



Typical Characteristics ON P2T-500M18G-30-R-SFF

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER P2T-500M18G-30-R-SFF IS A REFLECTIVE SINGLE POLE, TWO THROW SWITCH THAT OPERATES FROM 500 MHz TO 18.0 GHz WHICH HANDLES +23 dBm CW INPUT POWER. THE PORT TO PORT ISOLATION IS 30 dB MINIMUM. THIS MODEL HAS LOW INSERTION LOSS WHILE STILL OFFERING A FAST SWITCHING SPEED OF 100 ns MAXIMUM.



April 11, 2022

Designed By:
PMI Engineering

Technical Drawings:
Michael Hanken

Tested and Reported By:
Alfredo Lopez



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Technical Specifications

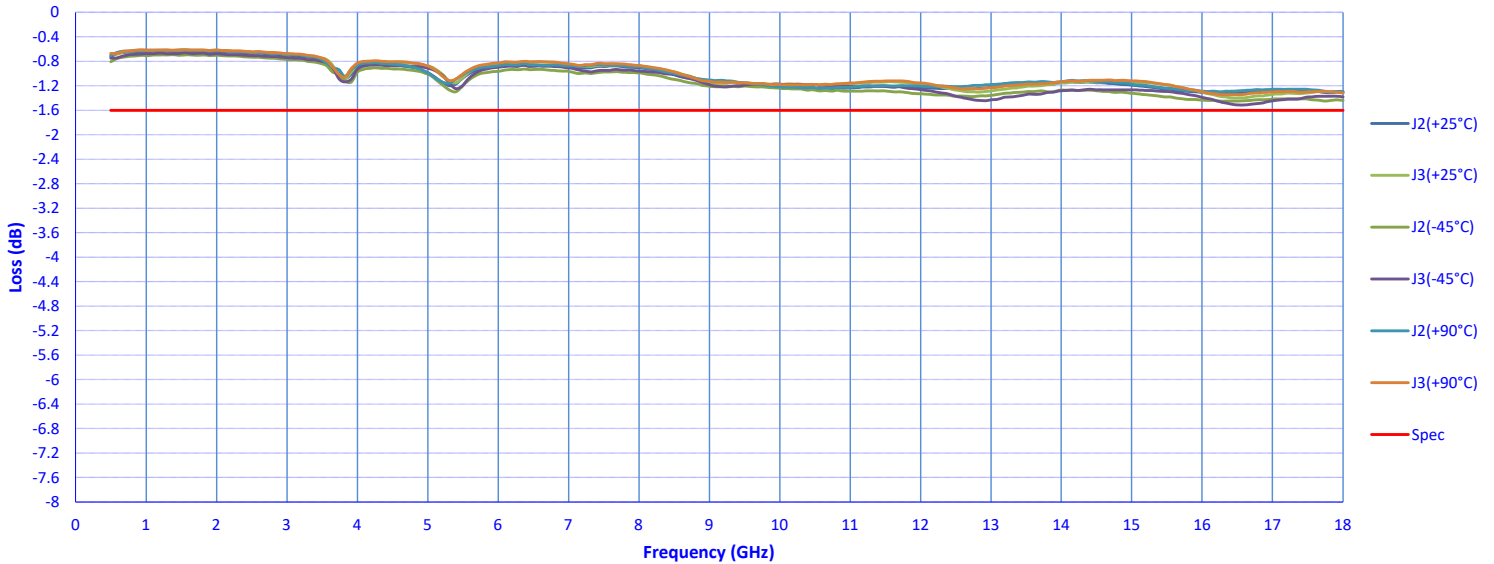
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			QA QC	
			+25°C	-45°C	+90°C		
1	Frequency Range:	500 MHz to 18.0 GHz	500 MHz to 18.0 GHz	500 MHz to 18.0 GHz	500 MHz to 18.0 GHz		
2	Insertion Loss:	1.50 dB Typ. 1.60 dB Max.	1.4 dB See Graph	1.52 dB See Graph	1.35 dB See Graph		
3	Isolation:	30 dB Min.	30.85 dB See Graph	30.88 dB See Graph	30.8 dB See Graph		
4	VSWR:	2.0:1 Max.	1.61 See Graph	1.54 See Graph	1.65 See Graph		
5	Switching Speed:	100 nsec Max.	Rise Time - 18.5ns Fall Time - 8.10ns Speed ON-81.0ns Speed OFF- 33.20ns See Plots	Rise Time - 18.5ns Fall Time - 8.10ns Speed ON-81.0ns Speed OFF- 33.20ns See Plots	Rise Time - 18.5ns Fall Time - 8.10ns Speed ON-81.0ns Speed OFF- 33.20ns See Plots		
6	Input Power:	+23 dBm Max.	Pass See Graph	Pass See Graph	Pass See Graph		
7	DC Supply:	+5 VDC @ 80 mA Typ. -12 VDC @ 80 mA Typ.	+5 VDC @ 16 mA -12 VDC @ 17 mA	+5 VDC @ 16 mA -12 VDC @ 16 mA	+5 VDC @ 17 mA -12 VDC @ 18 mA		
8	Control Logic:	Logic Table			Pass	Pass	Pass
		CTL1	CTL2	Function			
		0	0	Insertion Loss (All ON)			
		0	1	J1-J2			
		1	0	J1-J3			
1	1	Isolation (All OFF)					

