TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

PMI MODEL PXS-100M18G-65-T-SFF IS AN ABSORPTIVE, HIGH SPEED, TWO POLE TRANSFER SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 0.1 TO 18.0 GHz. THIS SWITCH HAS > 65 dB ISOLATION.

December 10, 2018

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TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	6/17/11	

DESCRIPTION

PMI MODEL PXS-100M18G-65-T-SFF IS AN ABSORPTIVE, HIGH SPEED, TWO POLE TRANSFER SWITCH CAPABLE OF SWITCHING WITHIN 100 ns MAXIMUM. THE FREQUENCY RANGE IS 0.1 TO 18.0 GHz. THIS SWITCH HAS > 65 dB ISOLATION.

SPECIFICATIONS

- FREQUENCY RANGE: — 0.1 GHz TO 18.0 GHz
- IMPEDANCE: — 50 Ω
- INPUT POWER: — +27dBm (0.5 WATT) MAX
- INPUT VSWR: — 2.0:1 MAX
- INSERTION LOSS: — 3.1dB MAX
- ISOLATION: — 65dB MIN
- SWITCHING SPEED: — 100ns MAX
- DC VOLTAGE: — +5VDC (±0.5V)
  −15VDC (±3V)
- CONTROL: — SOLDER PIN
  TTL LOGIC – SEE TABLE
- CONNECTORS IN/OUT: — SMA (F)
- SIZE: — (L) 1.2" X (W) 1.2" 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.

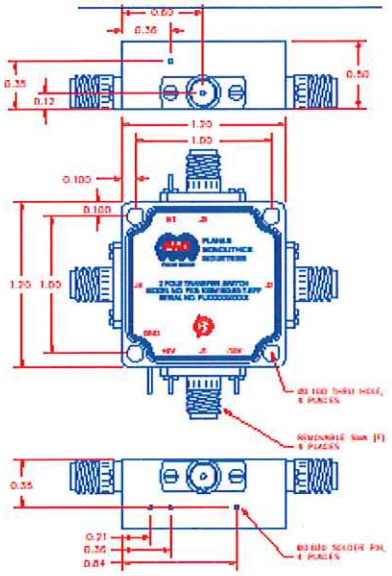
TTL LOGIC TABLE		
TTL LOGIC	INSERTION LOSS	ISOLATION
"0"	J1 – J2 J3 – J4	J1 – J4 J2 – J3
"1"	J1 – J4 J2 – J3	J1 – J2 J3 – J4

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

MECHANICAL OUTLINE



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

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.
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E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

APPROVALS	DATE
DRAWN G.Guillot	6/17/11
RELEASED	
ISSUED	

TITLE: PRODUCT FEATURE
PXS-100M18G-65-T-SFF

SIZE	PROD NO.	DRC NO.	REV
A	05XQ0	27035560	A1

SCALE N:S SHEET 1 OF 1

TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS
1	Frequency Range:	0.1 GHz – 18 GHz	**0.1 GHz – 18 GHz (See Plots)**
2	Input Power	+27 dBm (0.5 WATT) Max	**Pass (See Graphs)**
3	VSWR: (ON/OFF)	2.0:1 Max	**2.0:1 In 1.9:1 Out (See Plots)**
4	Insertion Loss	3.1 dB Max	**2.9 dB (See Plots)**
5	Isolation:	65 dB Min	**75 dB (See Plots)**
6	Switching Speed	100 ns Max On/Off	**74.4 ns / 88.3 ns (See Plots)**
7	Power Supply:	+5VDC (± 0.5V) -15VDC (± 3V)	**+5VDC, 45mA -15VDC, 74mA**
8	Control Logic:	TTL LOGIC TABLE TTL LOGIC / INSERTION LOSS / ISOLATION "0" / J1 – J2, J3 – J4 / J1 – J4, J2 – J3 "1" / J1 – J4, J2 – J3 / J1 – J2, J3 – J4	**PASS**

