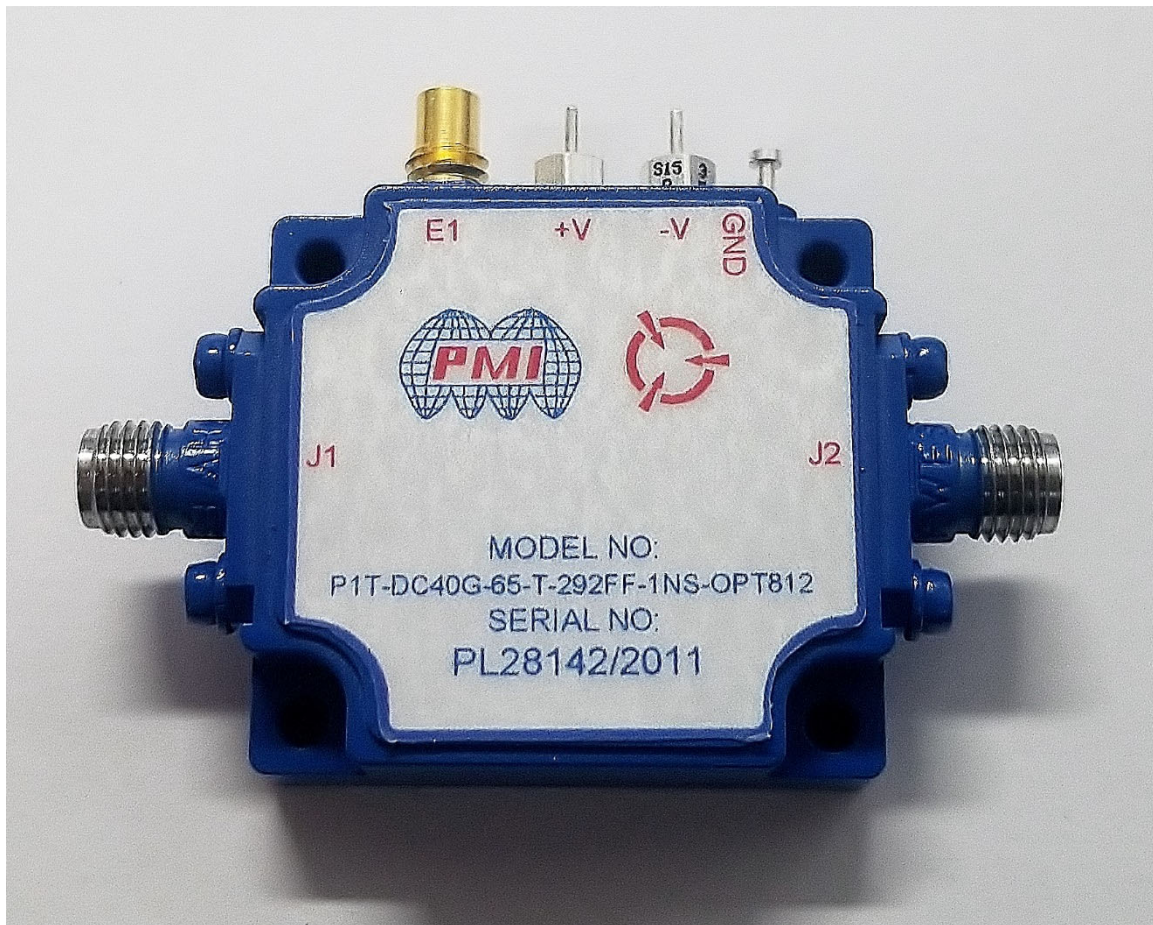




TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT812 IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW, SWITCH THAT OPERATES FROM 8 TO 12 GHz. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.



