Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

PMI MODEL NUMBER P2T-DC18G-10-R-5V-SFF-HIP10W IS A REFLECTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE DC TO 18.0 GHz FREQUENCY RANGE. THIS MODEL IS CAPABLE OF HANDLING AN INPUT POWER LEVEL OF 5 WATTS CW WHILE PROVIDING SWITCHING SPEEDS OF 100 ns. THIS MODEL ICORPERATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTIGRATION.

July 28, 2022

Tested and Reported By:
E. Kretz

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Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

Product Feature

DESCRIPTION:

PMI MODEL P2T-DC18G-10-R-5V-SFF-HIP10W IS A REFLECTIVE, SINGLE POLE, TWO THROW PIN DIODE SWITCH THAT OPERATES OVER DC TO 18.0 GHz FREQUENCY RANGE. THIS MODEL IS CAPABLE OF HANDLING AN INPUT POWER LEVEL OF 5 WATTS CW WHILE PROVIDING SWITCHING SPEEDS OF 100 ns. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

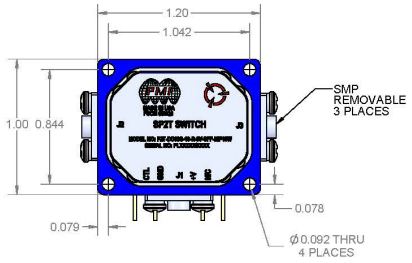
CONF	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	4/7/2022	

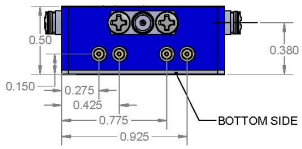
SPECIFICATIONS:

- FREQUENCY RANGE:..... DC TO 18.0 GHz
- ISOLATION:..... 10 dB MIN
- INSERTION LOSS:..... 4.0 dB MAX, 3.0 dB GOAL
- VSWR (ON/OFF):..... 2.0:1
- OPERATING INPUT POWER:..... 5 WATT CW MAX
  (NOT TO BE SWITCHED ANY HIGHER THAN 50kHz [PRI])
- 1dB COMPRESSION:..... +40 dBm GOAL
- SWITCHING SPEED:..... 100 ns GOAL (AT LOW POWER)
- IMPEDANCE:..... 50 Ω
- POWER SUPPLY :..... +5 TO +12 VDC @ 50 mA MAX
- CONTROL:..... TTL LOGIC
  SEE LOGIC TABLE
- CONNECTORS:..... SMP REMOVABLE (FIELD REPLACEABLE)
- FINISH:..... PAINTED BLUE
  BOTTOM SIDE - UNPAINTED

J1-J3 port allows DC voltage to pass thru, while J2 port is DC blocked

CTL	J1 - J2	J1 - J3
0	ON	OFF
1	OFF	ON





ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -54°C TO +100°C (OPERATING)
  -55°C TO +125°C (STORAGE)
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

APPROVALS	DATE
ML	4/7/2022

TITLE: OUTLINE
P2T-DC18G-10-R-5V-SFF-HIP10W
SIZE: B | FSCM NO: 05XQ8 | DWG NO: 27044280 | REV: A1
SCALE: 2:1 | SHEET 1 OF 1

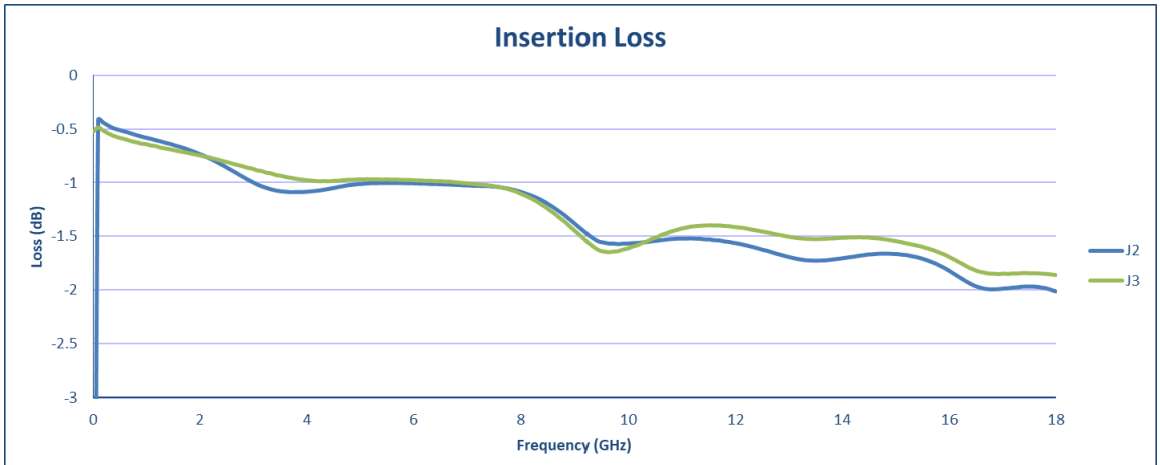
Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