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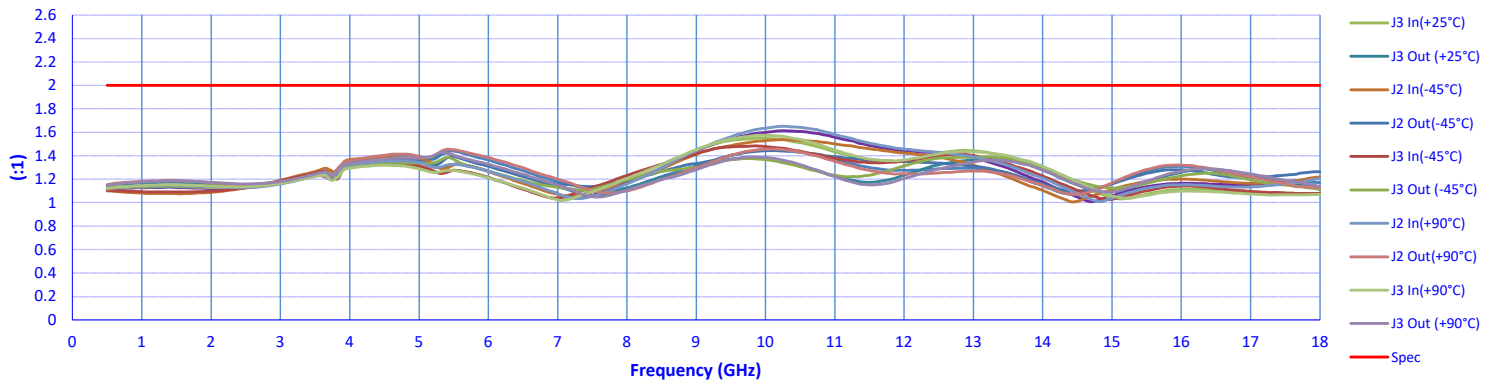


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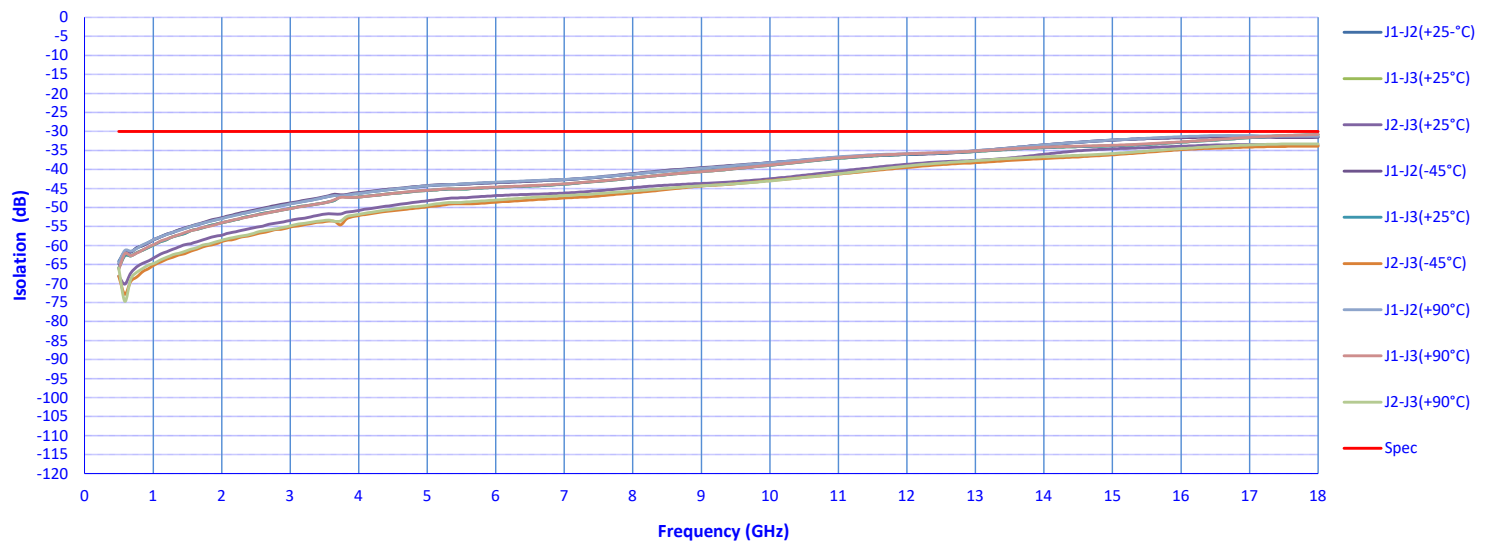
Insertion Loss