March 16, 2020

Designed By: PMI Engineering

Tested & Reported By:
Lee McGraw

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@pmi-rf.com



TYPICAL CHARACTERISTICS

P1T-DC40G-65-T-292FF-1NS-OPT812

DESCRIPTION

PMI MODEL P1T-DC40G-65-T-292FF-1NS-OPT18G IS AN ABSORPTIVE, SINGLE POLE, SINGLE THROW FET SWITCH THAT OPERATES FROM DC TO 18 GHZ. THIS MODEL INCORPORATES A TTL COMPATIBLE DRIVER FOR EASY SYSTEM INTEGRATION.

SPECIFICATIONS

- FREQUENCY RANGE: DC to 18GHz
- ISOLATION: 60dB Typical, 55dB Min.
- INSERTION LOSS: 4.5dB Typical, 5.0dB Max.
- VSWR IN / OUT: 2.0:1 Typical, 2.2:1 Max.
- INPUT POWER: +17 dBm CW MAX
- SWITCHING SPEED: 6ns Typical, 7ns Max.
- RISE/FALL TIME: 1ns Typical, 2ns Max.
- CONTROL SIGNAL: TTL "1" = ON
- VIDEO TRANSIENTS: 300 MHz BW (2-18 GHz) : 85mV P-P
20 MHz BW (2-18 GHz) : 15mV P-P
- DC VOLTAGE: +8 to +15V @ 15mA Max.
-8 to -15V @ 40mA Max.
- CONNECTORS IN/OUT: SMA FEMALE CONNECTORS
- CONTROL CONNECTORS: SMC
- 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.
- SIZE: 1.2" X 1.3" X 0.5"

ENVIRONMENTAL RATINGS

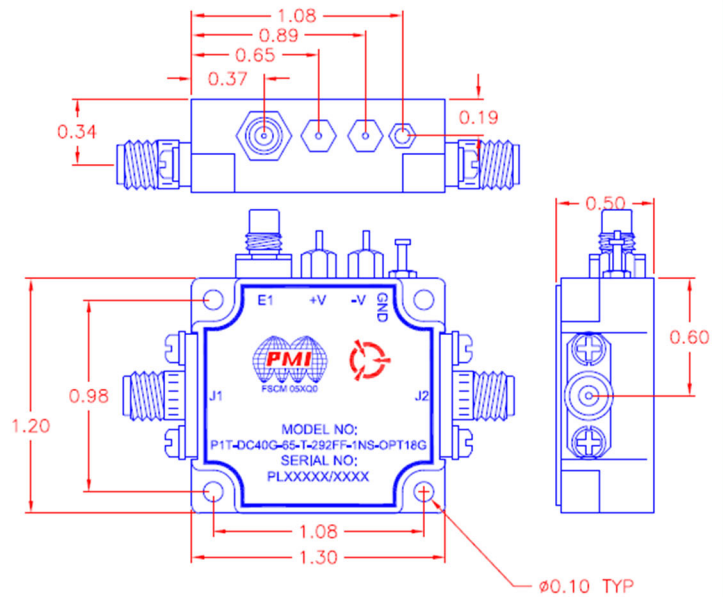
- TEMPERATURE: -40°C TO +85°C (OPERATING)
-55°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

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

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
XXX .0050
XXXX .0010

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	03/18/13	
	A1	ECN # 15-0067	04/24/15	
	B1	ECN # 16-0202	12/19/16	

MECHANICAL OUTLINE



PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: 301-662-5019 FAX: 301-662-1731
WEBSITE: www.pmi-rf.com
E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	<i>sfk</i>	03/18/13	PRODUCT FEATURE		
CHECKED			P1T-DC40G-65-T-292FF-1NS-OPT18G		
ISSUED			SIZE	FSOM NO.	DWG NO.
			A	05XQ0	27025062
			SCALE	N:S	SHEET 1 OF 1