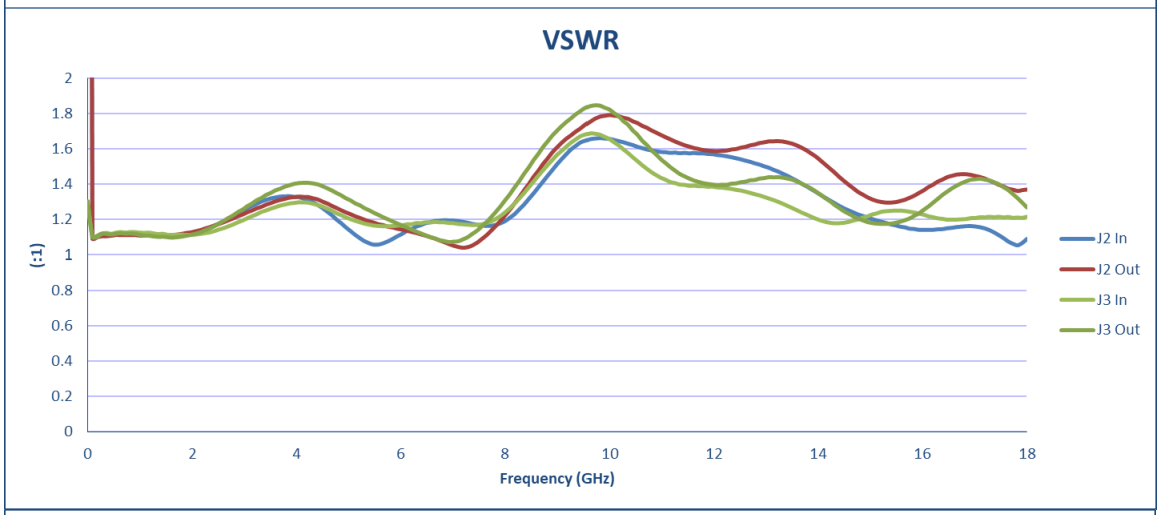
TEST DATA @ 25 °C

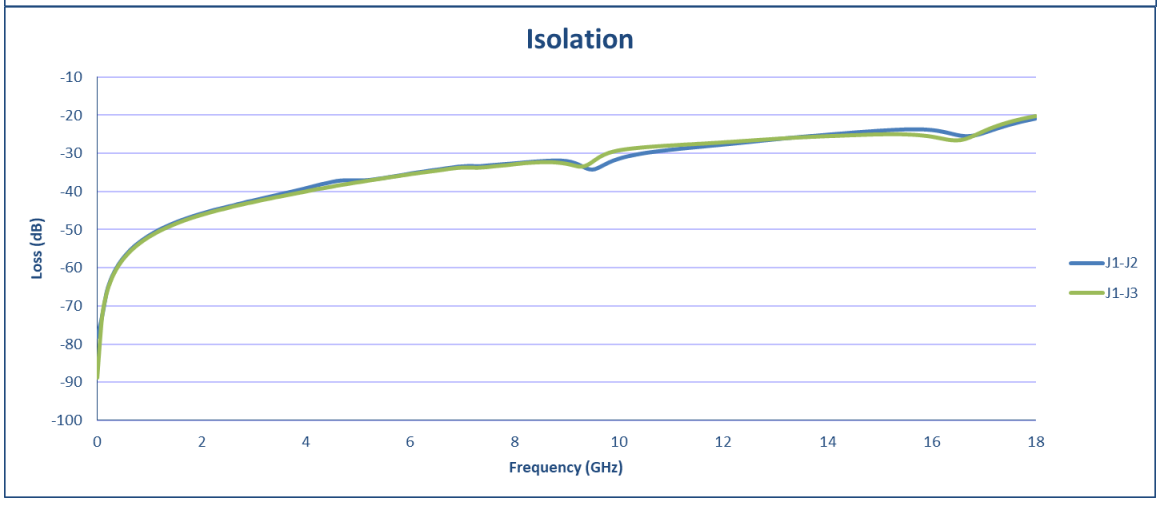
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	DC to 18.0 GHz	**DC to 18.0 GHz**	
2	Insertion Loss:	4.0 dB MAX 3.0 dB GOAL	**2.02 dB** **See Plot**	
3	Isolation:	10dB Min	**20.31 dB** **See Plot**	
4	VSWR:	2.0:1 MAX	**In 1.69:1** **See Plot**	
5	Switching Speed:	100 ns GOAL (AT LOW POWER)	**60 ns** **(AT LOW POWER)**	
6	Operational Input Power:	5 WATT CW MAX	**5 WATT CW MAX**	
7	1 dB Compression	+40 dBm GOAL	**33 dBm @ 20 MHz** **>37 dBm @ 0.1 GHz-18 GHz**	
8	DC Supply:	+5 to +12 VDC @ 50 mA MAX.	**47 mA**	
9	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	**TTL "0" → (J1-J2)** **TTL "1" → (J1-J3)**	
10	J1→ J3	DC TEST	**DC Verified** **5V in @ 50 mA=** **4.75 Vout**	

Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

25 °C







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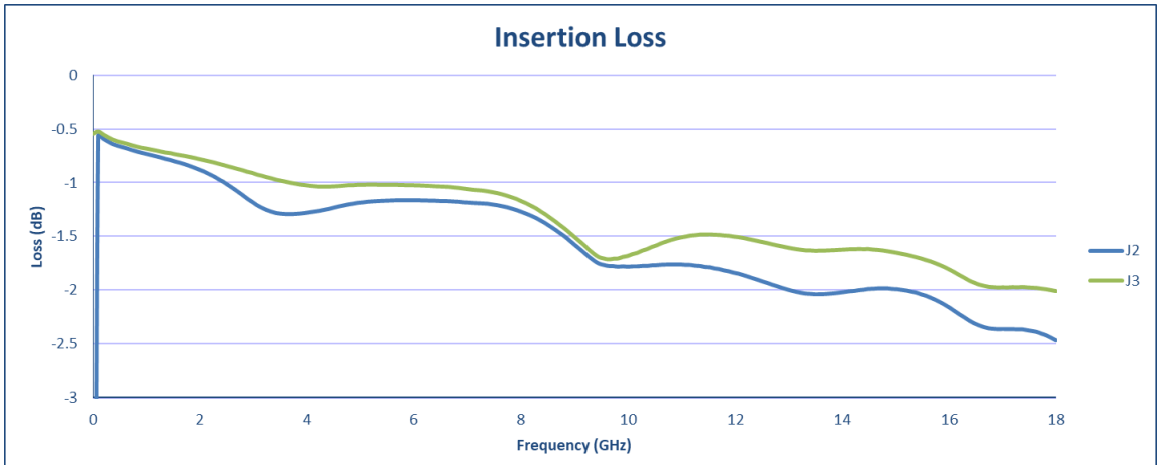
Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