VSWR



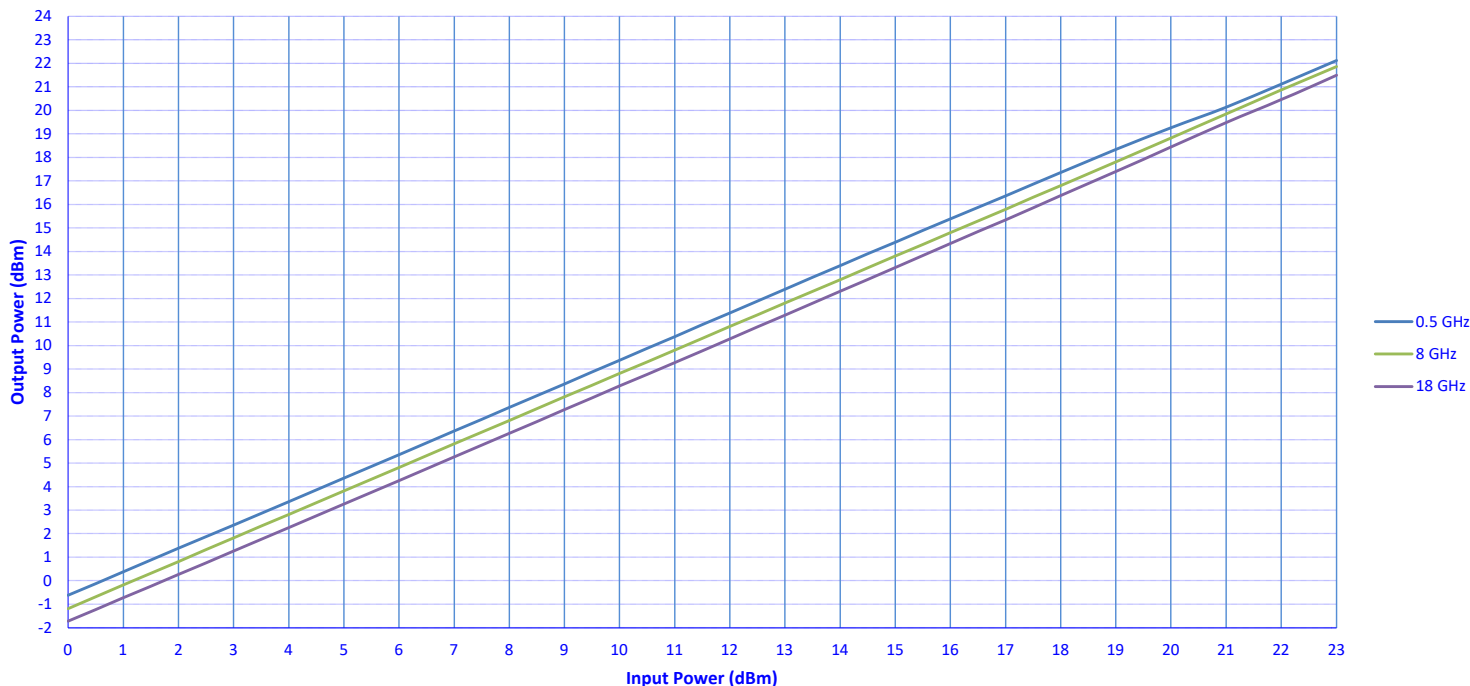
Isolation





Typical Characteristics ON P2T-500M18G-30-R-SFF

High Power Graph (CW)