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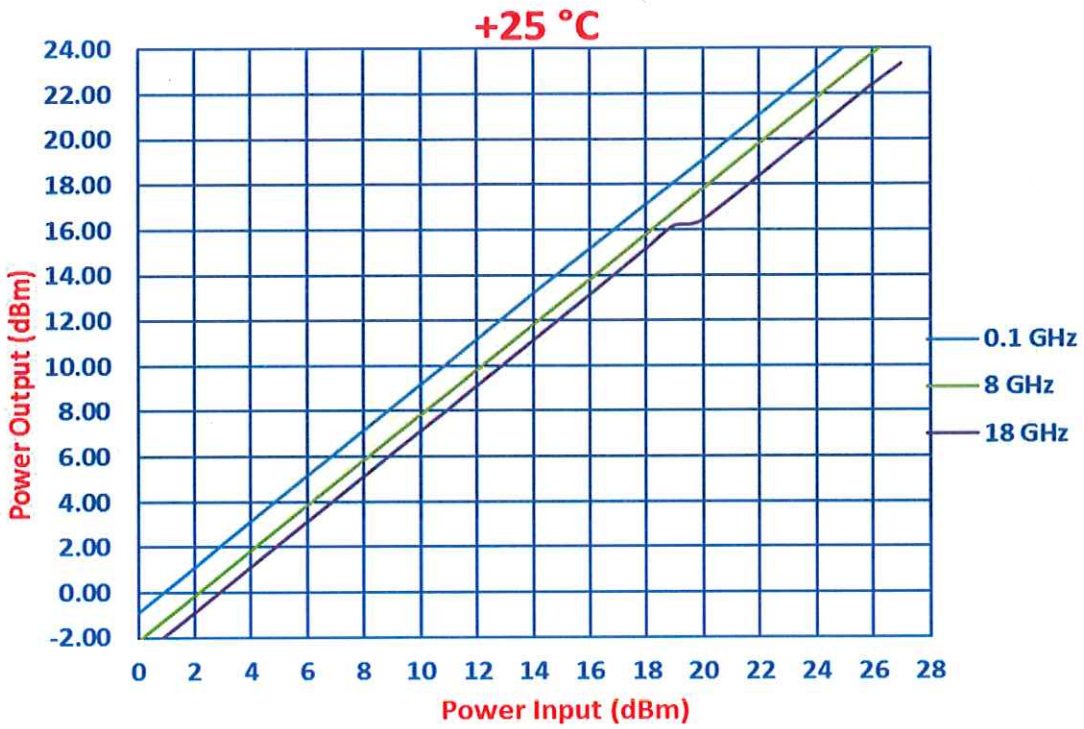
TYPICAL CHARACTERISTICS
ON
PXS-100M18G-65-T-SFF

Input Power @ 25 °C



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TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

+25 °C								
0.1 GHz			8GHz			18 GHz		
POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS
0	-0.88	0.88	0	-2.16	2.16	0	-2.85	2.85
1	0.12	0.88	1	-1.17	2.17	1	-1.87	2.87
2	1.13	0.87	2	-0.17	2.17	2	-0.88	2.88
3	2.17	0.83	3	0.84	2.16	3	0.15	2.85
4	3.17	0.83	4	1.85	2.15	4	1.14	2.86
5	4.17	0.83	5	2.84	2.16	5	2.14	2.86
6	5.17	0.83	6	3.84	2.16	6	3.14	2.87
7	6.17	0.83	7	4.84	2.16	7	4.13	2.87
8	7.18	0.82	8	5.84	2.16	8	5.13	2.87
9	8.17	0.83	9	6.84	2.16	9	6.13	2.87
10	9.19	0.81	10	7.83	2.17	10	7.13	2.87
11	10.18	0.82	11	8.82	2.18	11	8.12	2.88
12	11.18	0.82	12	9.82	2.18	12	9.12	2.88
13	12.18	0.82	13	10.81	2.19	13	10.12	2.88
14	13.19	0.81	14	11.81	2.19	14	11.12	2.88
15	14.19	0.81	15	12.81	2.19	15	12.13	2.88
16	15.18	0.82	16	13.81	2.19	16	13.14	2.86
17	16.15	0.85	17	14.81	2.19	17	14.15	2.85
18	17.13	0.87	18	15.81	2.19	18	15.17	2.84
19	18.11	0.90	19	16.82	2.18	19	16.18	2.82
20	19.08	0.92	20	17.83	2.17	20	16.44	3.56
25	24.05	0.95	25	22.81	2.19	25	21.40	3.60
26	25.06	0.94	26	23.79	2.21	26	22.39	3.61
27	**26.04**	**0.96**	**27**	**24.78**	**2.22**	**27**	**23.3**	**3.70**