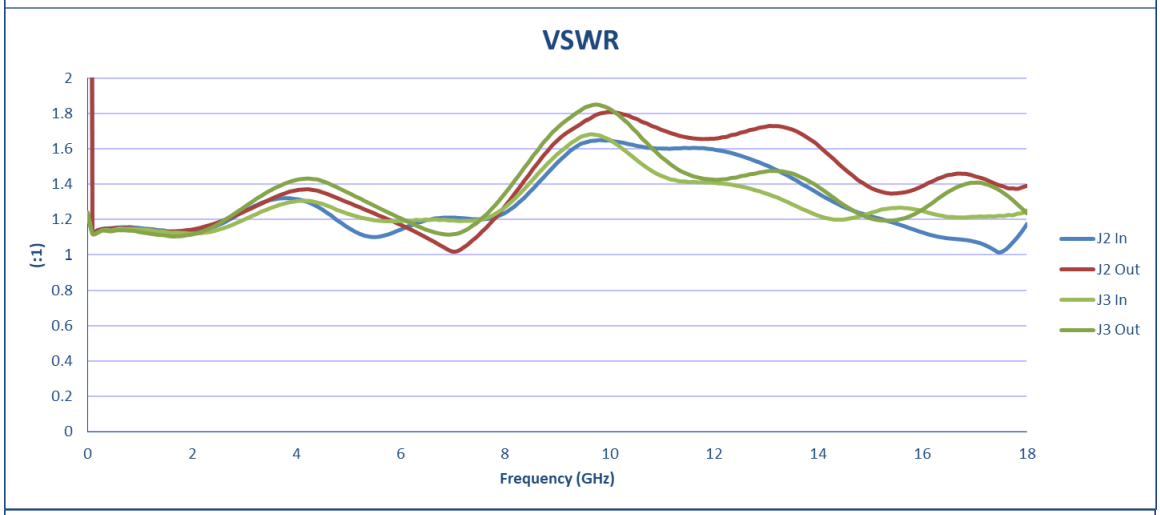
TEST DATA @ 100 °C

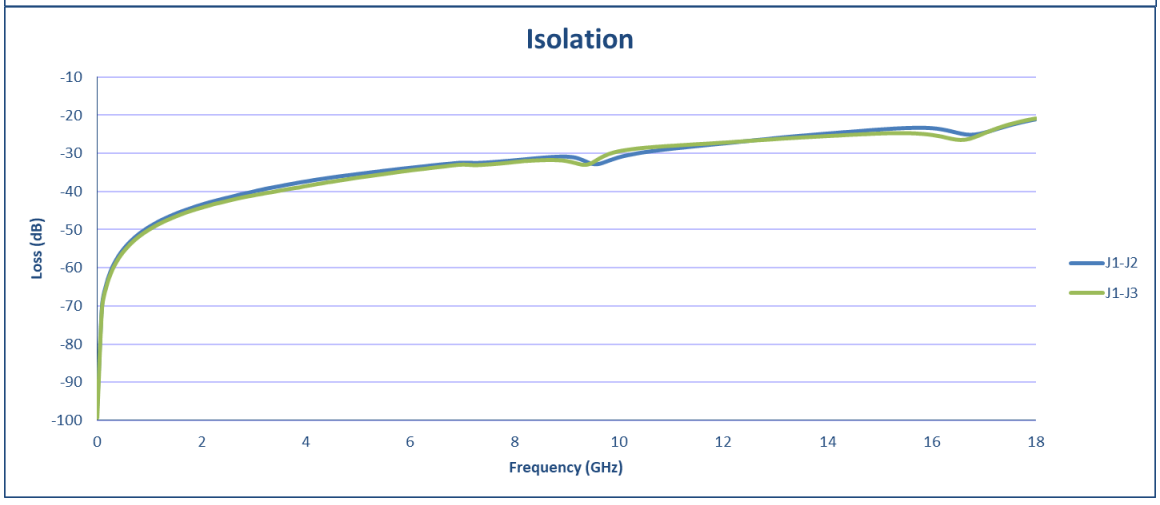
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	DC to 18.0 GHz	**DC to 18.0 GHz**	
2	Insertion Loss:	4.0 dB MAX 3.0 dB GOAL	**2.47 dB** **See Plot**	
3	Isolation:	10dB Min	**20.78 dB** **See Plot**	
4	VSWR:	2.0:1 MAX	**In 1.68:1** **See Plot**	
5	Switching Speed:	100 ns GOAL (AT LOW POWER)	**60 ns** **(AT LOW POWER)**	
6	Operational Input Power:	5 WATT CW MAX	**5 WATT CW MAX** **Measured @ 85° C**	
7	1 dB Compression	+40 dBm GOAL	**33 dBm @ 20 MHz** **>37 dBm @ 0.1 GHz-18 GHz**	
8	DC Supply:	+5 to +12 VDC @ 50 mA MAX.	**47 mA**	
9	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	**TTL "0" → (J1-J2)** **TTL "1" → (J1-J3)**	
10	J1→ J3	DC TEST	**DC Verified** **5V in @ 50 mA=** **4.75 Vout**	

Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

100 °C







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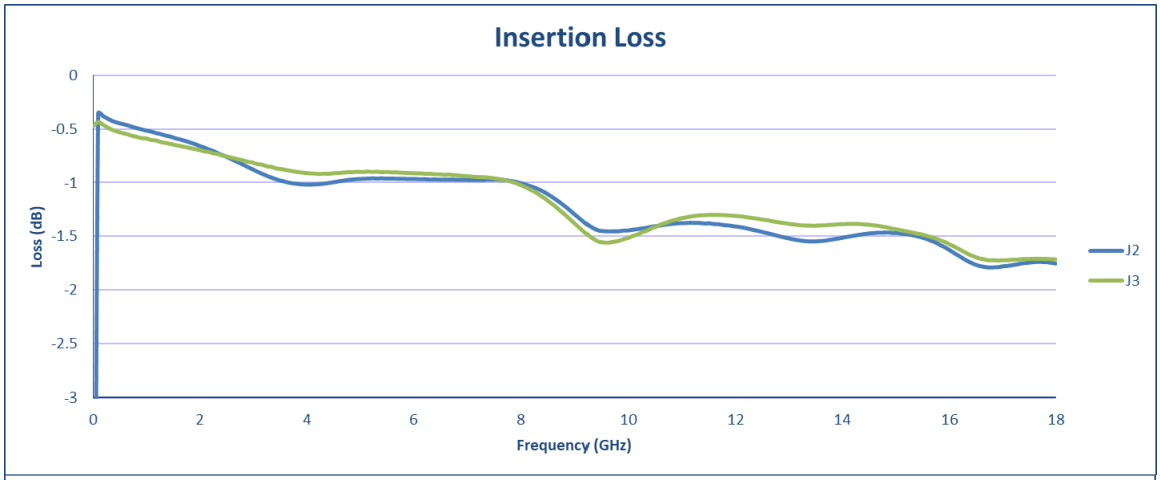
Typical Characteristics ON P2T-DC18G-10-R-5V-SFF-HIP10W

