

**Typical Characteristics
ON
P2T-100M56G-100-T-185MM**

PMI MODEL P2T-100M56G-100-T-185MM IS AN ABSORPTIVE, SINGLE POLE TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 100 MHz TO 56 GHz FREQUENCY RANGE. IT FEATURES LOW INSERTION LOSS AND HIGH ISOLATION IN A SLIMLINE PACKAGE. THIS MODEL ALSO INCORPORATES A TTL COMPATIBLE DRIVER FOR EASE OF SYSTEM INTEGRATION.



December 27, 2022

Designed By:

Engineering PMI

Technical Drawings

Noor Azhar

Tested and Reported By:

Alfredo Lopez

Typical Characteristics ON P2T-100M56G-100-T-185MM

Outline Drawing

DESCRIPTION:

PMI MODEL P2T-100M56G-100-T-185MM IS AN ABSORPTIVE, SINGLE POLE TWO THROW PIN DIODE SWITCH THAT OPERATES OVER THE 100 MHz TO 56 GHz FREQUENCY RANGE. IT FEATURES LOW INSERTION LOSS AND HIGH ISOLATION IN A SLIMLINE PACKAGE. THIS MODEL ALSO INCORPORATES A TTL COMPATIBLE DRIVER FOR EASE OF SYSTEM INTEGRATION.

SPECIFICATIONS:

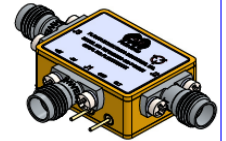
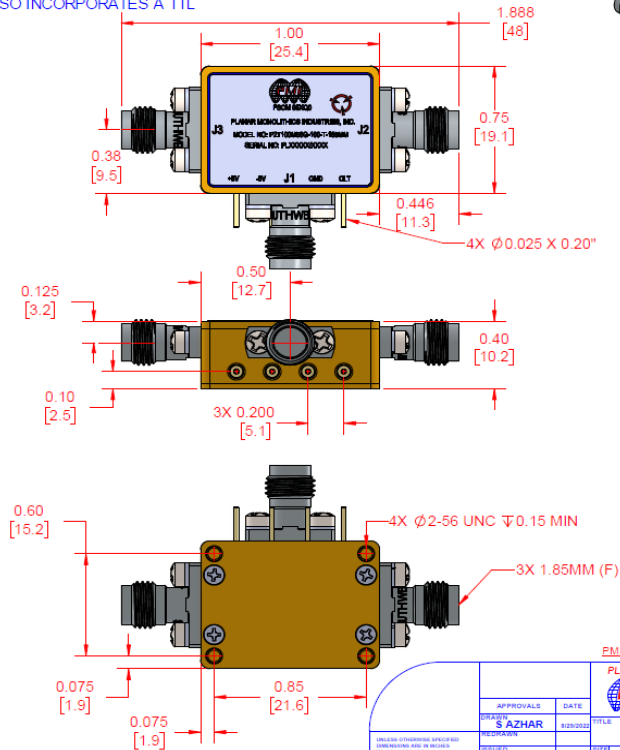
- FREQUENCY RANGE:.....0.1 MHz to 56 GHz
- INSERTION LOSS:.....4.0 dB (0.1 TO 18 GHz) MAX
7.0 dB (18 TO 40 GHz) MAX
13.0 dB (40 TO 52 GHz) MAX
15.0 dB (52 TO 56 GHz) MAX
- VSWR:.....2.5:1 (0.1 TO 18 GHz) MAX
3.0:1 (18 TO 40 GHz) MAX
3.2:1 (40 TO 56 GHz) MAX
- ISOLATION:.....90 dB (0.1 TO 1 GHz) MIN
90 dB (1 TO 18 GHz) MIN
75 dB (18 TO 40 GHz) MIN
70 dB (40 TO 52 GHz) MIN
65 dB (52 TO 56 GHz) MIN
- INPUT POWER:.....23 dBm CW MAX
- SWITCHING SPEED:.....50 ns MAX
- CONTROL SIGNAL:.....TTL LOGIC "0" = J1-J2 ON
TTL LOGIC "1" = J1-J3 ON
- DC VOLTAGE:.....+5 V @ 100 mA MAX
-5 V @ 100 mA MAX
- CONNECTORS:.....1.85 mm FEMALE
- SIZE:.....1.0" X 0.75" X 0.4"
- FINISH:.....GOLD PLATED

ENVIRONMENTAL RATINGS:

- TEMPERATURE:.....-40°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

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

MECHANICAL OUTLINE



ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	02/20/02	
	B1	ECN # 22-0172	10/27/02	

PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.



