



**Typical Characteristics
on
PVVAN-2040-60-MP**

**PMI MODEL NUMBER PVVAN-2040-60-MP IS AN ANALOG
CONTROLLED 60 dB PIN DIODE ATTENUATOR OPERATING
OVER THE FREQUENCY RANGE OF 2.0 TO 4.0 GHz.**



January 21, 2015

Reported By: Kevin Mansfield



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DESCRIPTION

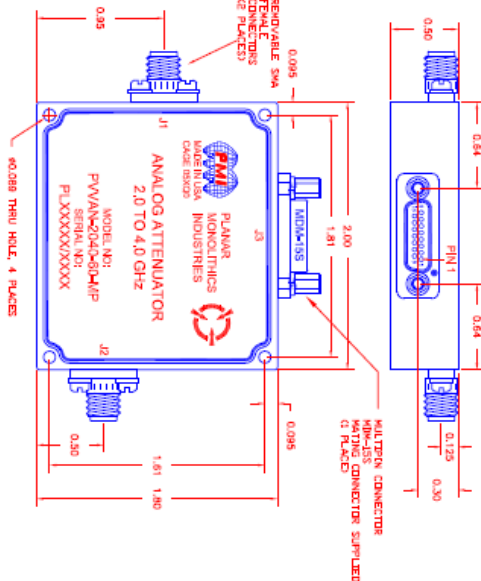
PMI MODEL NUMBER PVVAN-2040-60-MP IS AN ANALOG CONTROLLED 60DB PIN DIODE ATTENUATOR OPERATING OVER THE FREQUENCY RANGE OF 2.0 TO 4.0 GHZ.

SPECIFICATIONS

- FREQUENCY RANGE: 2.0 GHZ TO 4.0 GHZ
- MEAN ATTENUATION RANGE: 60DB
- INSERTION LOSS: 2.0DB MAX
- VSWR: 2.0:1 MAX
- POWER RATING: +20dbm (OPERATING)
+30dbm (SURVIVAL)
- ATTENUATION FLATNESS:
 - @ 10DB: ±0.45DB
 - @ 20DB: ±0.80DB
 - @ 40DB: ±1.50DB
 - @ 60DB: ±1.60DB
- SWITCHING TIME: 500ns MAX
- CONTROL: 10dB/VOLT ANALOG CONTROLLED
- POWER SUPPLY: +12V TO +15V @ 125mA MAX
-12V TO -15V @ 50mA MAX
- POWER/CONTROL CONNECTOR: 15 PIN MICRO-D FEMALE (MATING CONNECTOR SUPPLIED)
- RF CONNECTORS: SMA (F) REMOVABLE
- SIZE: (L) 2.00" X (W) 1.80" X (H) 0.50"
- FINISH: PAINTED BLUE

PIN NO:	J3 PIN FUNCTIONS
1	NC
2	NC
3	ANALOG INPUT
4	GND
5	NC
6	NC
7	NC
8	NC
9	NC
10	NC
11	NC
12	NC
13	+12 or +15 VDC
14	-12 or -15 VDC
15	NC

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



- ### ENVIRONMENTAL RATINGS
- TEMPERATURE: -55°C TO +85°C (OPERATING)
-55°C TO +125°C (STORAGE)
 - HUMIDITY: MIL-STD-202F METHOD 103B COND. B
 - STORAGE: 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 BASED OPERATING TEMPERATURE AND THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE BY REVISION

ALL DIMENSIONS ARE IN INCHES
 TOLERANCES:
 XXXX ±0.010

APPROVALS	DATE	TITLE
✓	08/28/14	PRODUCT FEATURE
ORDERED		PVVAN-2040-60-MP
REVISED		

QTY	REQ. FROM NO.	QTY. NO.	REV.
A	05X00	27022562	A3

ZONE	REV.	DESCRIPTION	DATE	APPROVED
1		ORIGINAL RELEASE	08/28/14	
A1		ECN # 16-0044	07-09-16	
A2		ECN # 18-0194	10/11/18	
A3		ECN # 22-0067	07/06/22	