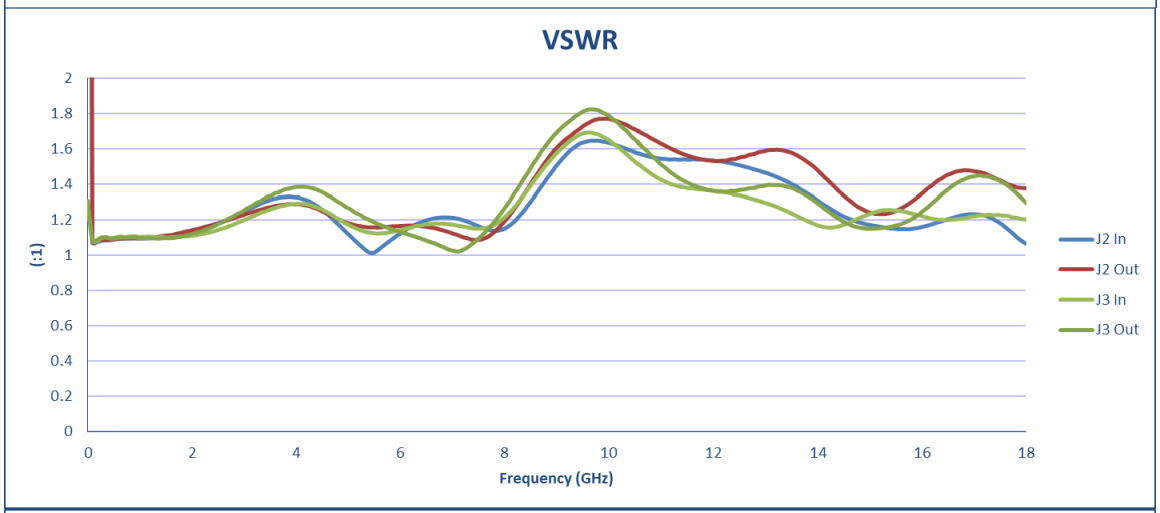
TEST DATA @ -54 °C

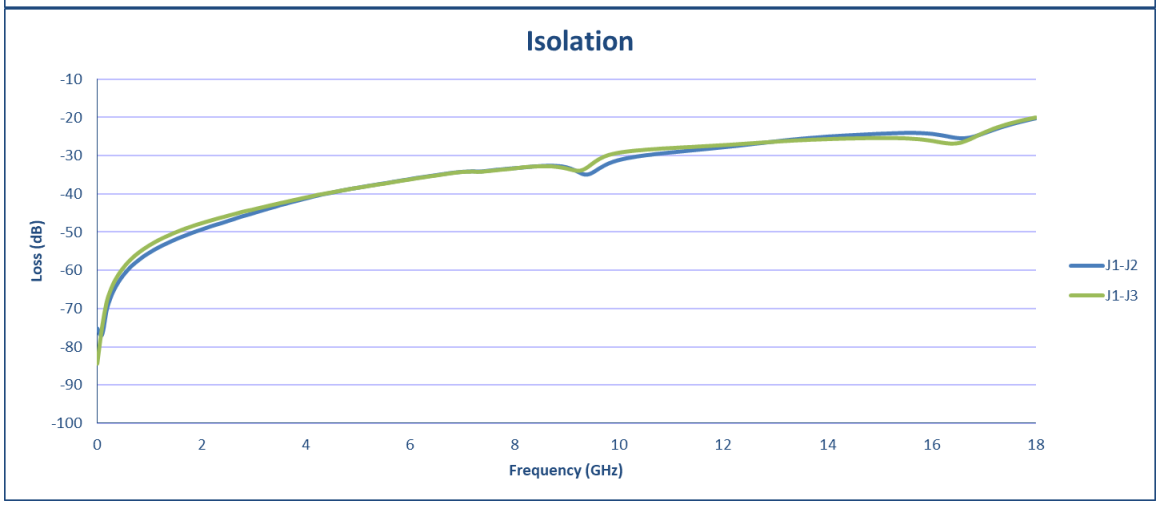
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	DC to 18.0 GHz	**DC to 18.0 GHz**	
2	Insertion Loss:	4.0 dB MAX 3.0 dB GOAL	**1.79 dB** **See Plot**	
3	Isolation:	10dB Min	**20.05 dB** **See Plot**	
4	VSWR:	2.0:1 MAX	**In 1.69:1** **See Plot**	
5	Switching Speed:	100 ns GOAL (AT LOW POWER)	**60 ns** **(AT LOW POWER)**	
6	Operational Input Power:	5 WATT CW MAX	**5 WATT CW MAX** **Measured @ -40° C**	
7	1 dB Compression	+40 dBm GOAL	**33 dBm @ 20 MHz** **>37 dBm @ 0.1 GHz-18 GHz**	
8	DC Supply:	+5 to +12 VDC @ 50 mA MAX.	**47 mA**	
9	Control:	TTL "0" → (J1-J2) TTL "1" → (J1-J3)	**TTL "0" → (J1-J2)** **TTL "1" → (J1-J3)**	
10	J1→ J3	DC TEST	**DC Verified** **5V in @ 50 mA=** **4.75 Vout**	

Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

-54 °C







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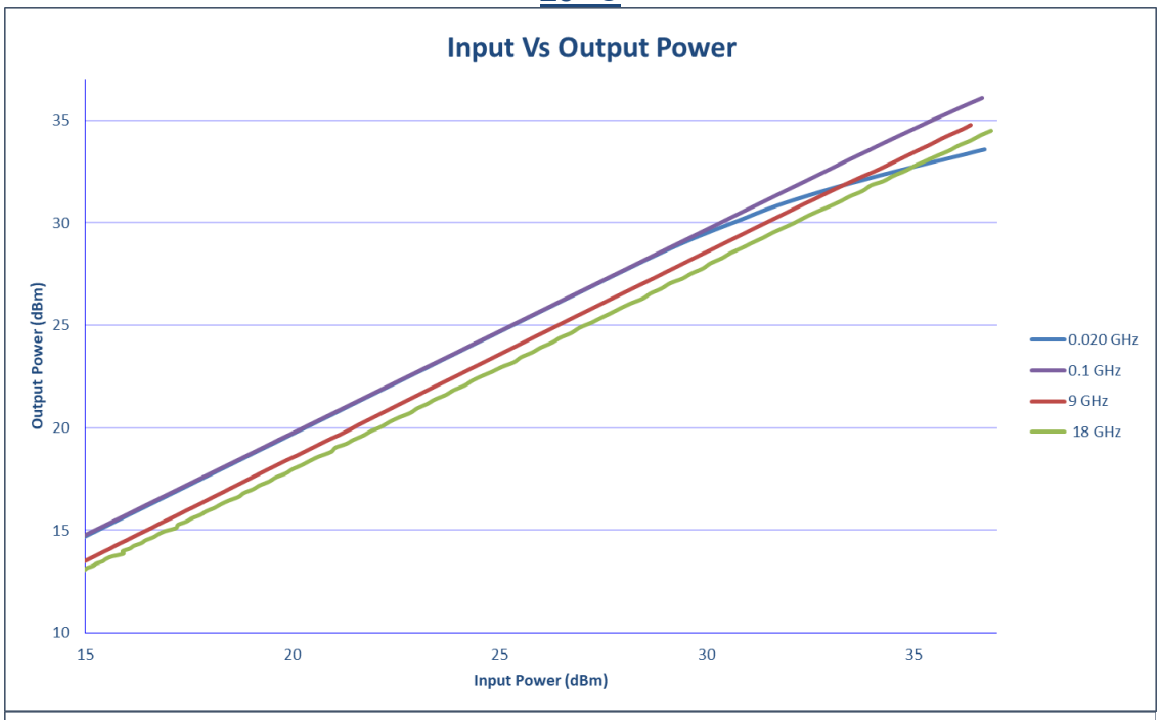
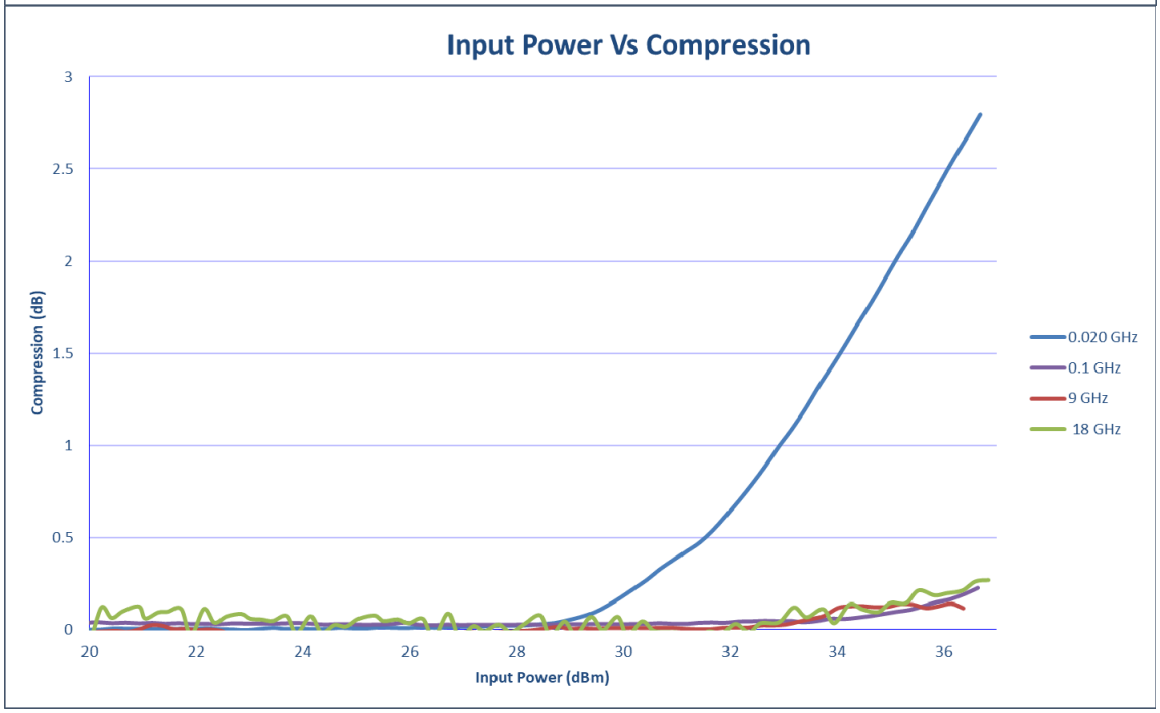
Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