High Power Test Data (CW)

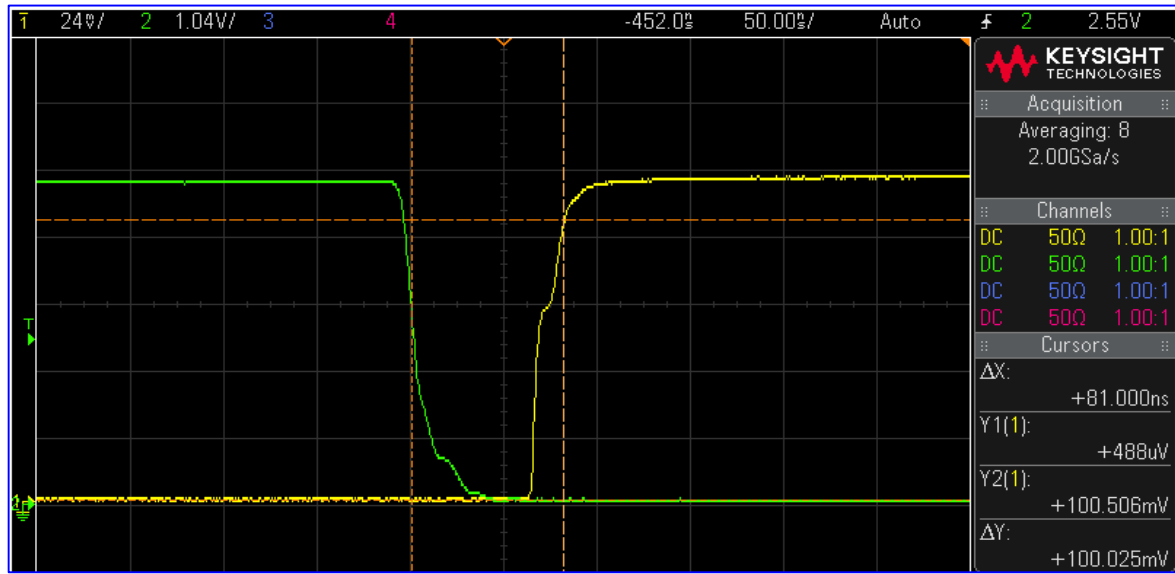
0.5 GHz				8 GHz				18 GHz			
Input Power (dBm)	Output Power (dBm)	Loss (dBm)	Compression (dBm)	Input Power (dBm)	Output Power (dBm)	Loss (dBm)	Compression (dBm)	Input Power (dBm)	Output Power (dBm)	Loss (dBm)	Compression (dBm)
0	-0.624	0.624	0.017	0	-1.186	1.186	0.545	0	-1.724	1.724	1.083
1	0.375	0.625	0.016	1	-0.188	1.188	0.547	1	-0.733	1.733	1.092
2	1.378	0.622	0.019	2	0.815	1.185	0.544	2	0.262	1.738	1.097
3	2.360	0.640	0.001	3	1.818	1.182	0.541	3	1.257	1.744	1.103
4	3.361	0.639	0.002	4	2.817	1.183	0.542	4	2.255	1.745	1.104
5	4.359	0.641	0.000	5	3.816	1.184	0.543	5	3.254	1.746	1.105
6	5.361	0.639	0.002	6	4.817	1.183	0.542	6	4.256	1.744	1.103
7	6.361	0.639	0.002	7	5.818	1.182	0.541	7	5.259	1.741	1.100
8	7.366	0.634	0.007	8	6.817	1.183	0.542	8	6.263	1.737	1.096
9	8.369	0.632	0.009	9	7.813	1.187	0.546	9	7.270	1.731	1.090
10	9.373	0.627	0.014	10	8.810	1.190	0.549	10	8.275	1.725	1.084
11	10.379	0.621	0.020	11	9.801	1.199	0.558	11	9.272	1.728	1.087
12	11.386	0.614	0.027	12	10.808	1.192	0.551	12	10.285	1.715	1.074
13	12.389	0.611	0.030	13	11.803	1.197	0.556	13	11.295	1.705	1.064
14	13.399	0.601	0.040	14	12.803	1.197	0.556	14	12.303	1.697	1.056
15	14.394	0.606	0.035	15	13.801	1.199	0.558	15	13.316	1.684	1.043
16	15.385	0.615	0.026	16	14.798	1.202	0.561	16	14.332	1.668	1.027
17	16.369	0.631	0.010	17	15.799	1.201	0.560	17	15.350	1.650	1.009
18	17.351	0.649	0.008	18	16.801	1.199	0.558	18	16.371	1.629	0.988
19	18.332	0.668	0.027	19	17.809	1.191	0.550	19	17.400	1.600	0.959
20	19.258	0.742	0.101	20	18.824	1.176	0.535	20	18.439	1.561	0.920
21	20.131	0.869	0.228	21	19.847	1.153	0.512	21	19.481	1.519	0.878
22	21.115	0.885	0.244	22	20.864	1.136	0.495	22	20.454	1.546	0.905
23	22.118	0.882	0.241	23	21.861	1.139	0.498	23	21.487	1.513	0.872