APPROVALS	DATE	TITLE
DESIGNED BY: S. AZHAR		OUTLINE
ISSUED BY:		P2T-100M56G-100-T-185MM
REVISED BY:		27044700
SCALE: 4:1		SHEET 1 OF 1

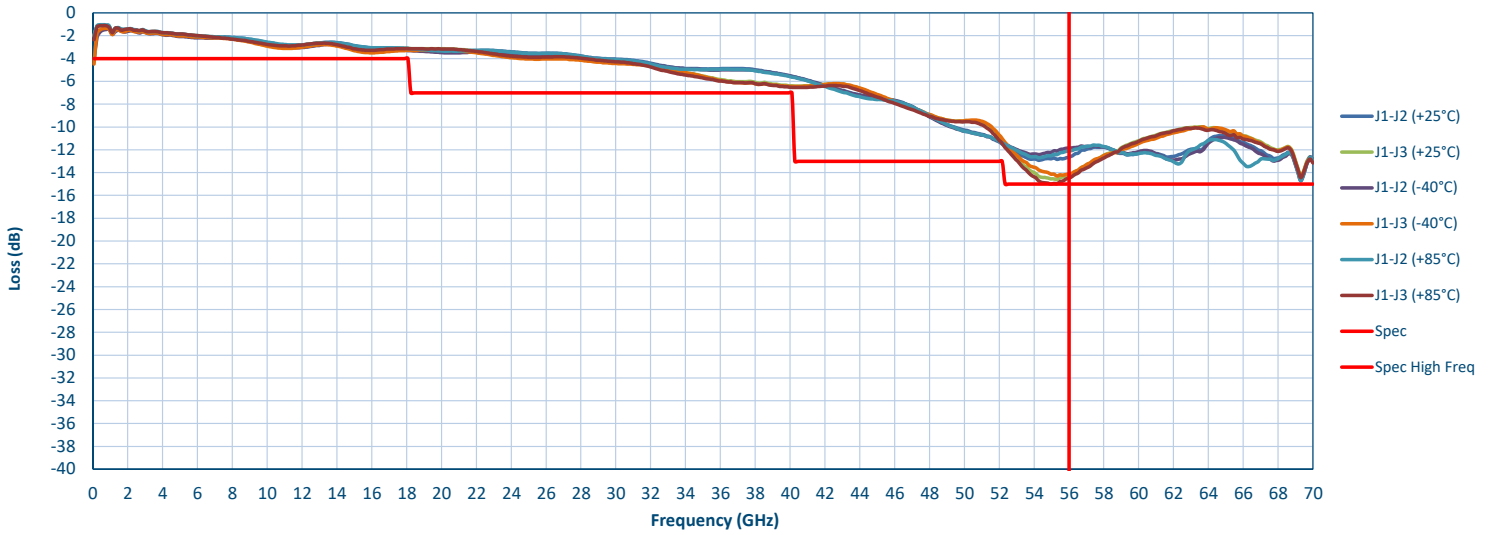
Typical Characteristics ON P2T-100M56G-100-T-185MM