High Power Test.
25 °C





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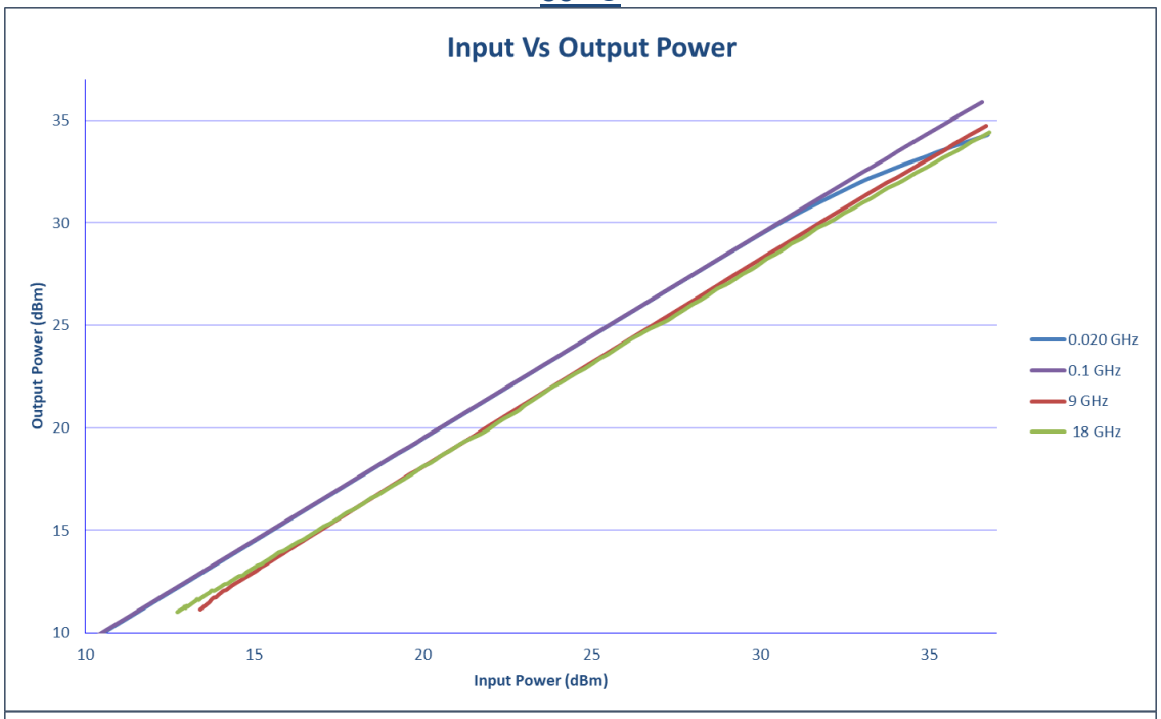
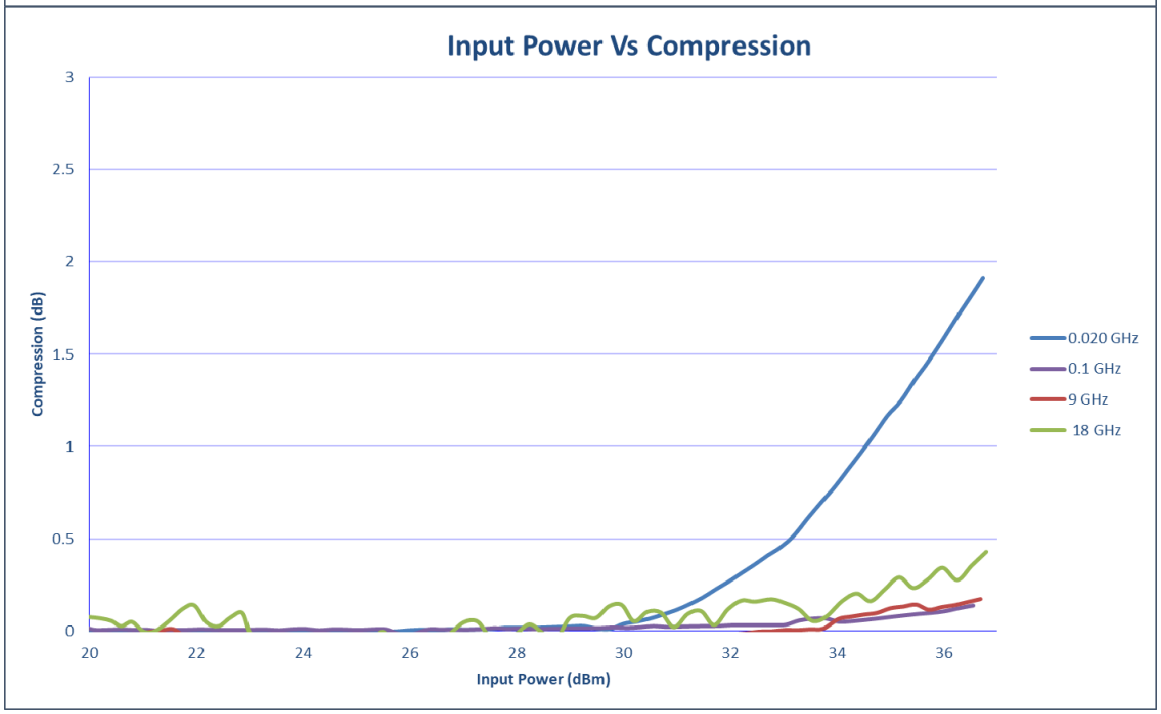
Typical Characteristics
ON
P2T-DC18G-10-R-5V-SFF-HIP10W

