Sheet

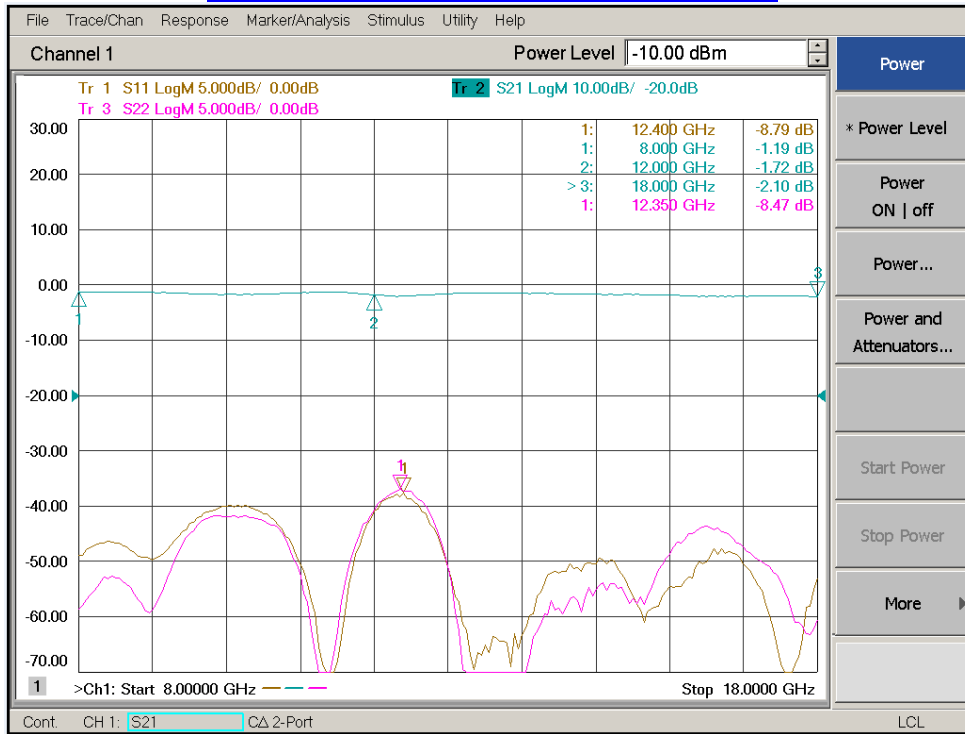
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8.0 to 18.0 GHz	8.0 to 18 GHz	
2	Power:	120W (CW)	125.89 W See Graph	
3	Insertion Loss:	2.2dB Max. at band edges for 20% bandwidth and typically 1.75 dB goal. For mid-band of 80% of the bandwidth 2.0dB Max., and typically 1.5 dB goal	2.17dB See Plot	
4	Isolation:	40dB	39.44 dB See Plot	
5	Switching Speed:	200 ns Max. (50% TTL to 90% RF and 50% TTL to 10% RF)	1.1 us See Plots	
6	VSWR in/out:	2:1 Max.	Input 2.20:1 Output 2.26:1 See Plots	
7	Load VSWR:	Better than 1.5:1	1.5:1 Typical	
8	Power Supply:	+5V @ 300mA -70V @ 60mA	300 mA 0 mA	

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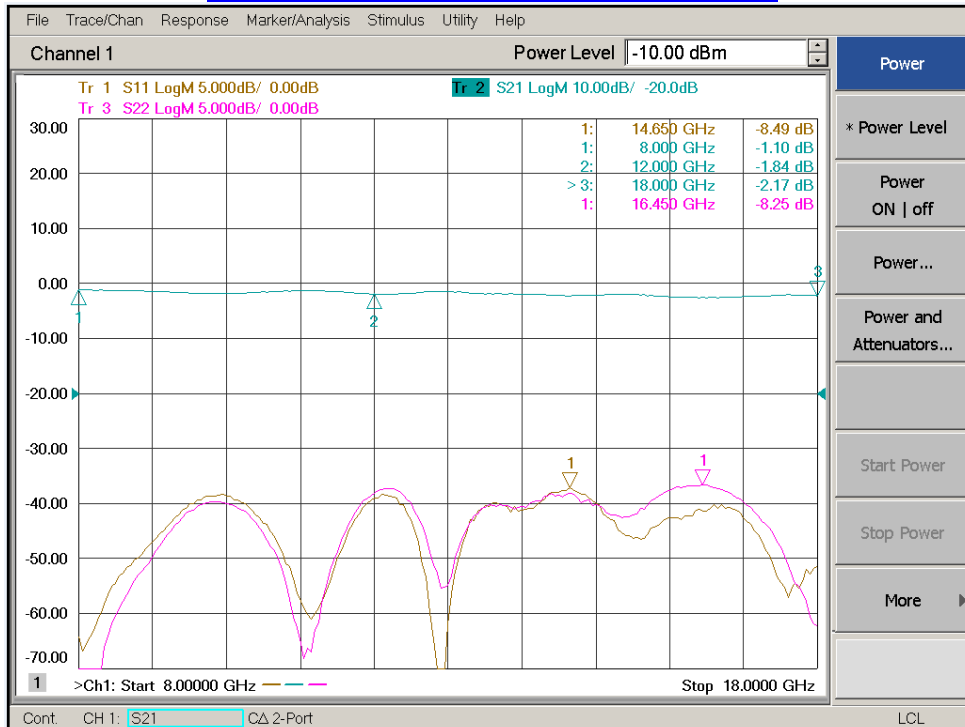