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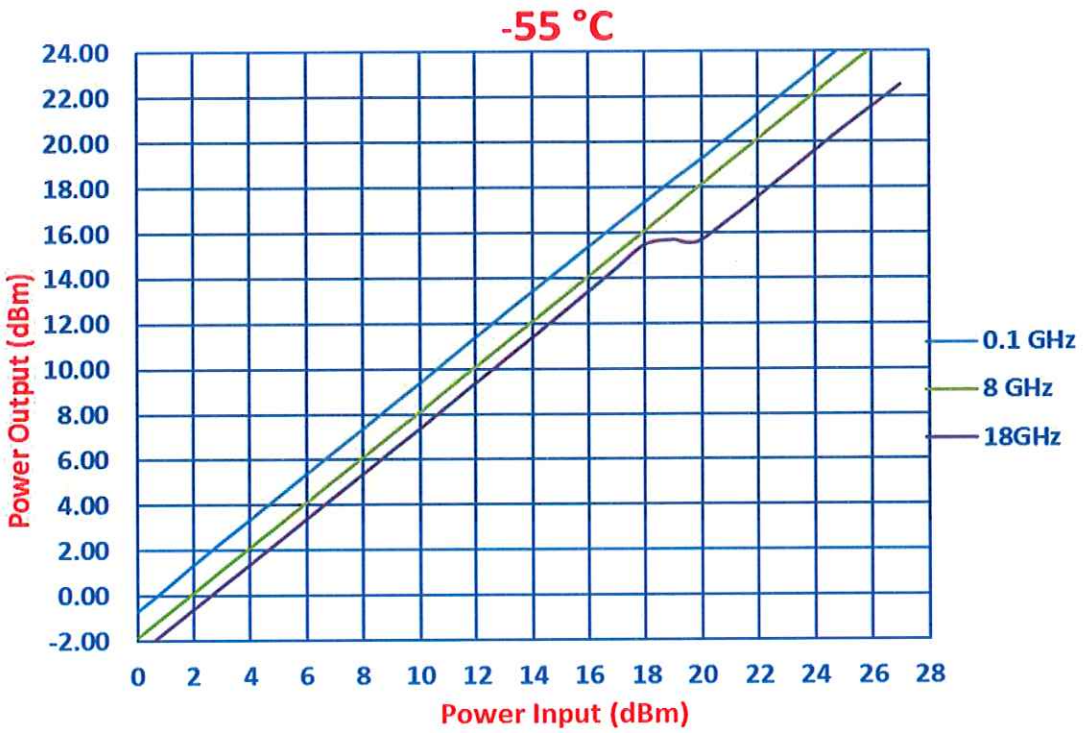
TYPICAL CHARACTERISTICS
ON
PXS-100M18G-65-T-SFF

Input Power @ -55 °C



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TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

-55 °C								
0.1 GHz			8GHz			18 GHz		
POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS
0	-0.69	0.69	0	-1.88	1.88	0	-2.58	2.58
1	0.31	0.69	1	-0.88	1.88	1	-1.57	2.57
2	1.37	0.63	2	0.11	1.89	2	-0.59	2.59
3	2.38	0.62	3	1.11	1.89	3	0.40	2.60
4	3.38	0.62	4	2.12	1.88	4	1.40	2.60
5	4.38	0.62	5	3.11	1.89	5	2.40	2.60
6	5.38	0.62	6	4.11	1.89	6	3.39	2.61
7	6.38	0.62	7	5.11	1.89	7	4.39	2.61
8	7.38	0.62	8	6.11	1.89	8	5.39	2.61
9	8.39	0.62	9	7.10	1.90	9	6.39	2.61
10	9.38	0.62	10	8.10	1.90	10	7.37	2.63
11	10.39	0.61	11	9.10	1.90	11	8.38	2.62
12	11.39	0.61	12	10.09	1.91	12	9.38	2.62
13	12.40	0.60	13	11.08	1.92	13	10.38	2.62
14	13.40	0.60	14	12.09	1.92	14	11.38	2.62
15	14.40	0.60	15	13.08	1.92	15	12.41	2.60
16	15.39	0.62	16	14.09	1.91	16	13.42	2.58
17	16.37	0.63	17	15.09	1.91	17	14.45	2.55
18	17.34	0.66	18	16.10	1.90	18	15.48	2.52
19	18.32	0.68	19	17.11	1.89	19	15.69	3.31
20	19.24	0.76	20	18.14	1.86	20	15.69	4.32
25	24.20	0.80	25	23.15	1.85	25	20.60	4.40
26	25.21	0.79	26	24.13	1.87	26	21.55	4.45
27	**26.22**	**0.78**	**27**	**25.1**	**1.90**	**27**	**22.5**	**4.50**