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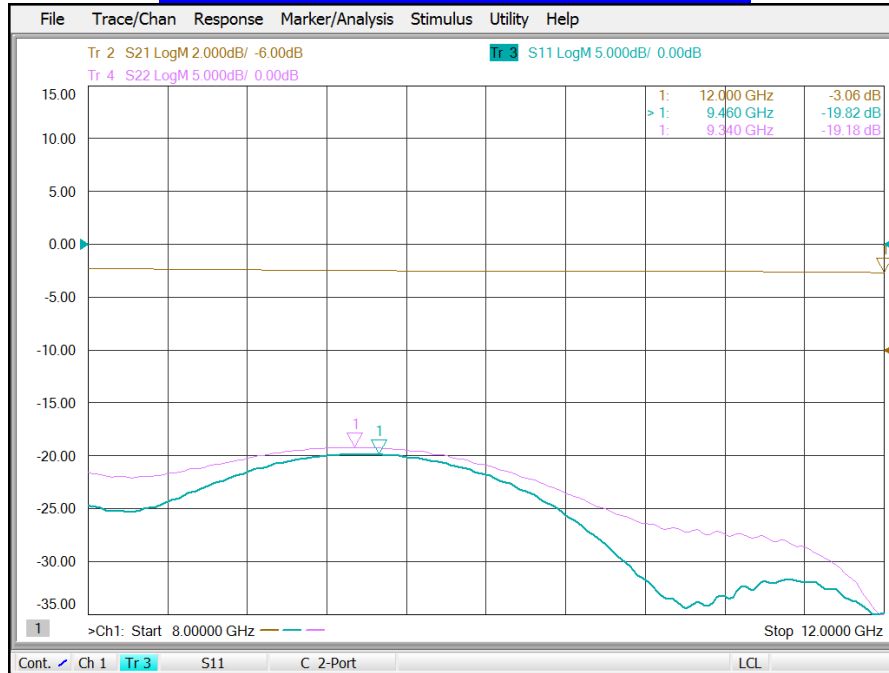
TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	8 to 12 GHz	8-12GHz See Plots	
2	Isolation:	70dB Typ, 60dB Min	71dB See Plots	
3	Insertion Loss:	3.5dB Typ, 4.5dB Max	3.0dB See Plots	
4	VSWR In/Out:	2.0:1 Typ, 2.2:1 Max	1.4:1 See Plots	
5	Input Power:	+17dBm CW Max	Pass	
6	Switching Speed:	3ns Typ, 5ns Max	ns See Plots	
7	Rise/Fall Time:	0.9ns Typ, 1ns Max	ns See Plots	
8	Control Signal:	TTL "1" On	Pass	
9	Video Transients:	300 MHz BW (2-18GHz) : 85mV P-P 20 MHz BW (2-18 GHz) : 15mV P-P	80 mV P-P 13 mV P-P See Plots	
10	DC Voltage:	+8 to +15V @ 15mA Max -8 to -15V @ 40mA Max	+8 to +15V @ 8 mA -8 to -15V @ 27mA	