Typical Characteristics For P2T-8G18G-40-R-TFF-120W

J1-J2 Insertion Loss and Return Loss



J1-J3 Insertion Loss and Return Loss

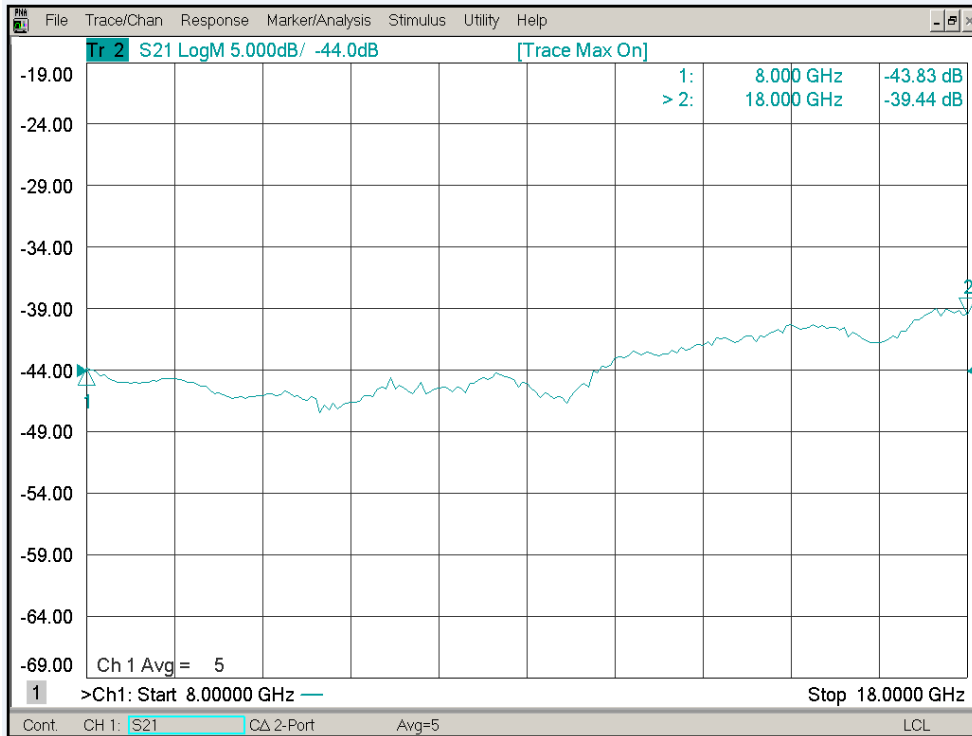


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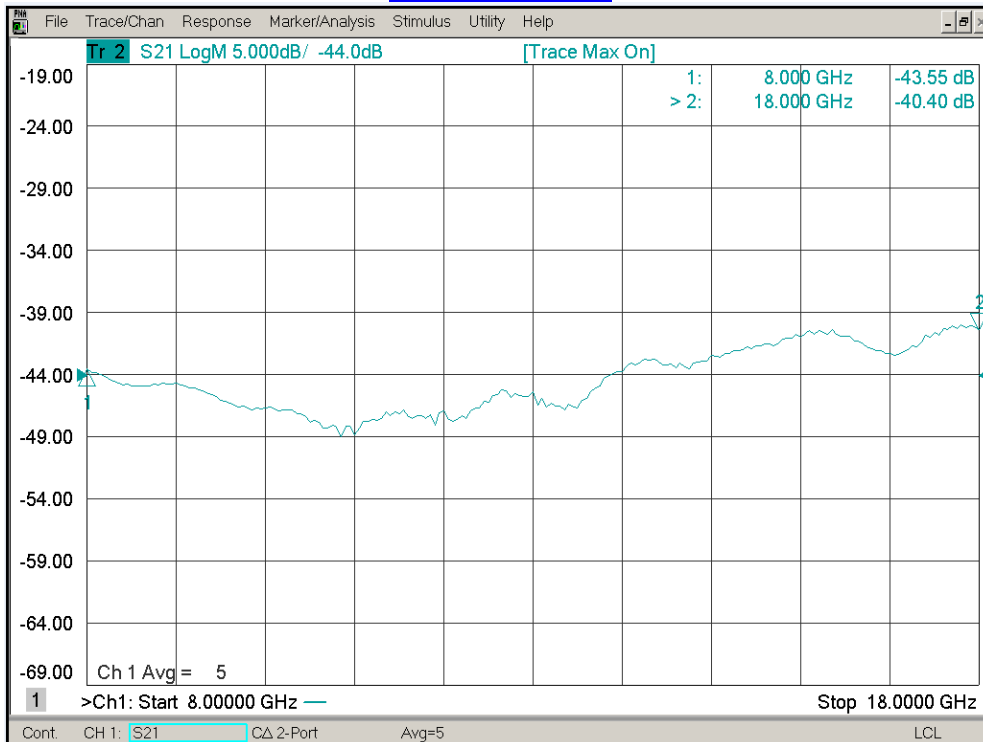