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TYPICAL CHARACTERISTICS
ON
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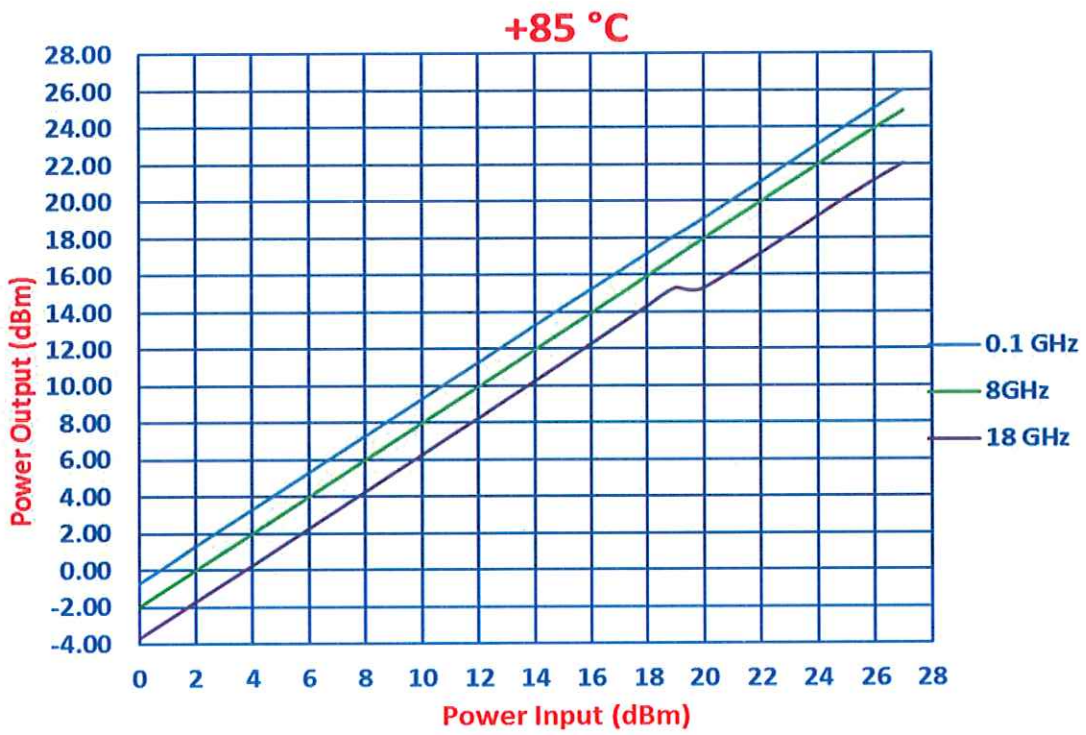
Input Power @ 85 °C



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TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

+85 °C								
0.1 GHz			8GHz			18 GHz		
POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS	POWER INPUT (dBm)	POWER OUTPUT (dBm)	LOSS
0	-0.73	0.73	0	-2.02	2.02	0	-3.71	3.71
1	0.26	0.74	1	-1.02	2.02	1	-2.72	3.72
2	1.31	0.69	2	-0.02	2.02	2	-1.71	3.71
3	2.31	0.69	3	0.97	2.03	3	-0.72	3.72
4	3.31	0.69	4	1.98	2.02	4	0.26	3.74
5	4.30	0.70	5	2.97	2.03	5	1.26	3.74
6	5.30	0.70	6	3.97	2.03	6	2.26	3.74
7	6.29	0.71	7	4.97	2.03	7	3.25	3.75
8	7.28	0.72	8	5.97	2.03	8	4.25	3.75
9	8.28	0.72	9	6.97	2.03	9	5.25	3.75
10	9.28	0.72	10	7.96	2.04	10	6.25	3.75
11	10.27	0.73	11	8.95	2.05	11	7.24	3.76
12	11.27	0.73	12	9.94	2.06	12	8.23	3.77
13	12.27	0.73	13	10.93	2.07	13	9.24	3.76
14	13.26	0.74	14	11.94	2.06	14	10.23	3.77
15	14.26	0.74	15	12.94	2.06	15	11.23	3.77
16	15.24	0.77	16	13.94	2.06	16	12.26	3.74
17	16.21	0.79	17	14.94	2.06	17	13.28	3.72
18	17.18	0.82	18	15.95	2.05	18	14.30	3.70
19	18.15	0.85	19	16.97	2.04	19	15.28	3.72
20	19.07	0.93	20	17.99	2.01	20	15.27	4.73
25	24.08	0.92	25	22.98	2.02	25	20.15	4.85
26	25.05	0.95	26	23.95	2.05	26	21.10	4.90
27	26.04	0.96	27	24.9	2.10	27	22	5.00