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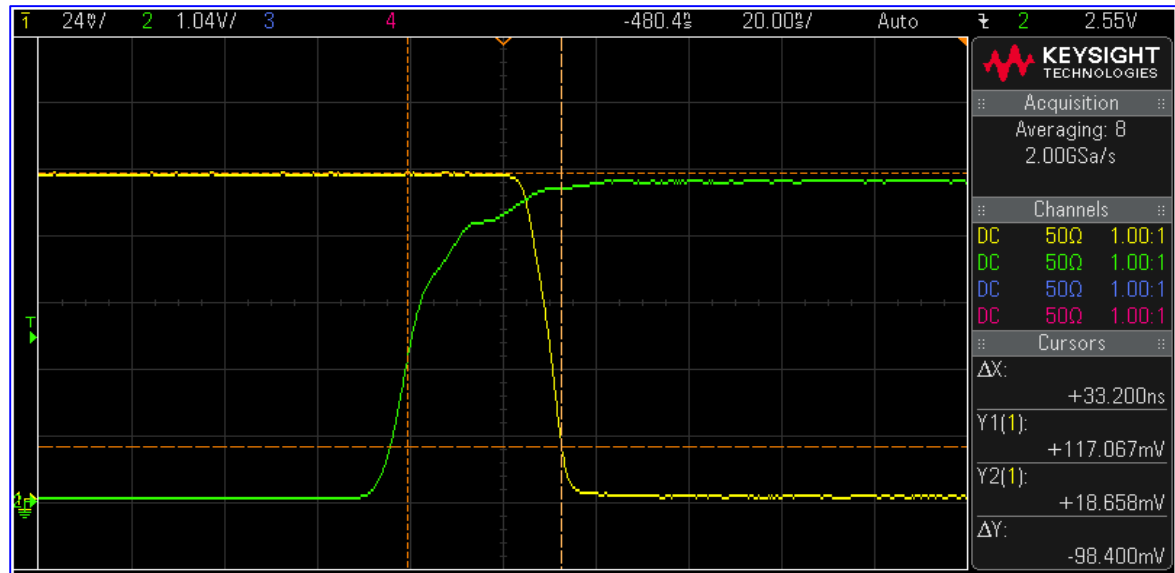