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J1-J2 Isolation



J1-J3 Isolation

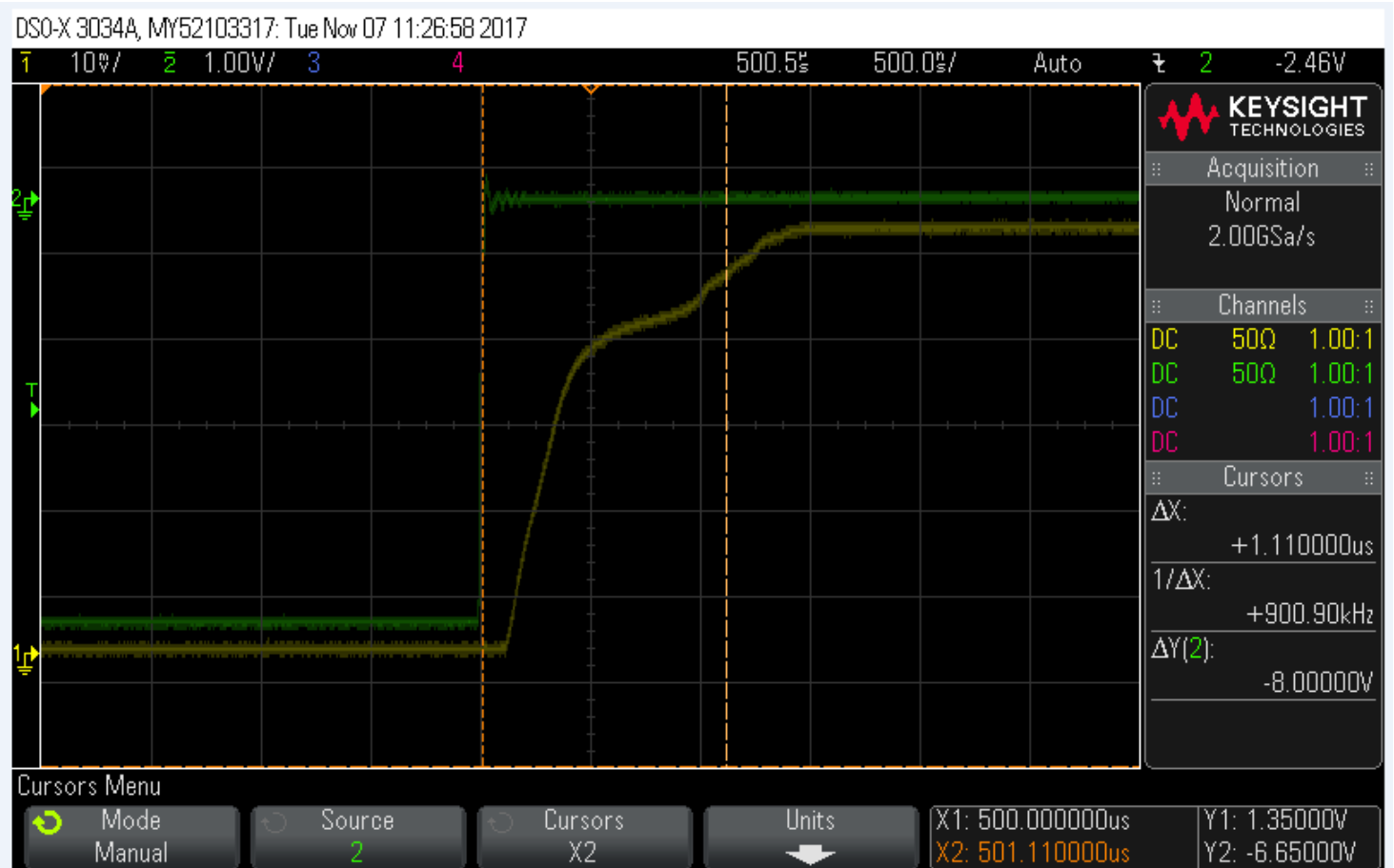


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Typical Characteristics For P2T-8G18G-40-R-TFF-120W