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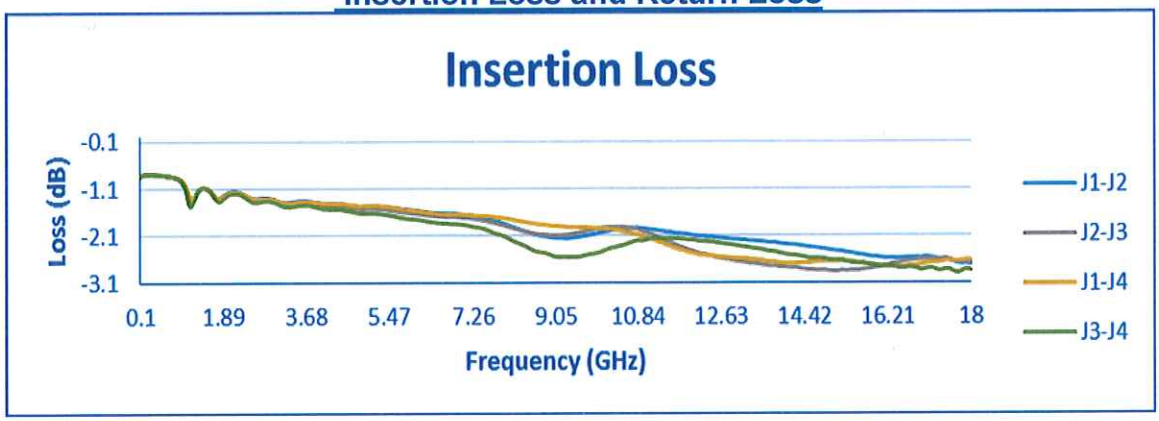
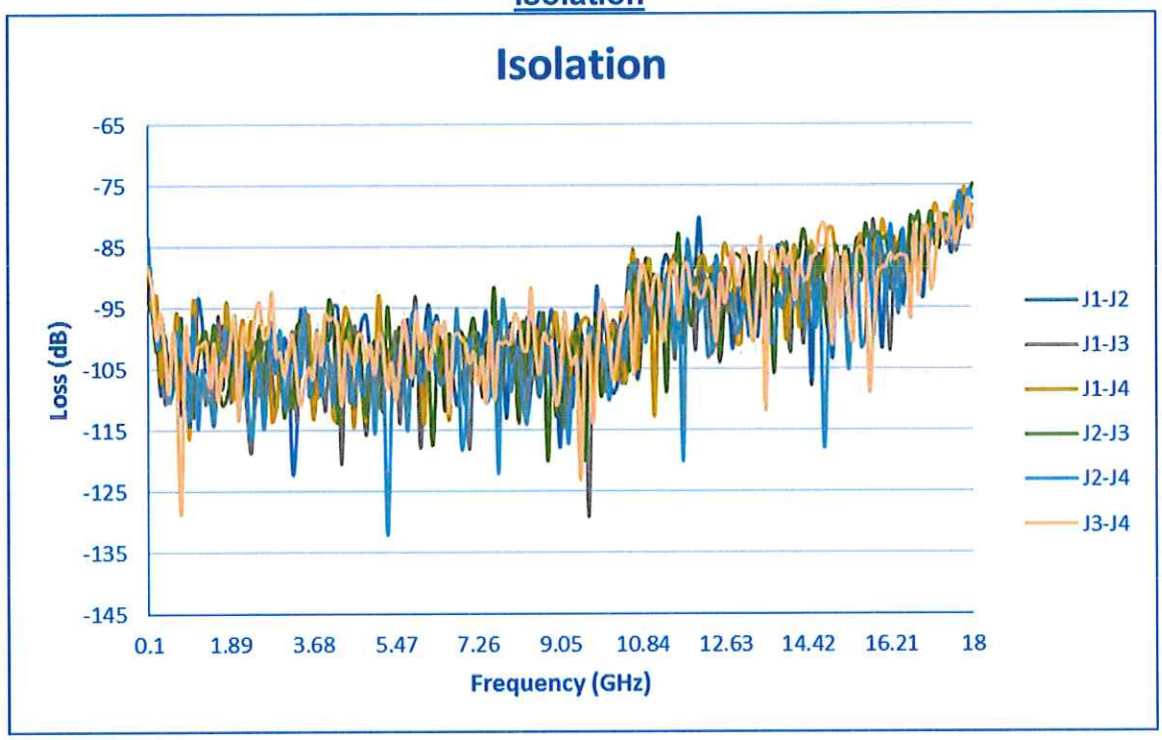
TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