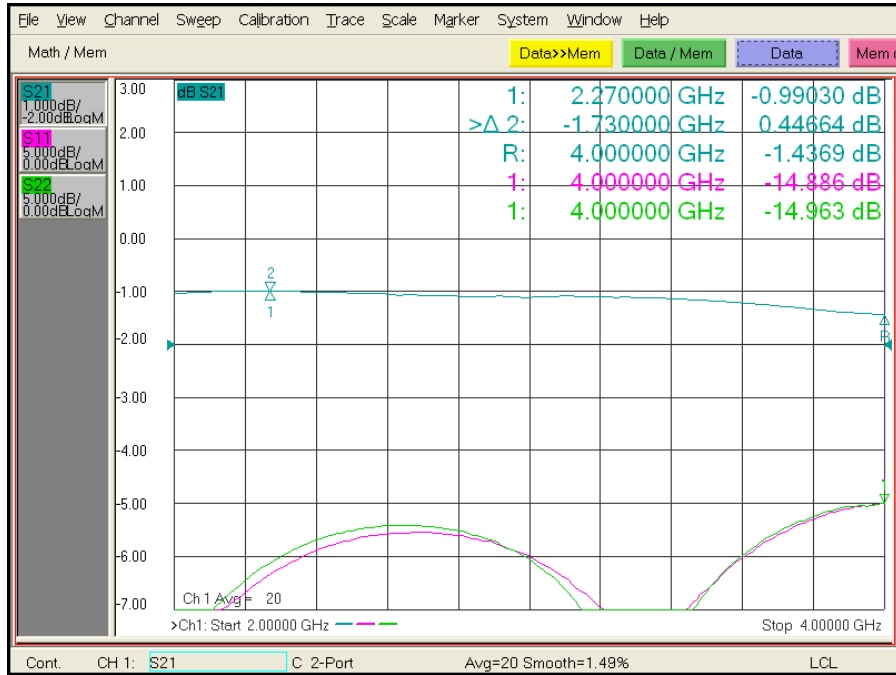
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TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC	
1	Frequency Range:	2.0 GHz to 4.0 GHz	2.0 GHz to 4.0 GHz See Plot		
2	Mean Attenuation Range:	60dB	60dB See Plot		
3	Insertion Loss:	2.0dB Max	1.4dB See Plot		
4	VSWR:	2.0:1 Max	1.4:1 See Plot		
5	Power Rating:	+20dBm (Operating) +30dBm (Survival)	Pass		
6	Attenuation Flatness:				
		@ 10dB	±0.45dB Typ.	@ 10dB	±0.19dB
		@ 20dB	±0.80dB Typ.	@ 20dB	±0.56dB
		@ 40dB	±1.50dB Typ.	@ 40dB	±1.09dB
		@ 60dB	±1.60dB Typ.	@ 60dB	±1.34dB
			See Plot		
7	Switching Time:	500ns Max	115ns See Plot		
8	Control:	10dB/Volt Analog Controlled	Pass		
9	Power Supply:	+12V to +15V @ 125mA Max -12V to -15V @ 50mA Max	46mA 0mA		