Switching Speed On and Rise Time 500 ns per Division

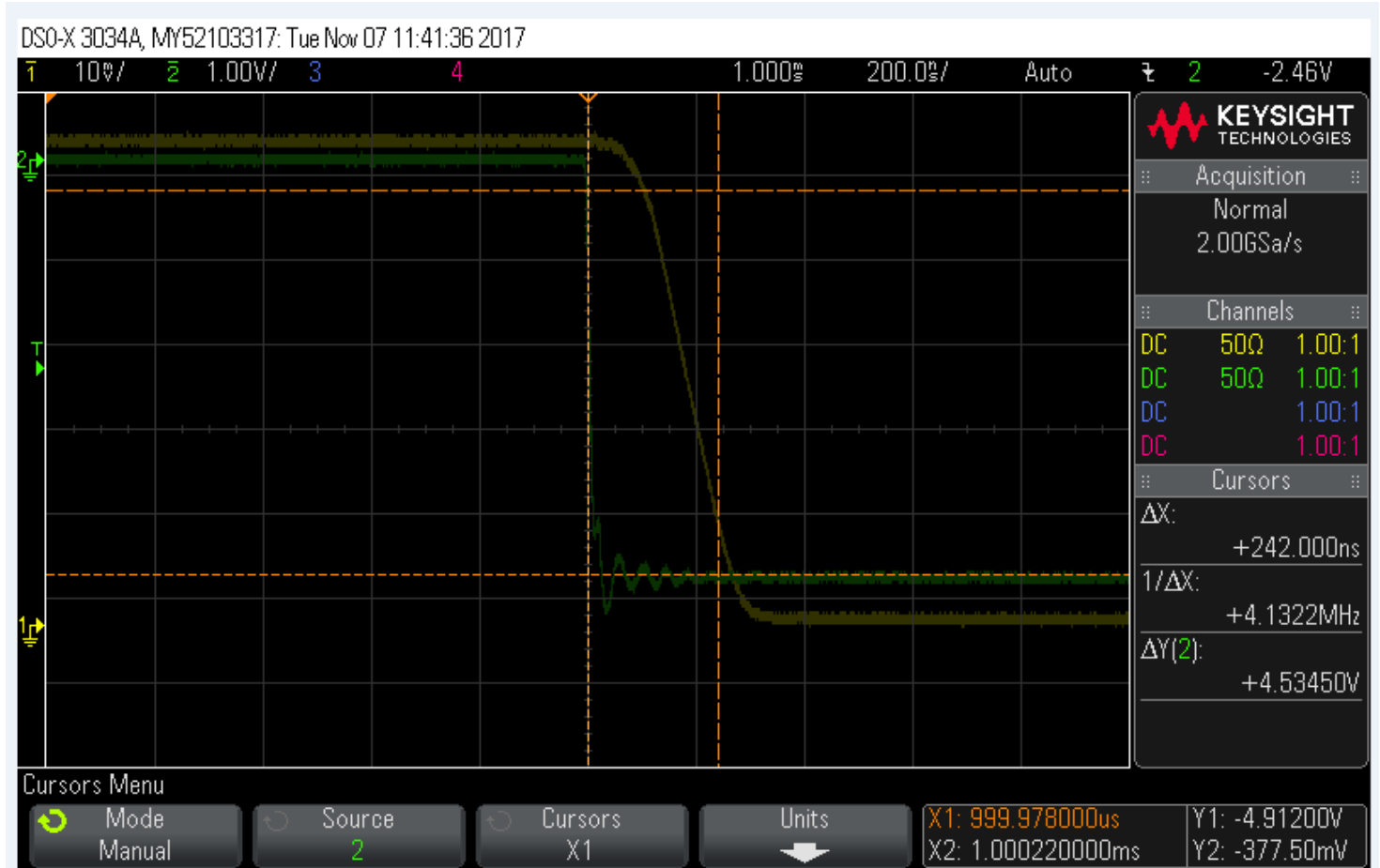


Yellow Trace: RF Signal
Green Trace: TTL Signal



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

Switching Speed Off Time Fall Time
200 nseg per Division