Insertion Loss and Return Loss



Isolation



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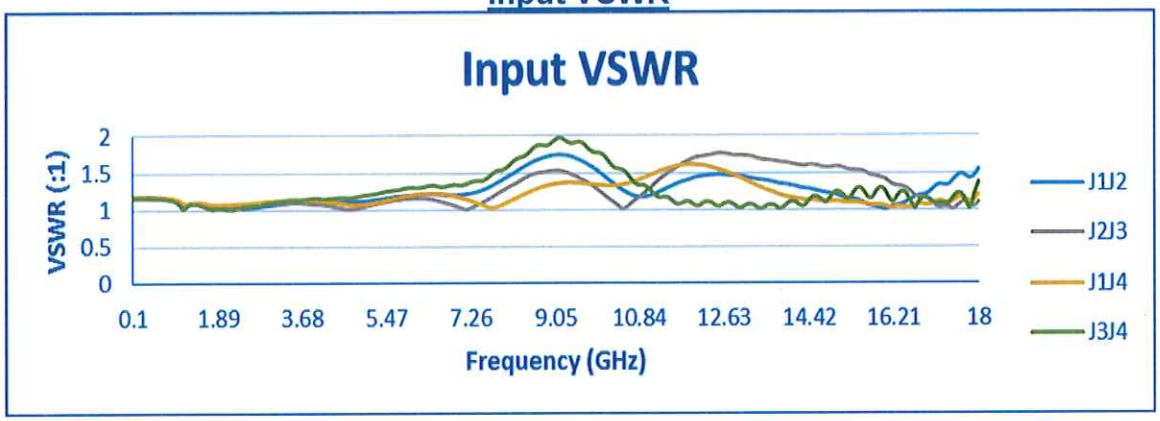
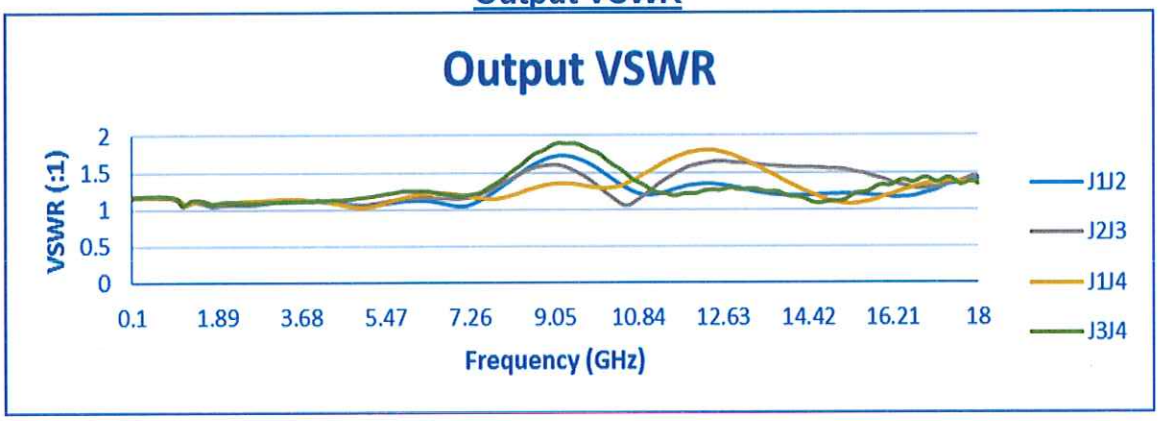
TYPICAL CHARACTERISTICS ON PXS-100M18G-65-T-SFF