Technical Specifications

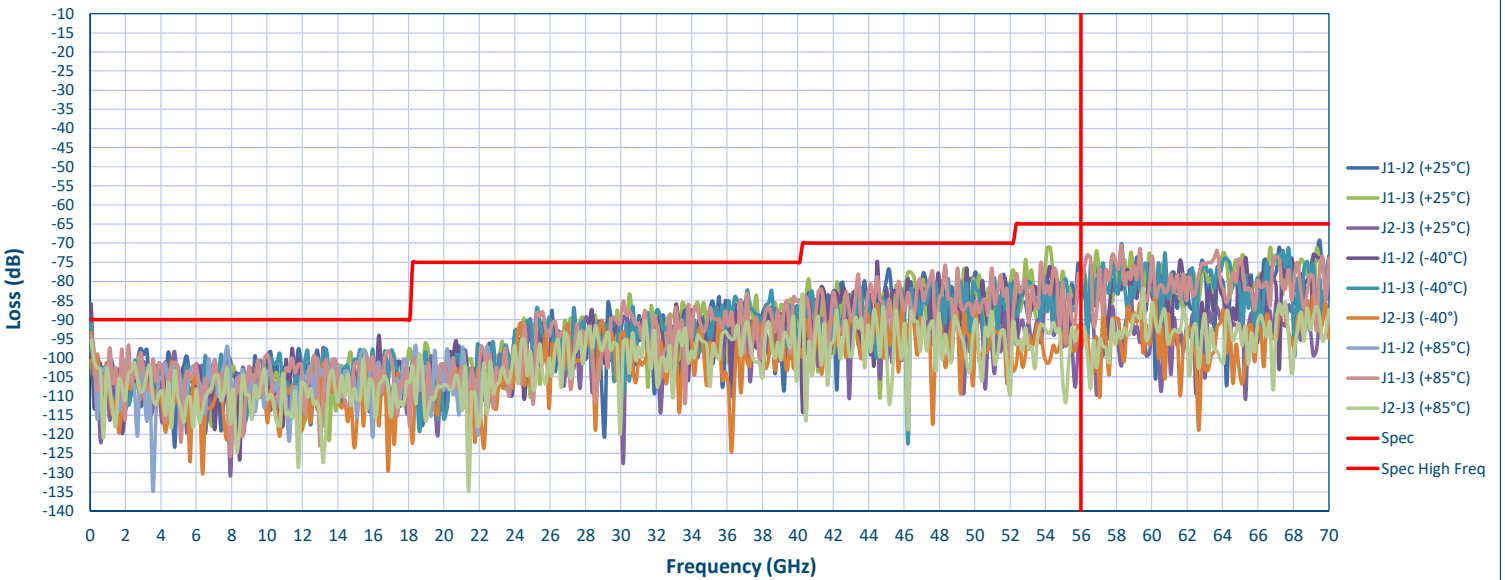
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA QC
			+25°C	-40°C	+85°C	
1	Frequency Range:	100 MHz to 56 GHz	100 MHz to 56 GHz	100 MHz to 56 GHz	100 MHz to 56 GHz	
2	Insertion Loss:	4.0 dB (0.1 to 18 GHz) Max.	3.27 dB	3.5 dB	3.29 dB	
		7.0 dB (18 to 40 GHz) Max.	6.4 dB	6.46 dB	6.53 dB	
		13.0 dB (40 to 52 GHz) Max.	11.49 dB	11.39 dB	11.45 dB	
		15.0 dB (52 to 56 GHz) Max.	14.61 dB	14.3 dB	15 dB	
			See Graphs	See Graphs	See Graphs	
3	VSWR:	2.5:1 (0.1 to 18 GHz) Max.	2.05 :1	2.18 :1	2.12 :1	
		3.0:1 (18 to 40 GHz) Max.	2.56 :1	2.51 :1	2.58 :1	
		3.2:1 (40 to 56 GHz) Max.	2.43 :1	2.55 :1	2.49 :1	
			See Graphs	See Graphs	See Graphs	
4	Isolation:	90 dB (0.1 to 1 GHz) Min.	100.1 dB	99.02 dB	97.37 dB	
		90 dB (0.1 to 18 GHz) Min.	97.4 dB	94.13 dB	96.75 dB	
		75 dB (18 to 40 GHz) Min.	83.31 dB	82.3 dB	80.22 dB	
		70 dB (40 to 52 GHz) Min.	76.78 dB	74.96 dB	73.93 dB	
		65 dB (52 to 56 GHz) Min.	71.19 dB	76.29 dB	75.01 dB	
			See Graphs	See Graphs	See Graphs	
5	Input Power:	23 dBm CW Max.	Pass See Graph	Pass See Graph	Pass See Graph	
6	Switching Speed:	50 ns Max.	Rise Time = 3.43 ns	Rise Time = 3.43 ns	Rise Time = 3.43 ns	
			Fall Time = 3.6 ns	Fall Time = 3.6 ns	Fall Time = 3.6 ns	
			Speed ON = 39.60 ns	Speed ON = 39.60 ns	Speed ON = 39.60 ns	
			Speed OFF = 30.56 ns	Speed OFF = 30.56 ns	Speed OFF = 30.56 ns	
			See Plots	See Plots	See Plots	
7	Control Signal:	TTL Logic "0" = J1-J2 On TTL Logic "1" = J1-J3 On	Pass	Pass	Pass	
8	DC Voltage:	+5 VDC @ 100 mA Max. -5 VDC @ 100 mA Max.	+5 VDC @ 86 mA -5 VDC @ 63 mA	+5 VDC @ 84 mA -15 VDC @ 67 mA	+5 VDC @ 90 mA -15 VDC @ 66 mA	