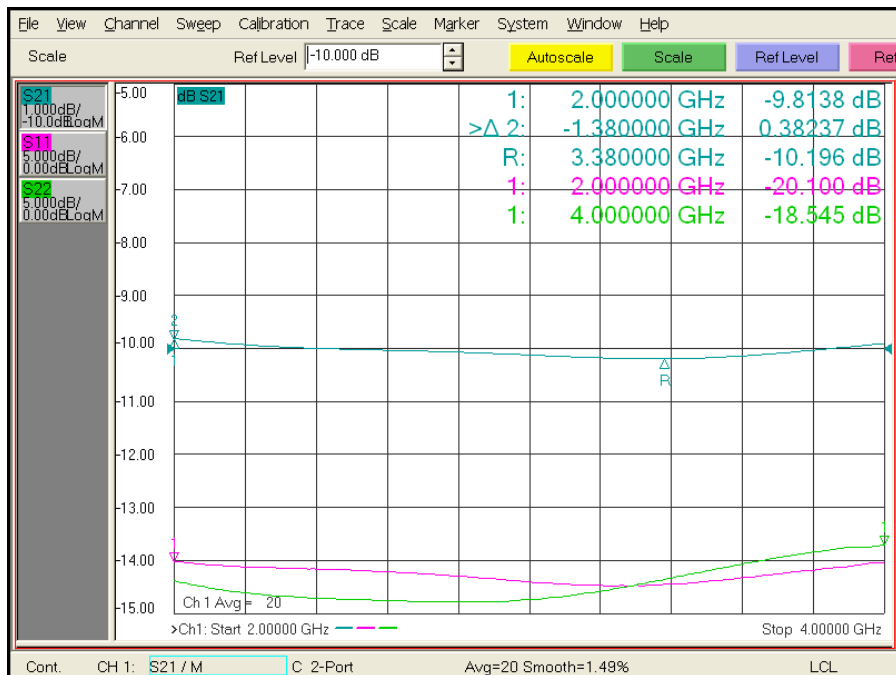


Typical Characteristics on PVVAN-2040-60-MP

Insertion Loss and VSWR



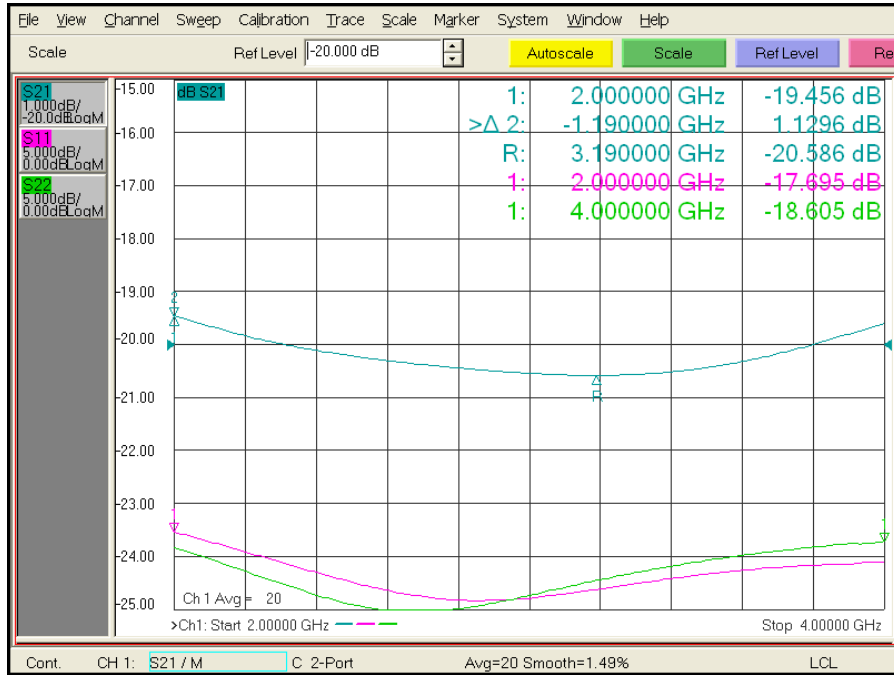
10dB Attenuation



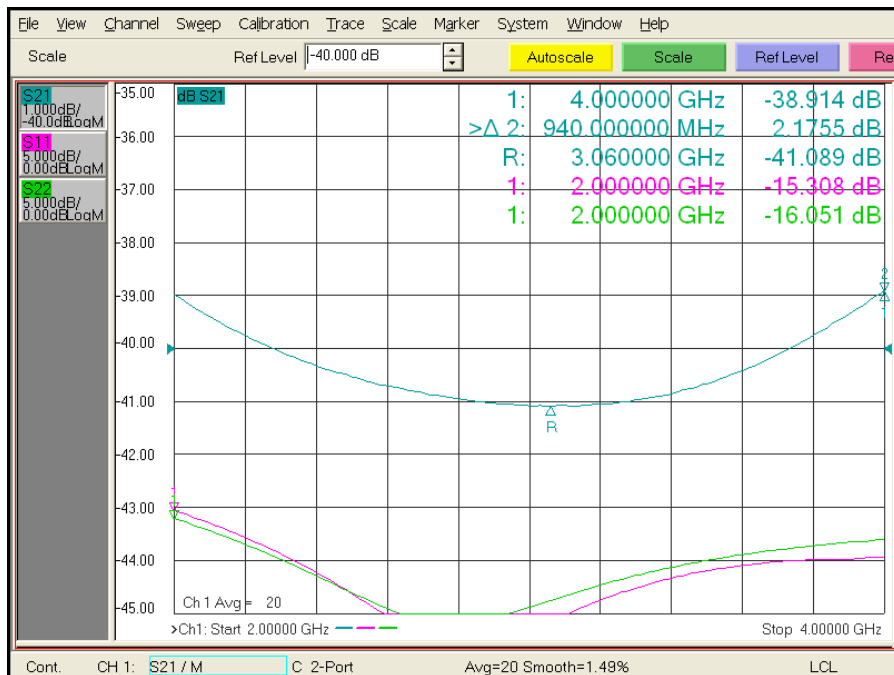