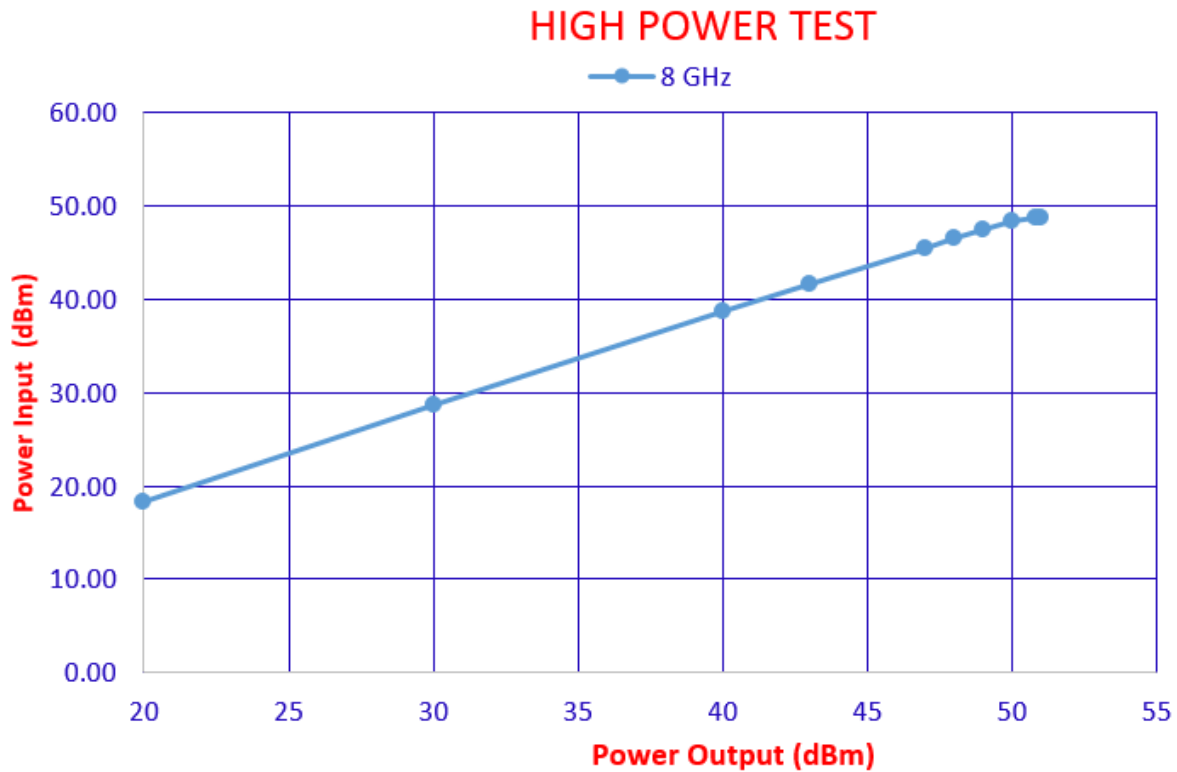


Yellow Trace: RF Signal
Green Trace: TTL Signal



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

High Power CW Output Power Vs. Input Power Graph
Frequency = 8 GHz

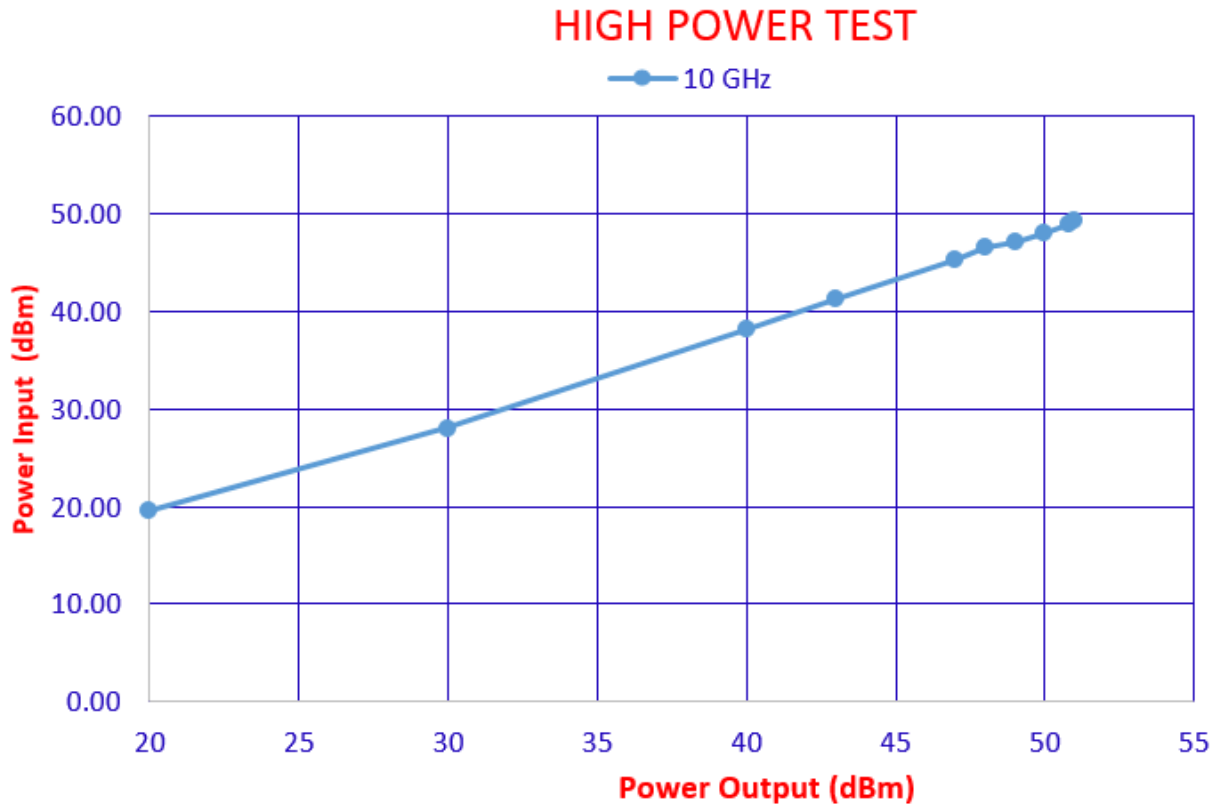


SERIAL NUMBER	PL21785/1745		
FREQUENCY	8 GHZ		
POWER INPUT (dBm)	POWER INPUT (Watts)	POWER OUTPUT (dBm)	TEMPERATURE °C
20	0.1	18.30	21.00
30	1	28.62	21.00
40	10	38.65	21.00
43	19.96	41.55	21.00
47	50.12	45.38	21.00
48	63.1	46.54	23.00
49	79.43	47.47	24.00
50	100	48.40	28.00
50.8	120.23	48.77	29.00
51	125.89	48.8	32.00