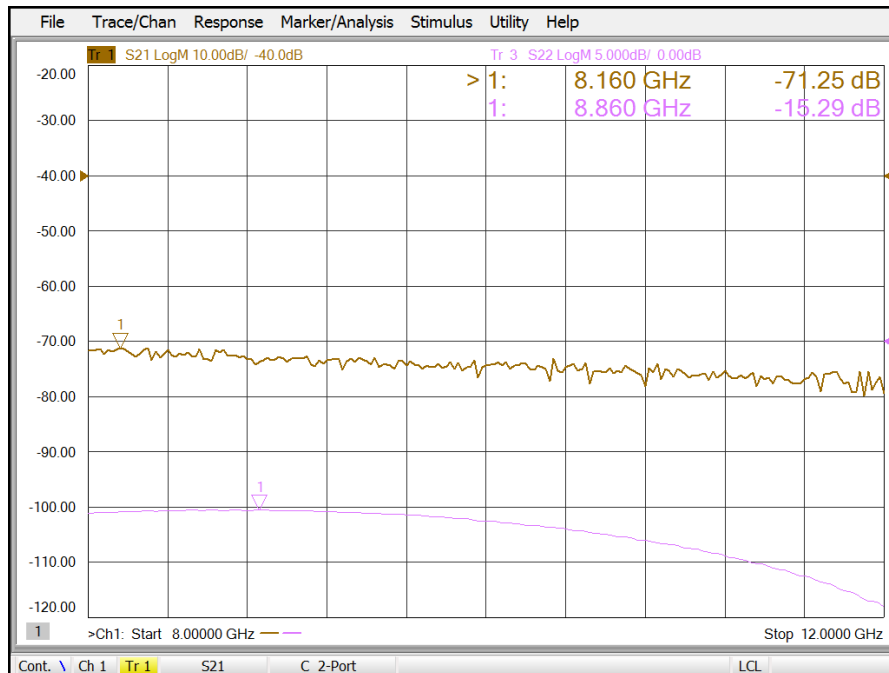


TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

(J1-J2) Insertion Loss and Return Loss



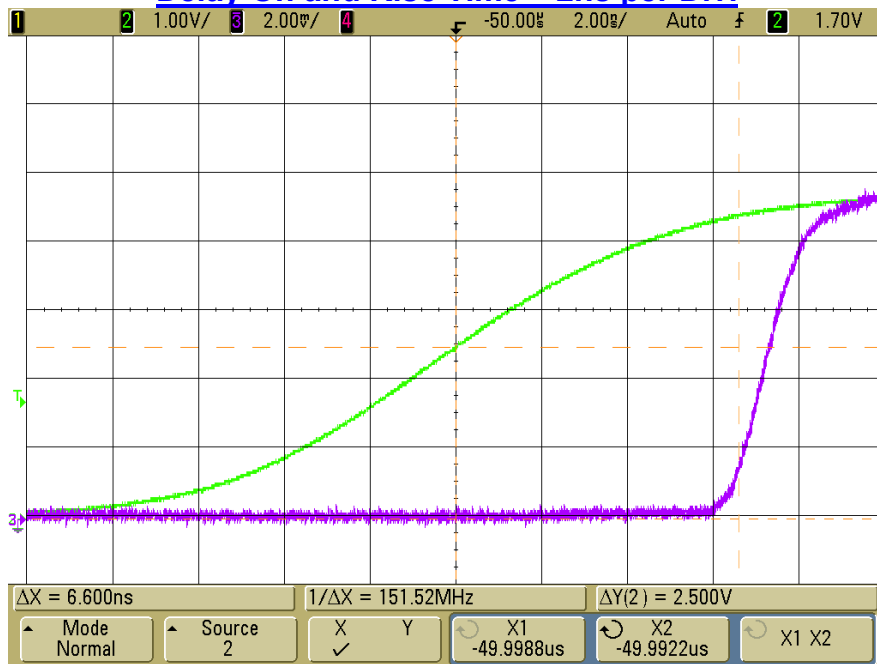
(J1 - J2) Isolation and Termination Return Loss