Typical Characteristics on PVVAN-2040-60-MP

20dB Attenuation



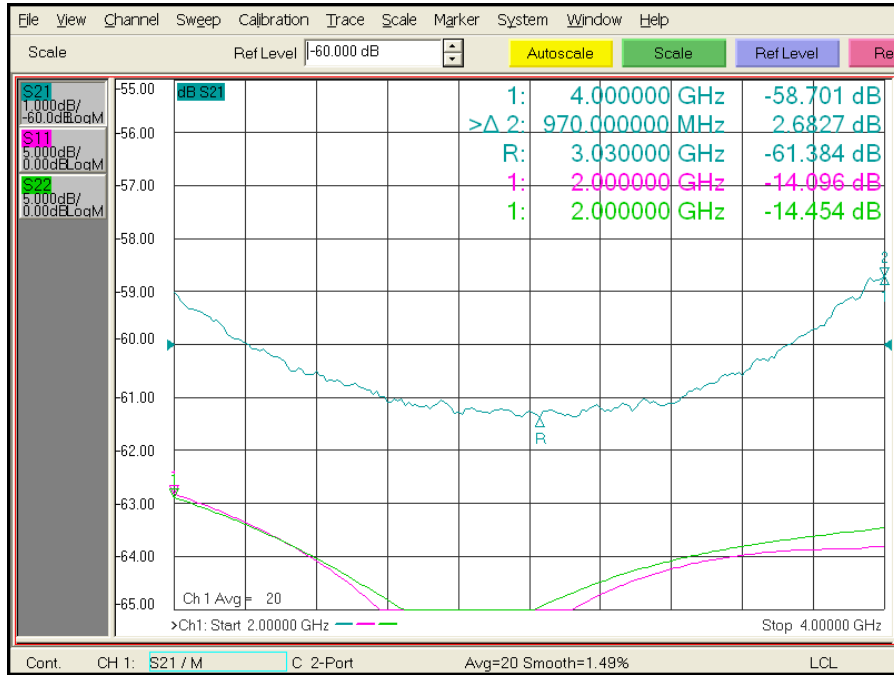
40dB Attenuation





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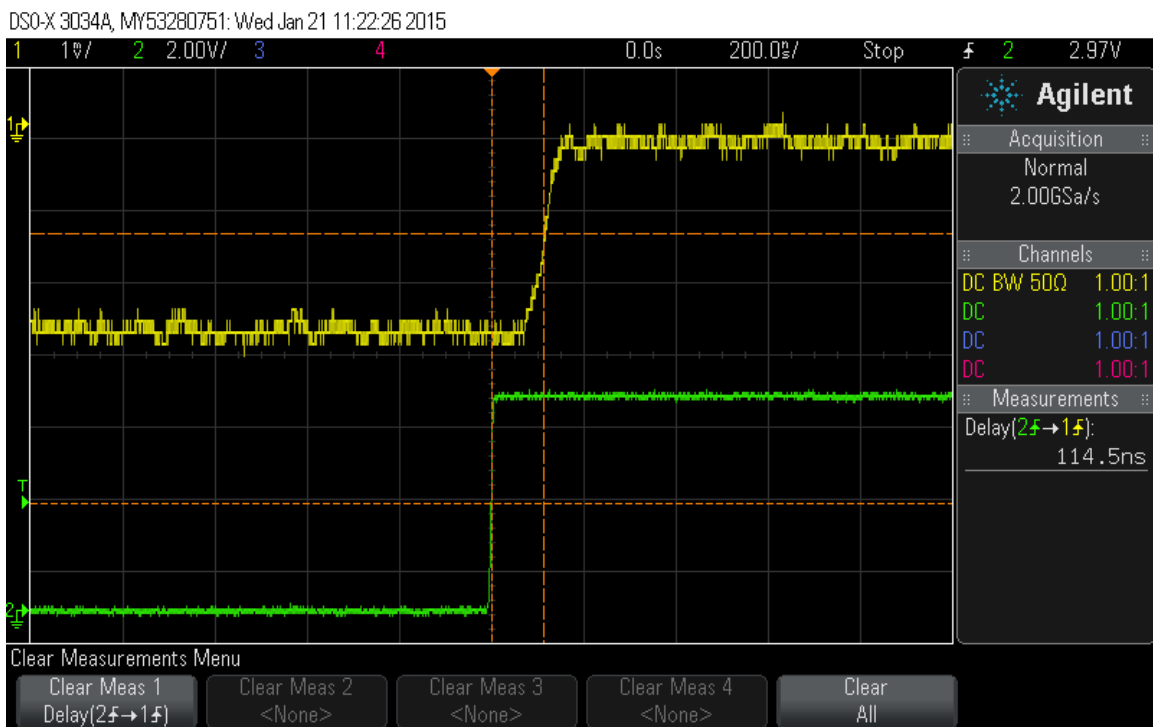
60dB Attenuation