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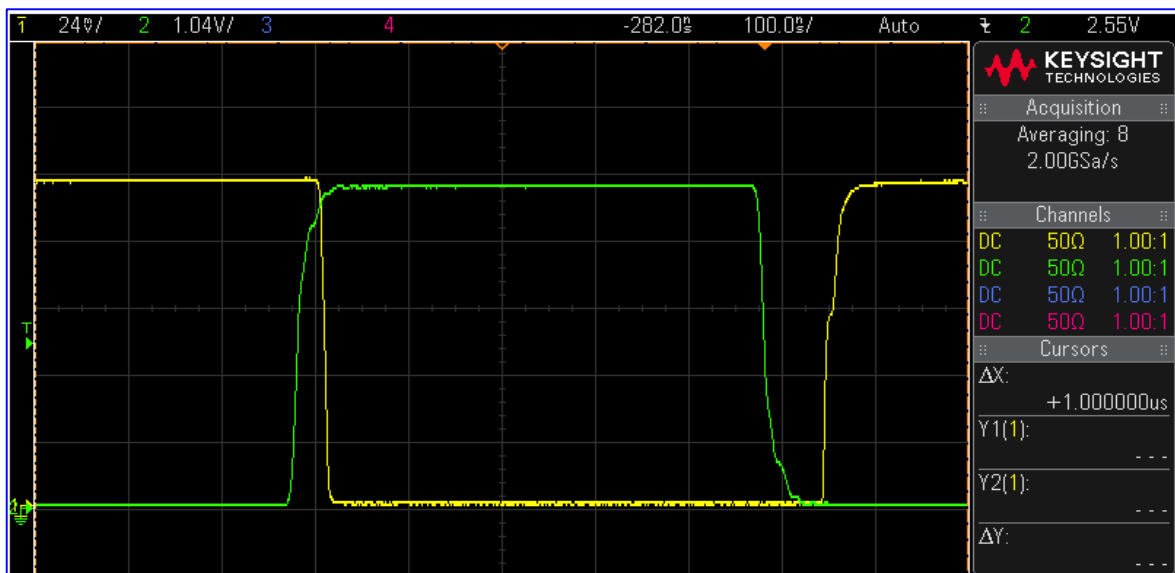
Switching Speed ON
50 ns Per Div
Measured value (81.0 ns)



Switching Speed OFF
20 ns Per Div
Measured value (33.20 ns)