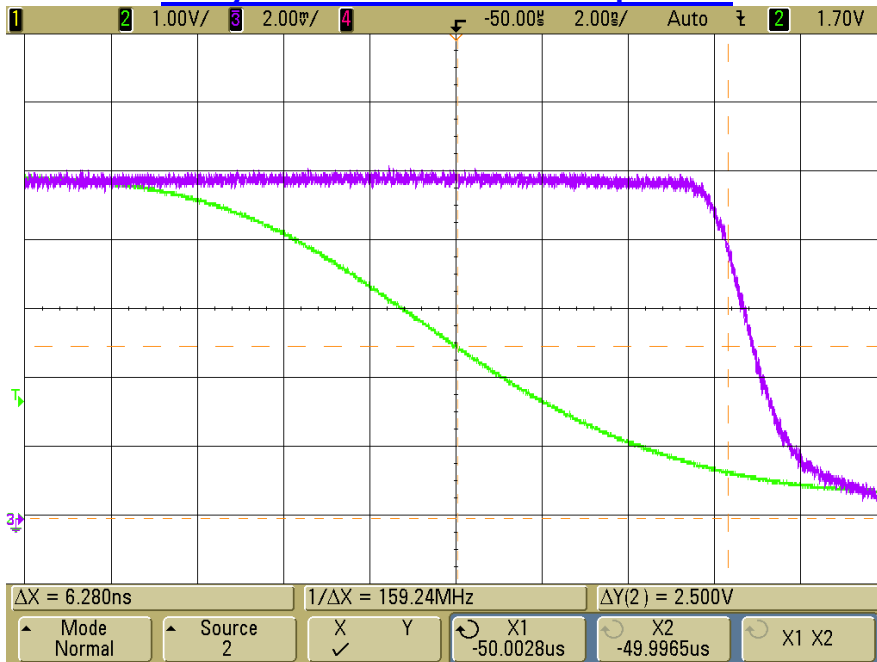


TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

Switching Speed
Delay On and Rise Time – 2ns per Div.



Delay Off and Fall Time – 2ns per Div.

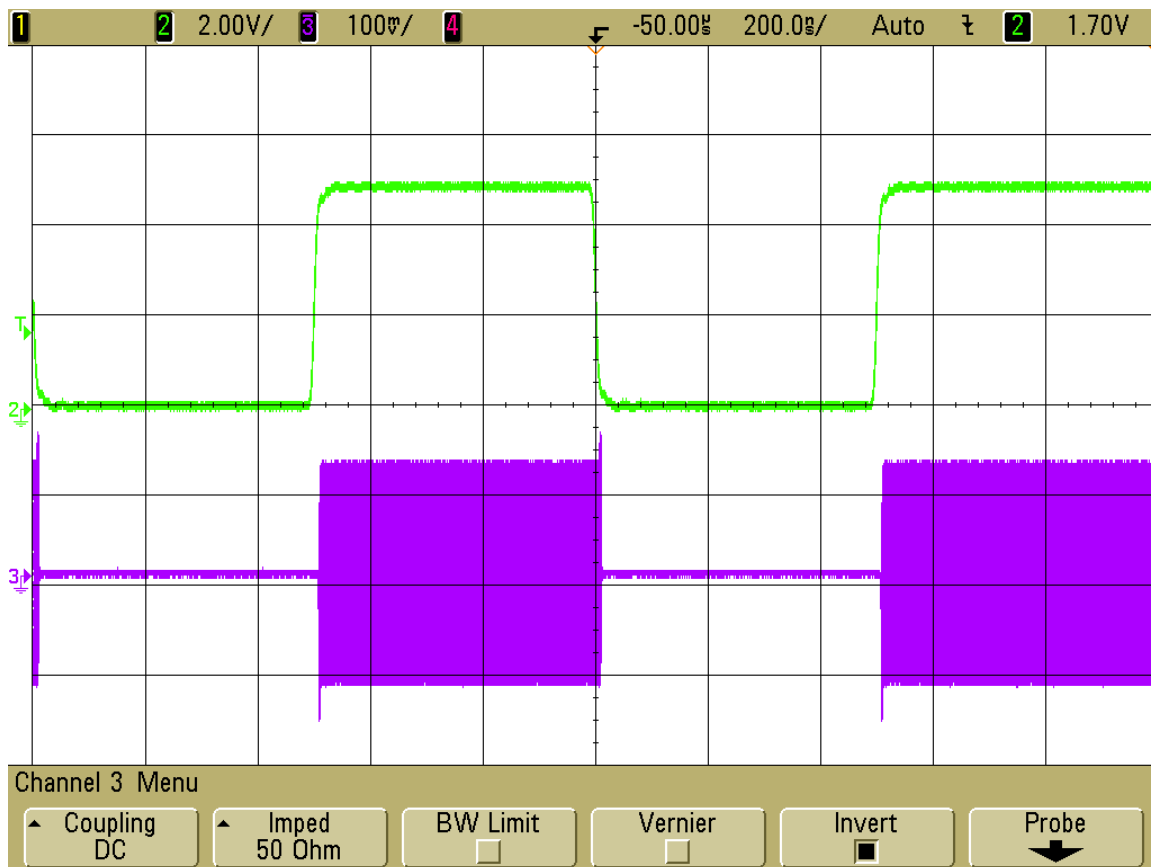




TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

Green E1 (TTL Signal), Purple (RF Signal)

Full Pulse – 200ns per Div.