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

High Power CW Output Power Vs. Input Power Graph
Frequency = 10 GHz

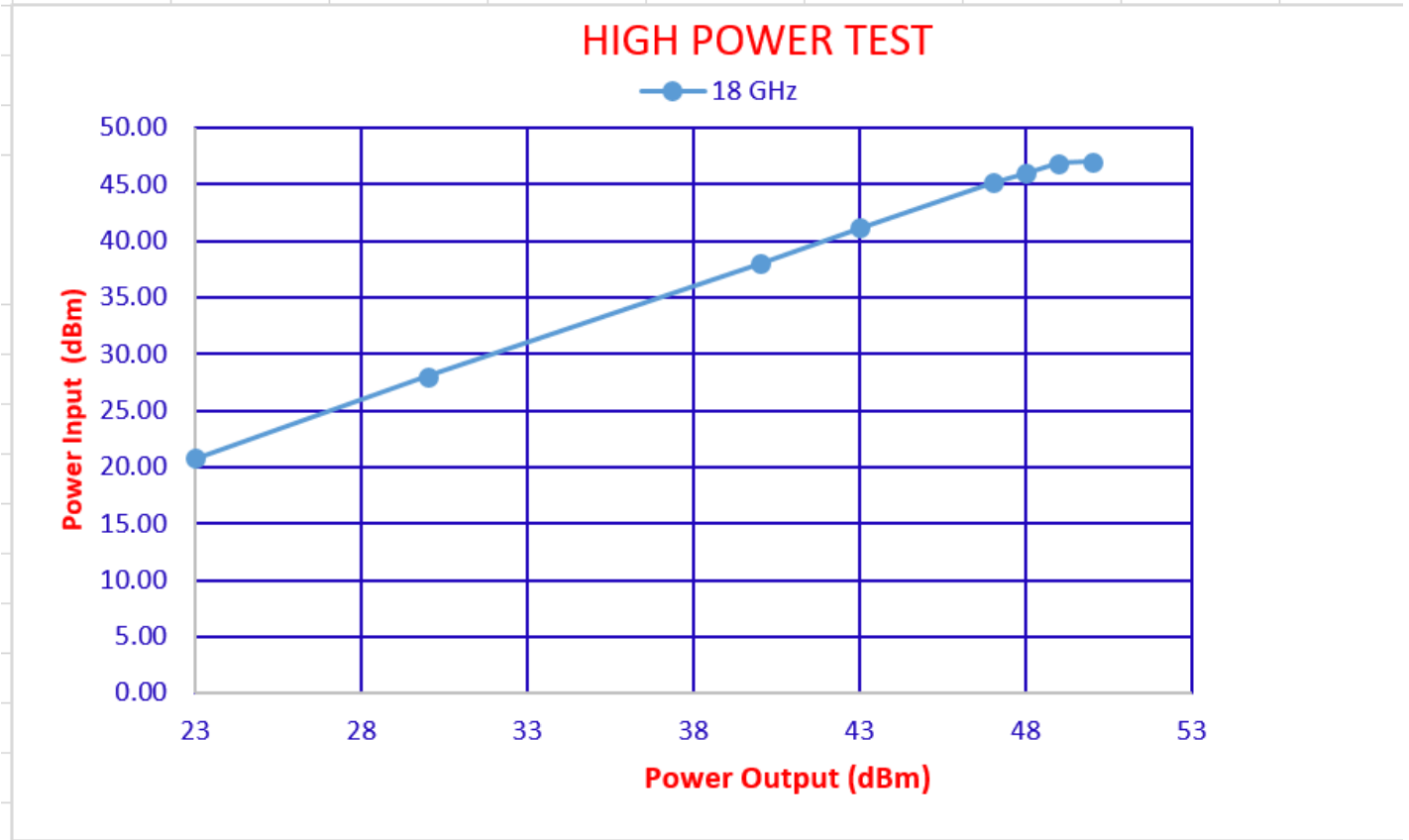


SERIAL NUMBER	PL21785/1745		
FREQUENCY	10 GHZ		
POWER INPUT (dBm)	POWER INPUT (Watts)	POWER OUTPUT (dBm)	TEMPERATURE °C
20	0.1	19.48	22.90
30	1	28.04	22.90
40	10	38.10	23.20
43	19.96	41.17	23.70
47	50.12	45.30	24.70
48	63.1	46.60	32.20
49	79.43	47.10	33.40
50	100	48.07	43.00
50.8	120.23	49	45.00
51	125.89	49.32	45.00



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

High Power CW Output Power Vs. Input Power Graph
Frequency = 18 GHz



SERIAL NUMBER	PL21785/1745		
FREQUENCY	18 GHZ		
POWER INPUT (dBm)	POWER INPUT (Watts)	POWER OUTPUT (dBm)	TEMPERATURE °C
20	0.1	18.32	21.50
30	1	27.79	21.60
40	10	37.66	22.00
43	19.96	40.67	23.00
47	50.12	44.50	24.30
48	63.1	45.50	24.70
49	79.43	46.39	25.00
50	100	47.00	28.00



Typical Characteristics For P2T-8G18G-40-R-TFF-120W

HIGH POWER TEST