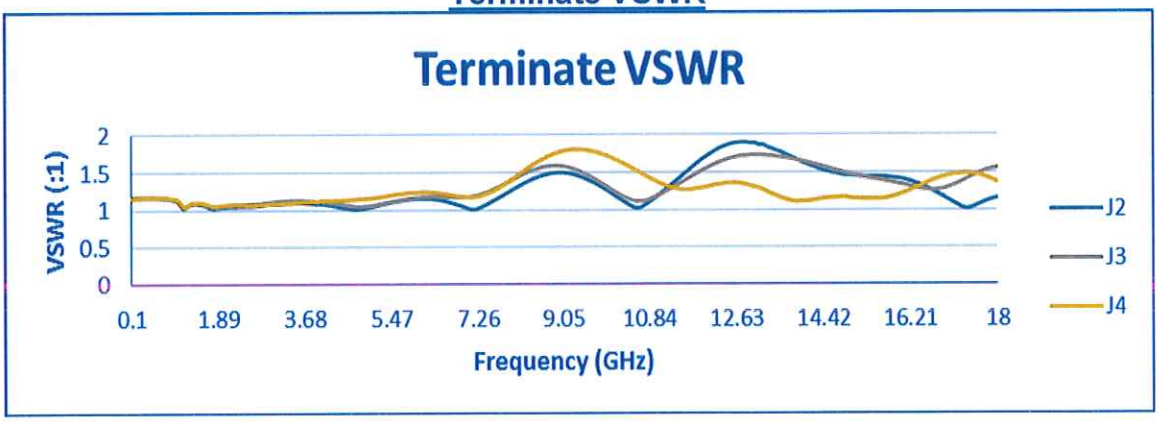
Input VSWR



Output VSWR



Terminate VSWR



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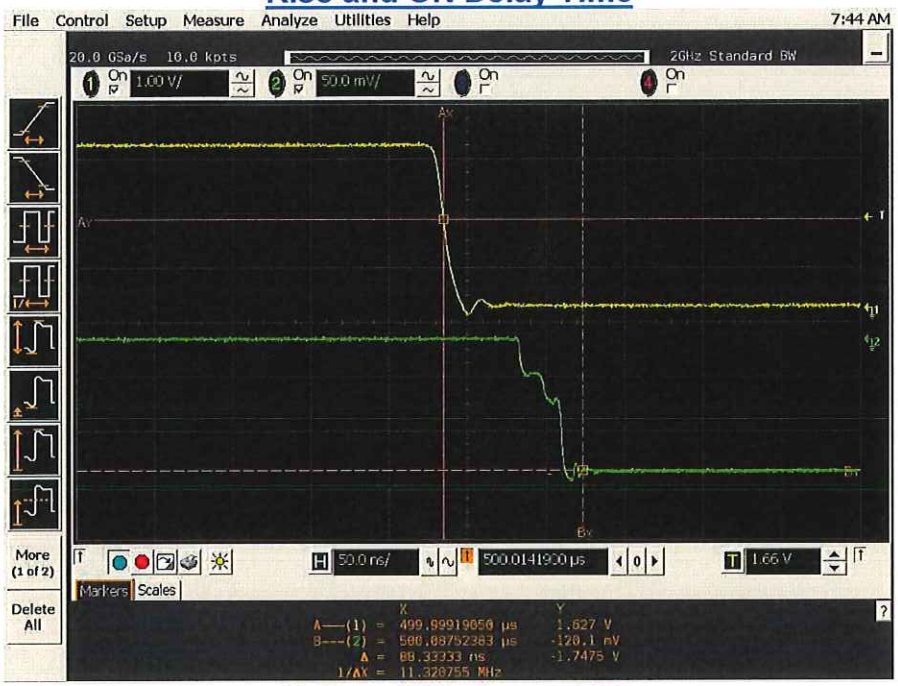
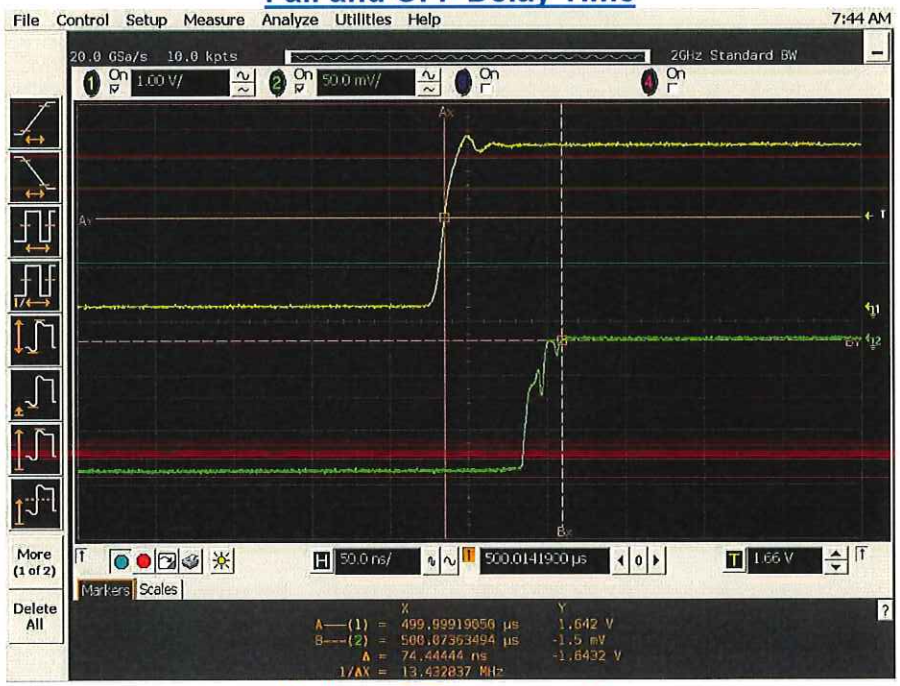
TYPICAL CHARACTERISTICS
ON
PXS-100M18G-65-T-SFF