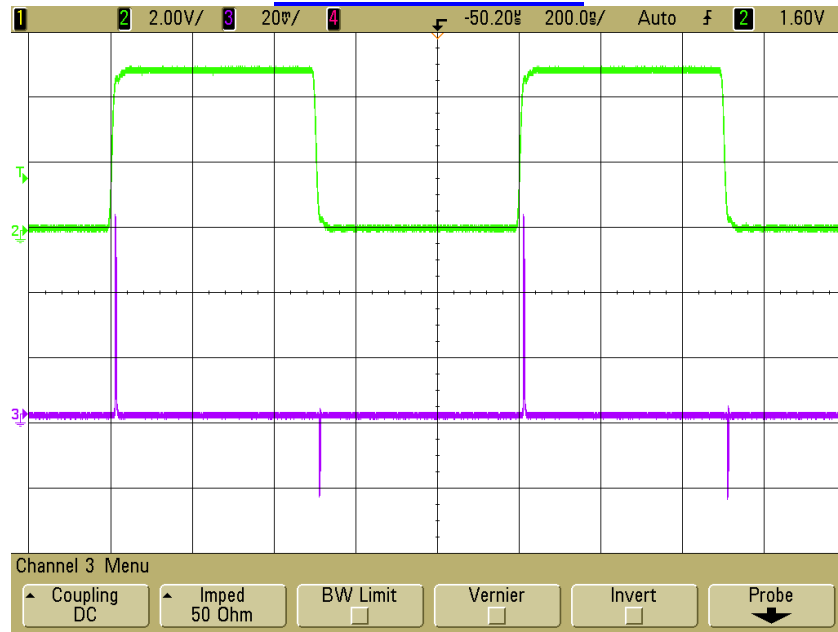


Green E1 (TTL Signal), Purple (RF Signal)

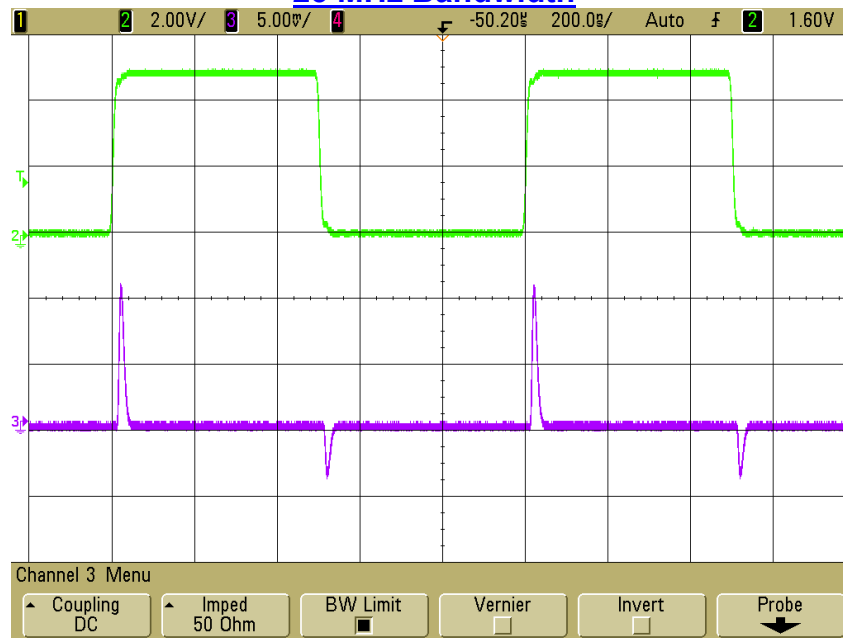


TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

Video Transients
300 MHz Bandwidth



Video Transients
25 MHz Bandwidth





TYPICAL CHARACTERISTICS
P1T-DC40G-65-T-292FF-1NS-
OPT812

Green (E1 TTL Signal), Purple (Video Transients)