High Power Test.
85 °C





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Typical Characteristics
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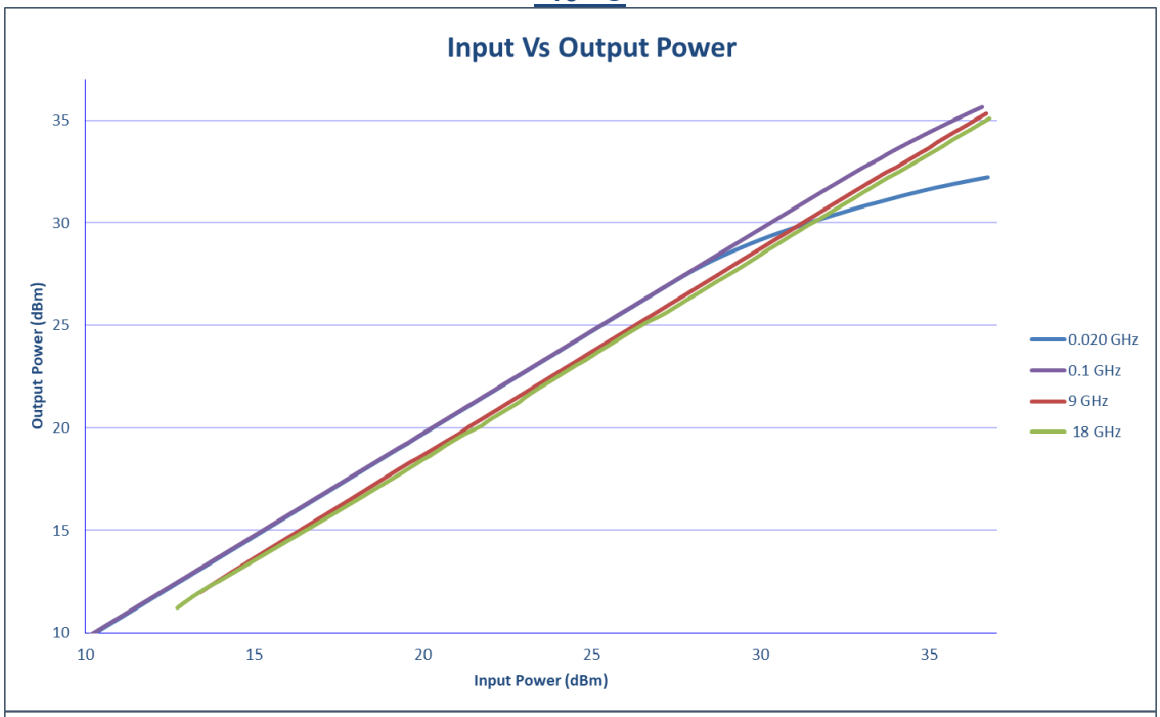
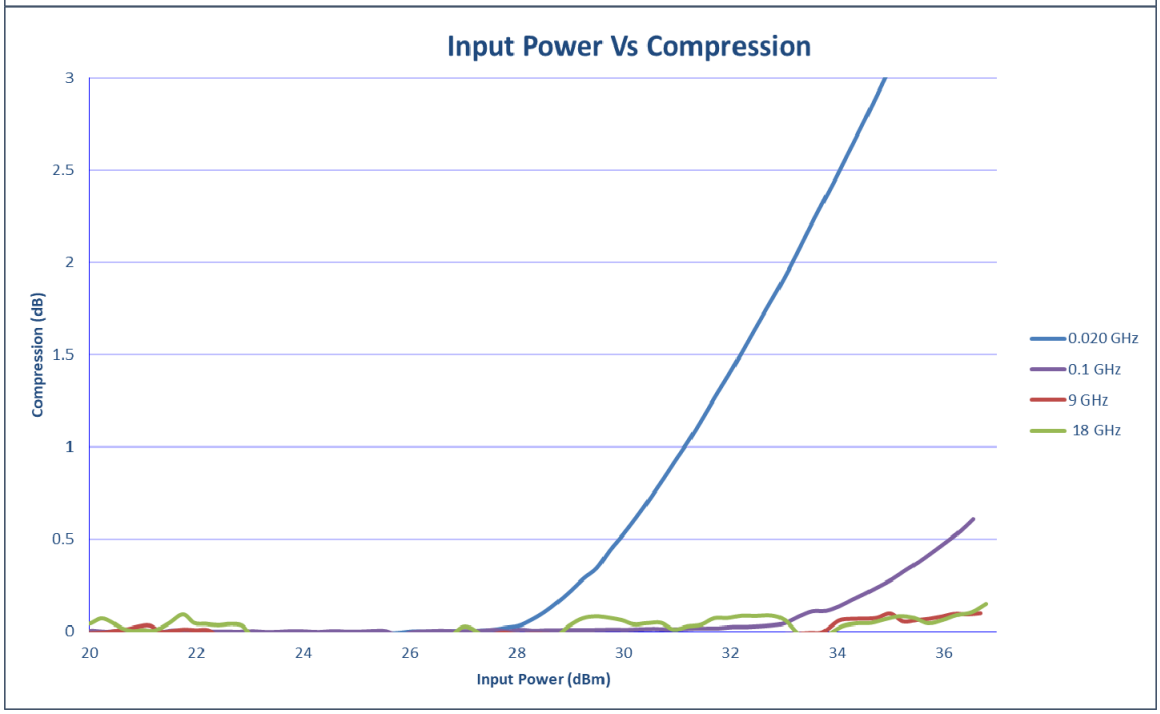
High Power Test.
-40 °C