Typical Characteristics ON P2T-100M56G-100-T-185MM

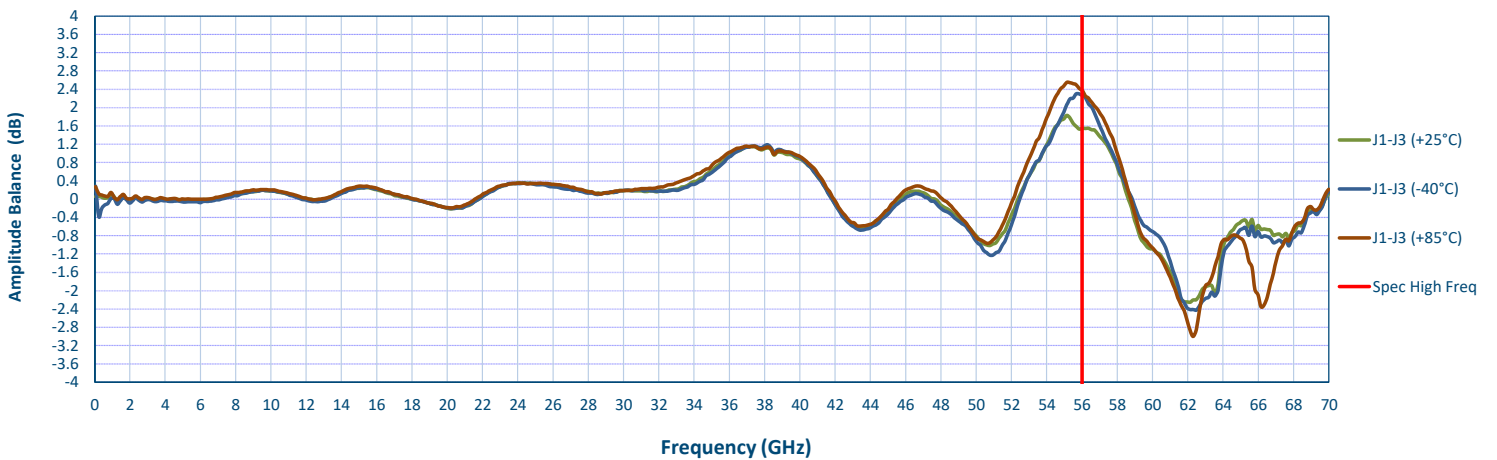