Full Pulse
100 ns Per Div

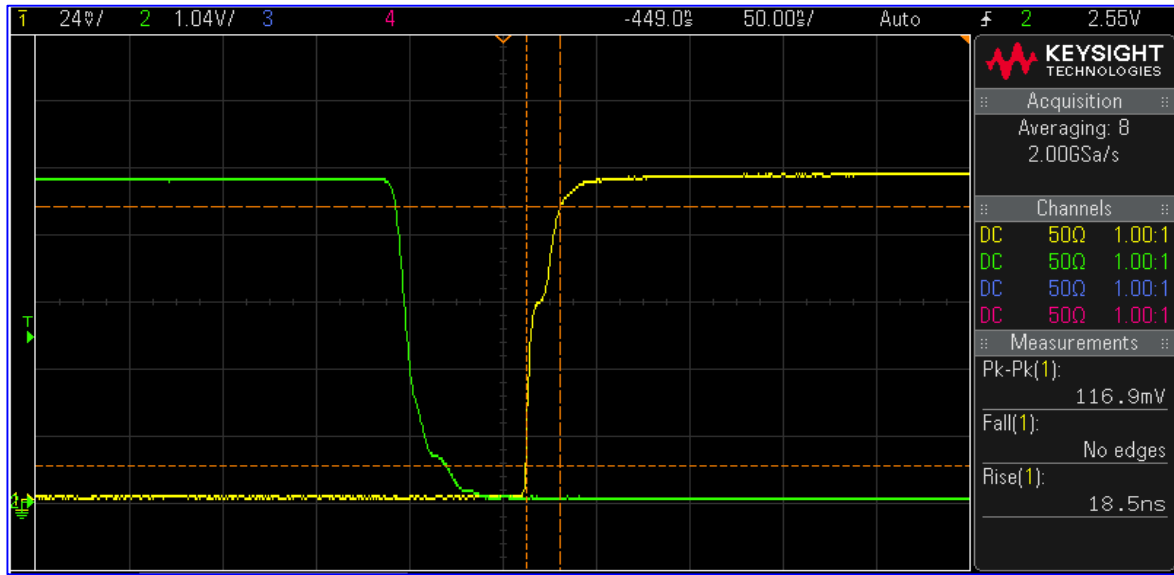


Green Trace - TTL Signal
Yellow Trace - RF Signal

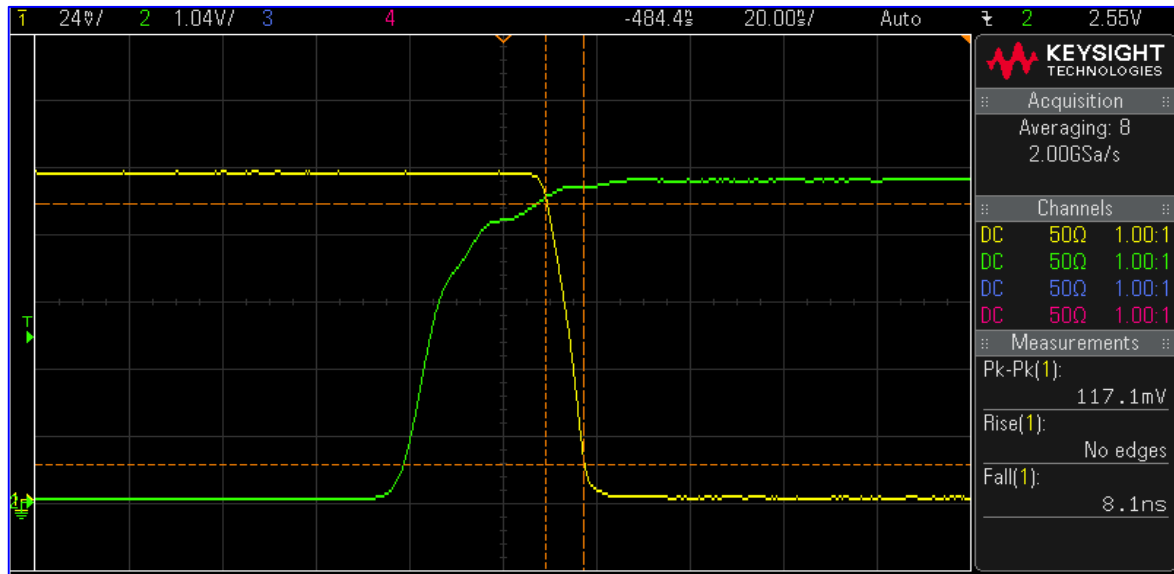


Typical Characteristics ON P2T-500M18G-30-R-SFF

Rise Time
50 ns Per Div
Measured value (81.0 ns)

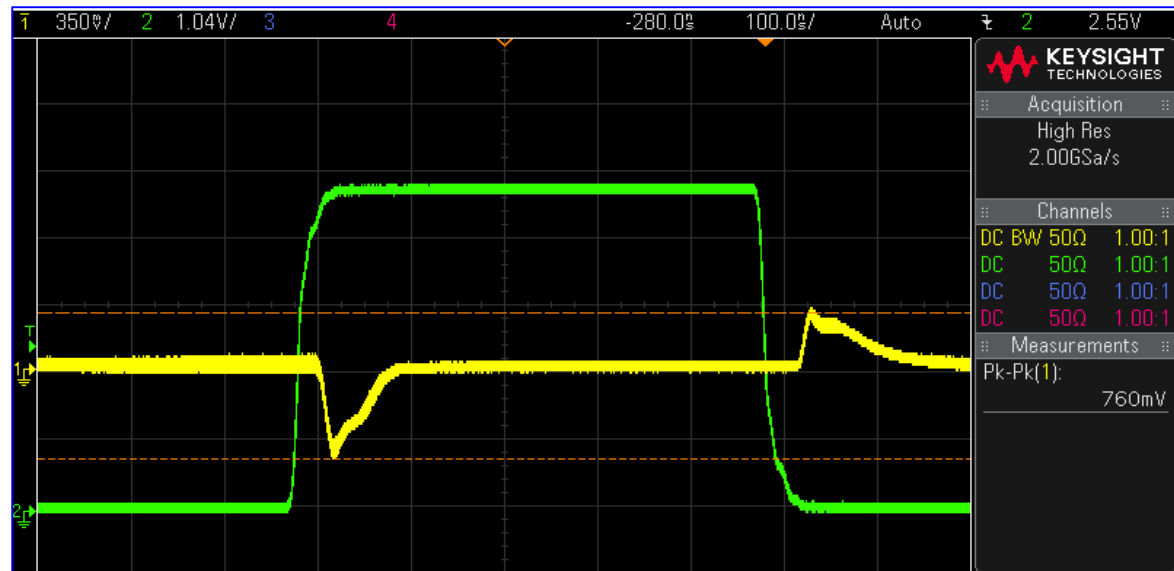


Fall Time
20 ns Per Div
Measured value (33.20 ns)



Green Trace - TTL Signal
Yellow Trace - RF Signal

Transients Video
350 MHz BW Limit
Switching Rate 1MHz



Green Trace - TTL Signal
Yellow Trace - Video Signal