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Typical Characteristics
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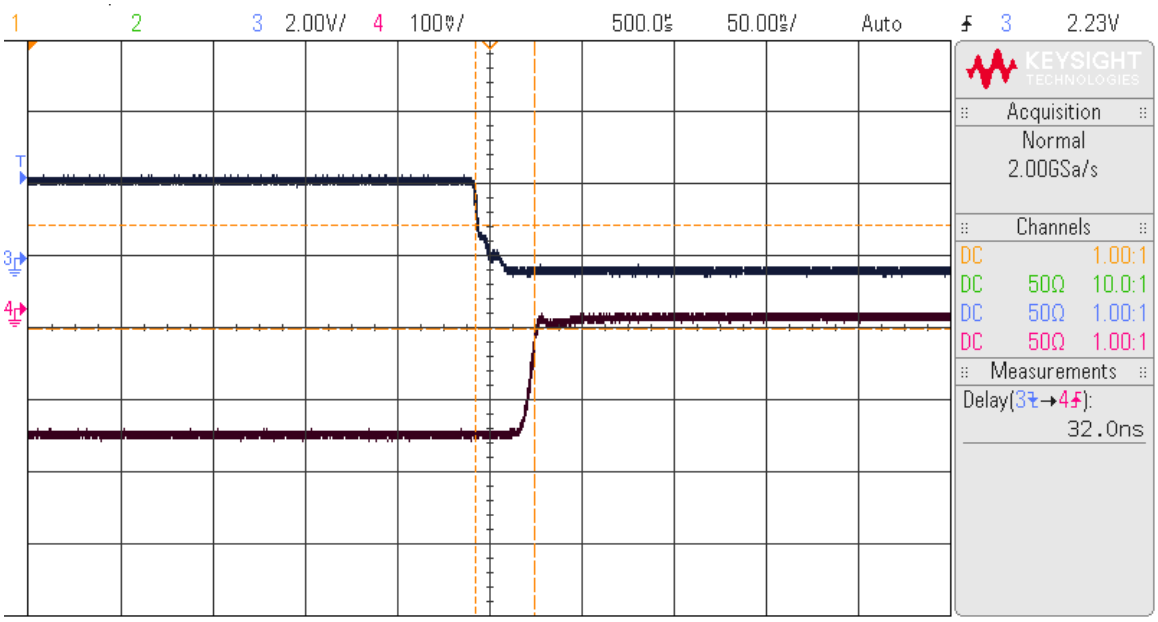
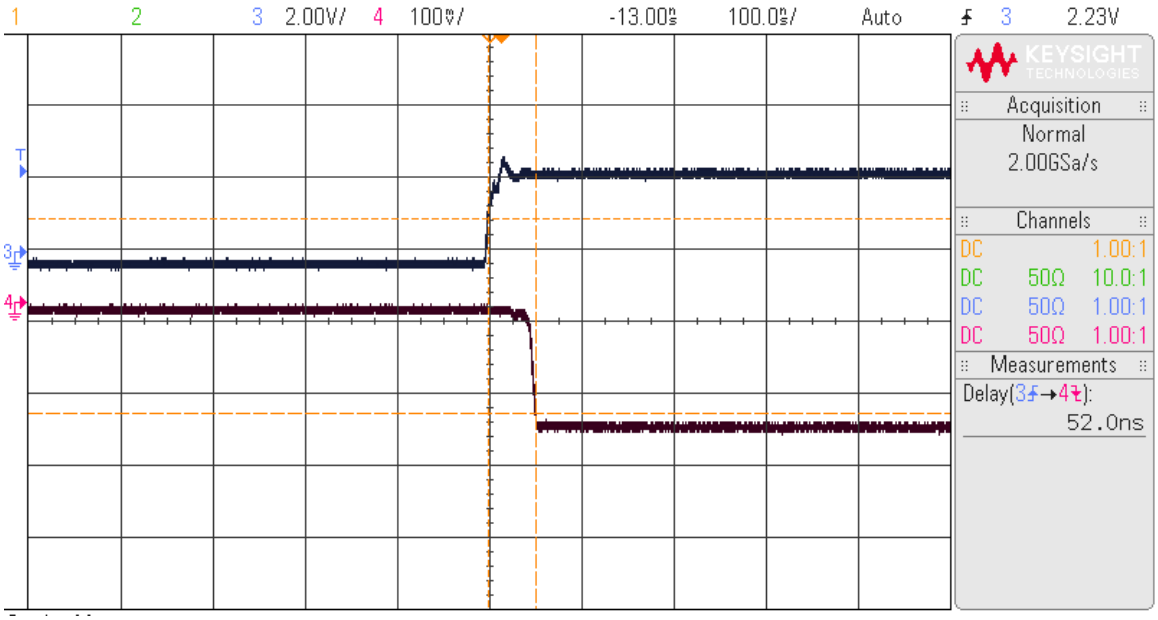
Switching Speed





Blue Signal = TTL
Red Signal = RF

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Typical Characteristics
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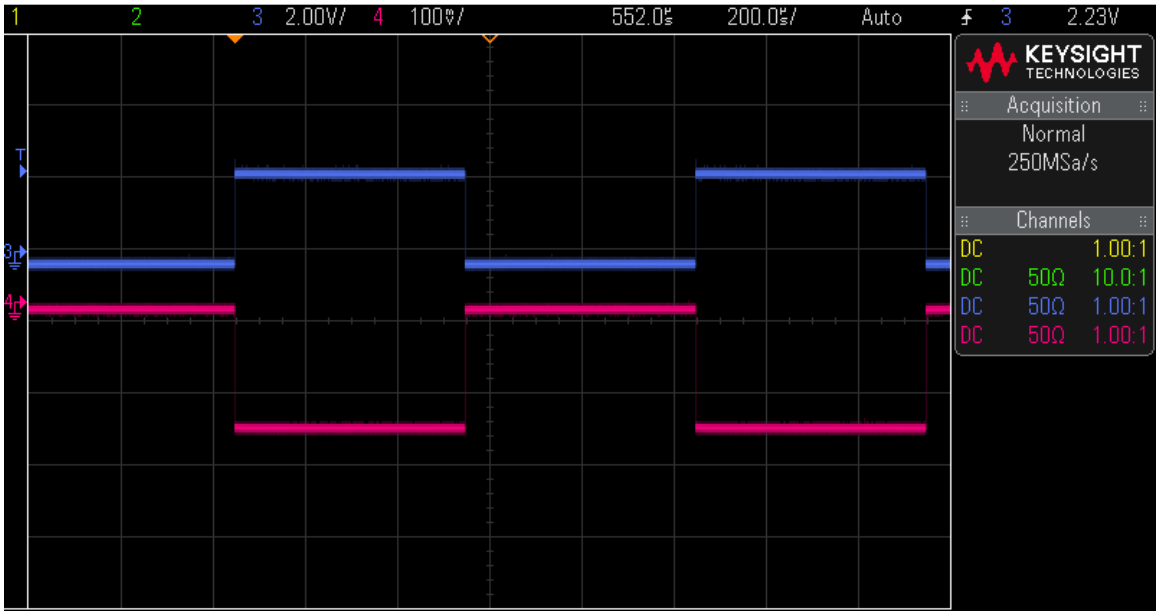
Full Pulse



Blue Signal = TTL
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