Insertion Loss



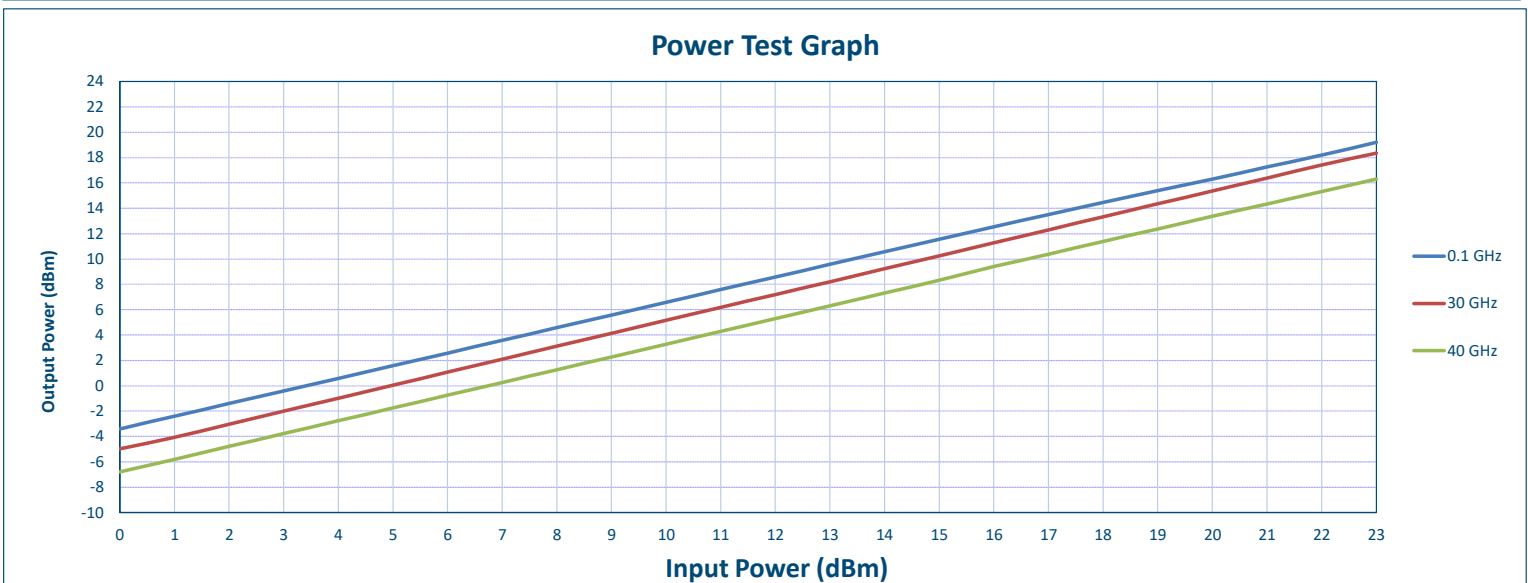