Switching Speed
Rise and ON Delay Time



Yellow=TTL,Green=RF

Fall and OFF Delay Time



Yellow=TTL,Green=RF

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TYPICAL CHARACTERISTICS
ON
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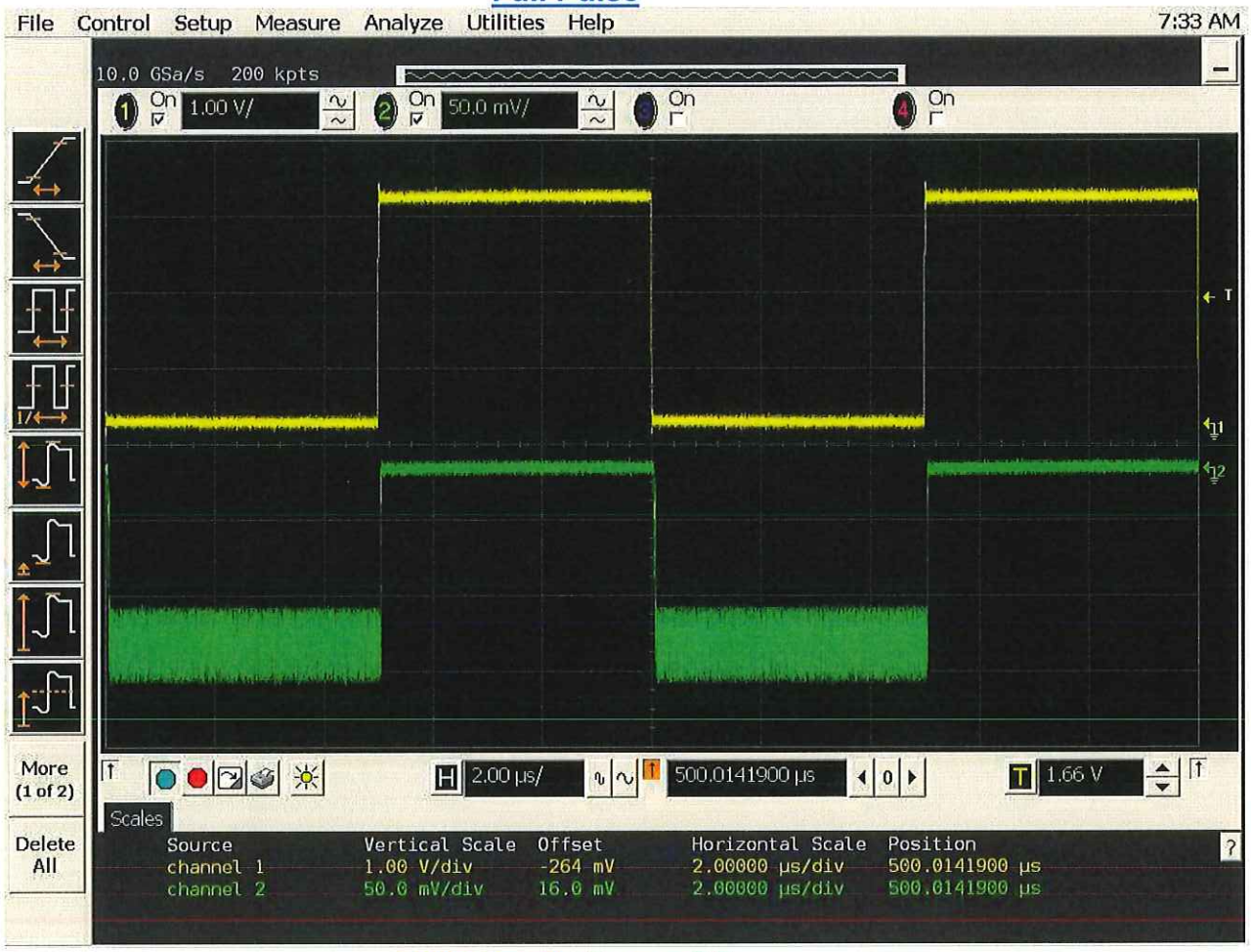
Full Pulse



Yellow=TTL,Green=RF

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