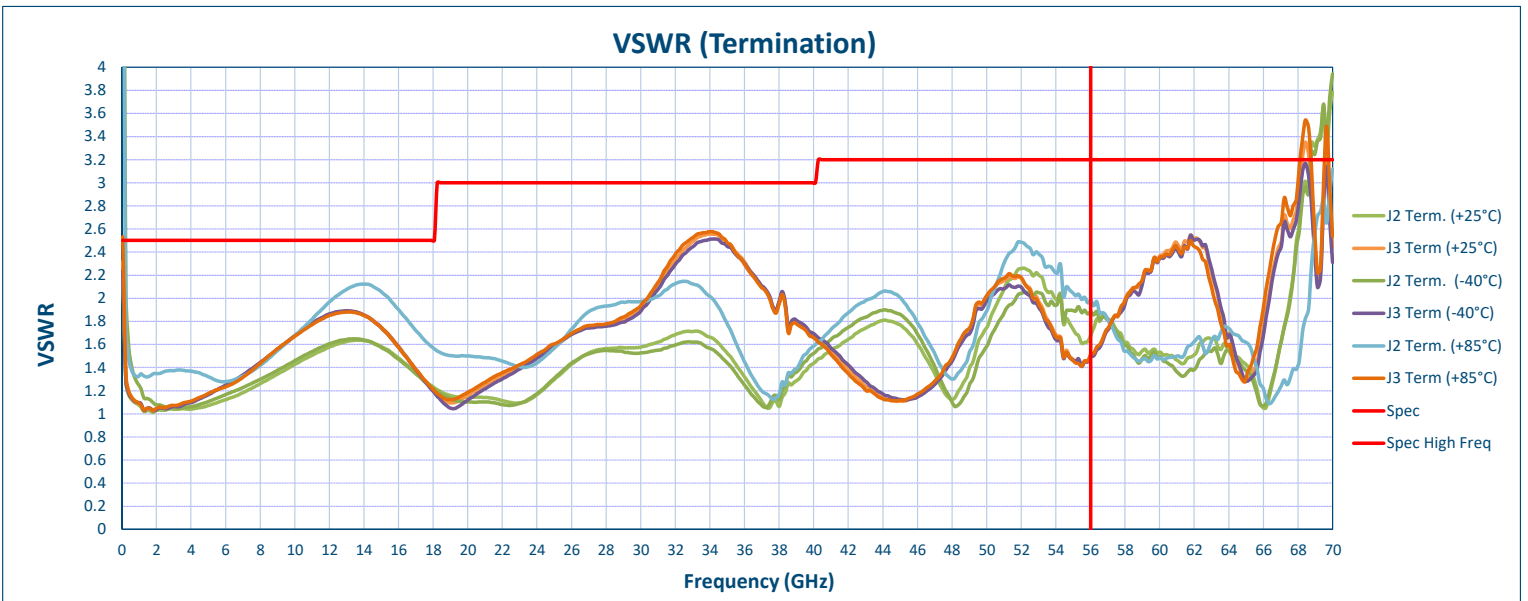
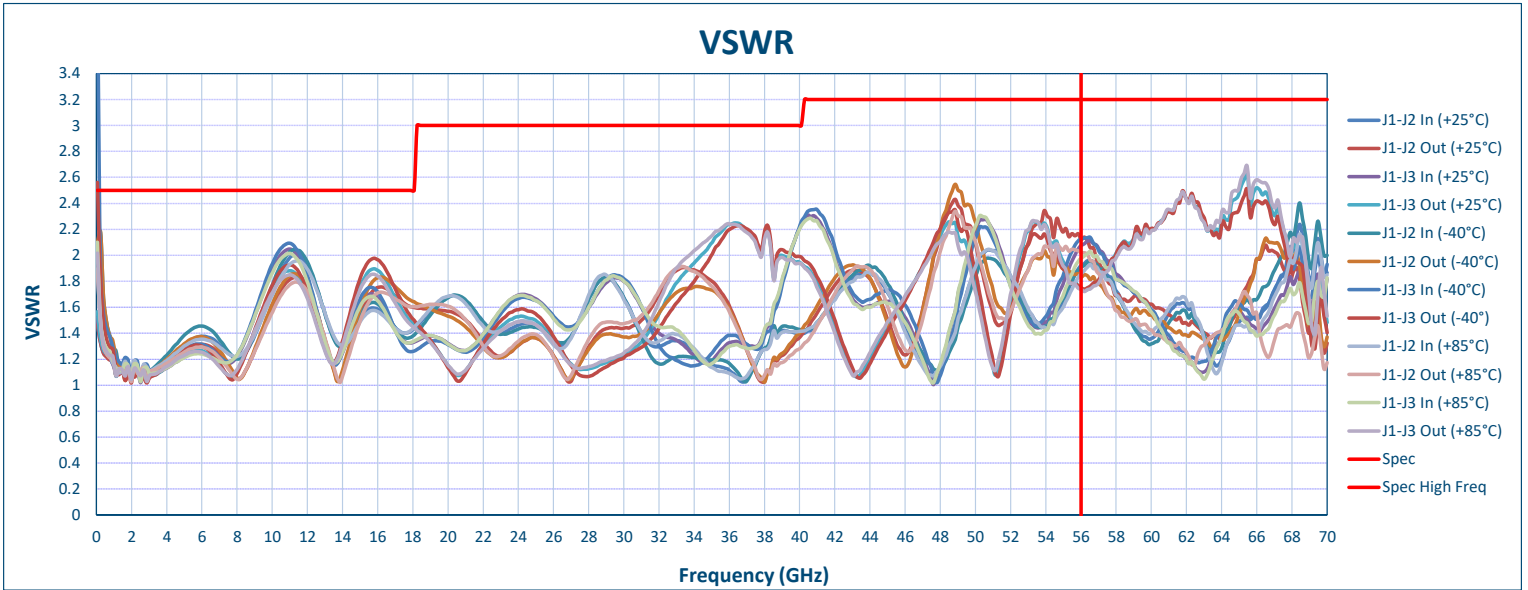
Isolation



Amplitude Balance

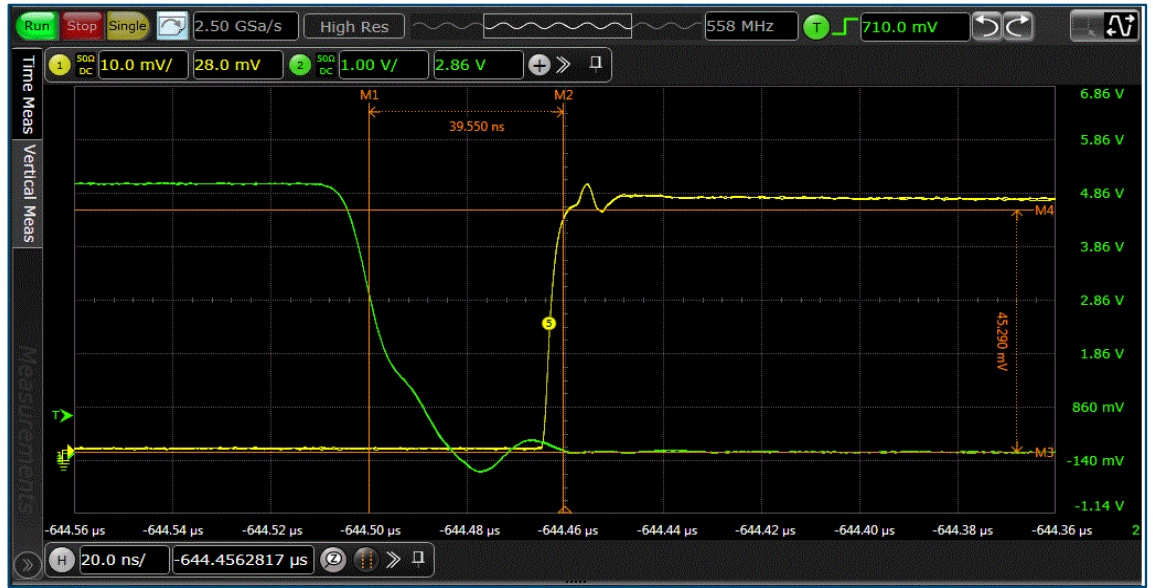


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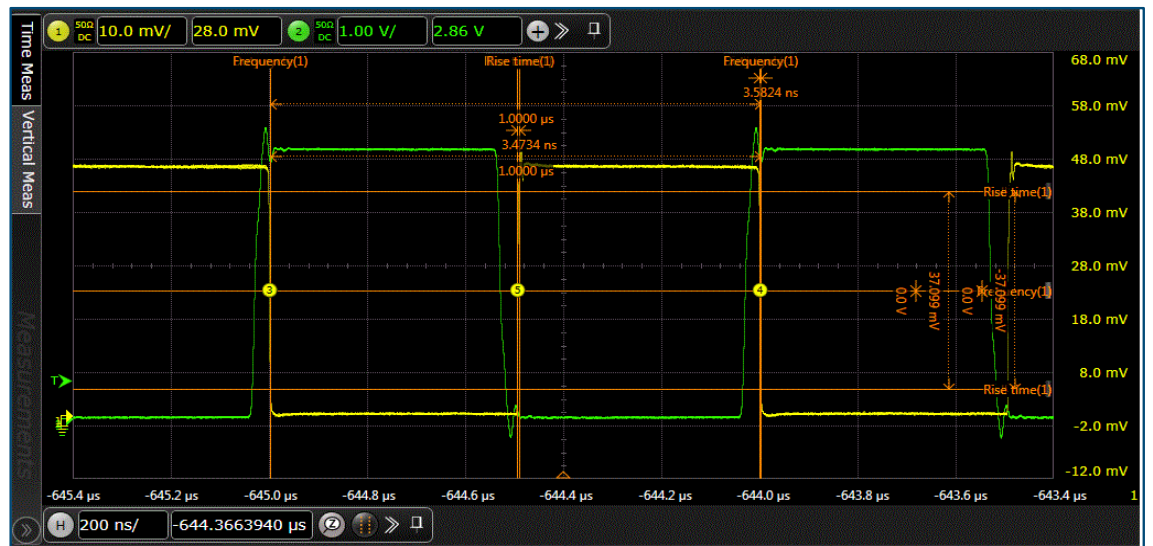
Speed ON
20 ns Per Div.
Measured value 39.60 ns



Speed OFF
20 ns Per Div.
Measured value 30.56 ns



Full Pulse
200 ns Per Div.
Switching Rate 1MHz



Green Trace - TTL
Yellow Trace - RF Signal

Typical Characteristics ON P2T-100M56G-100-T-185MM

Rise time
20 ns Per Div.
Measured value 3.43 ns



Fall time
20 ns Per Div.
Measured value 3.60 ns

Green Trace - TTL
Yellow Trace - RF Signal



Video Transients
350 MHz BW
Switching Rate 1MHz

Green Trace - TTL
Yellow Trace - Transients (mV)