Typical Characteristics on PVVAN-2040-60-MP

Delay 0 to 60 dB



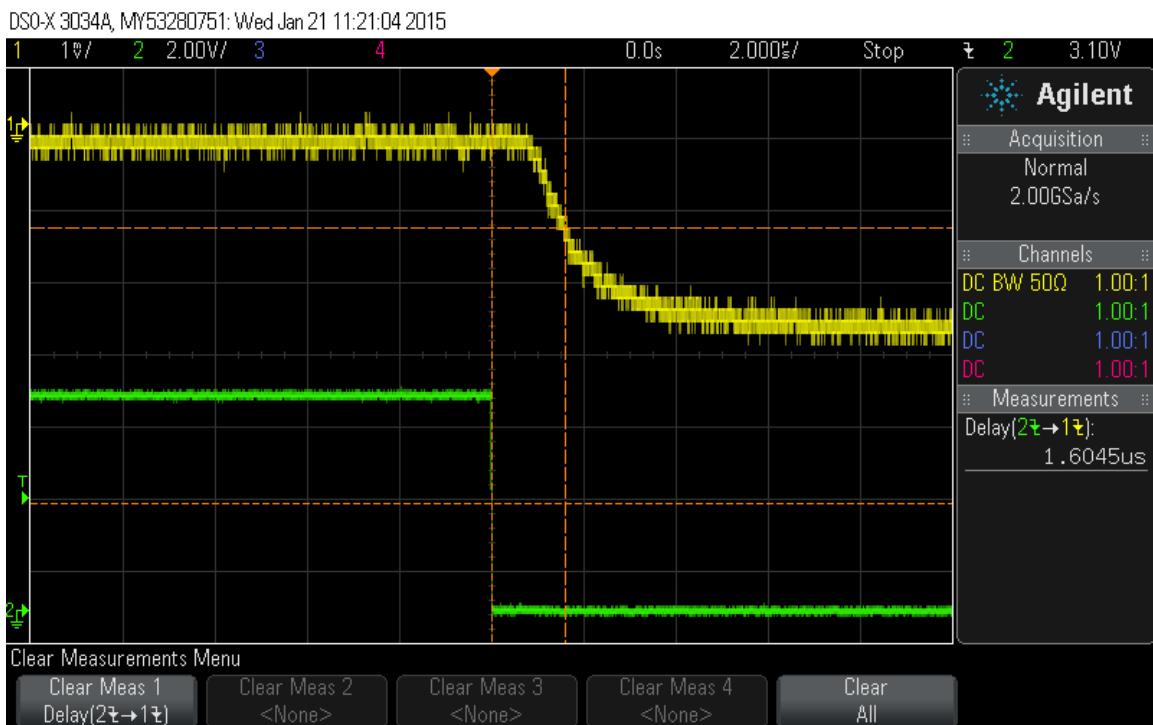
Channel 1 (Yellow): RF output

Channel 2 (Green): TTL Input from Signal Generator



Typical Characteristics on PVVAN-2040-60-MP

Delay 60 to 0 dB



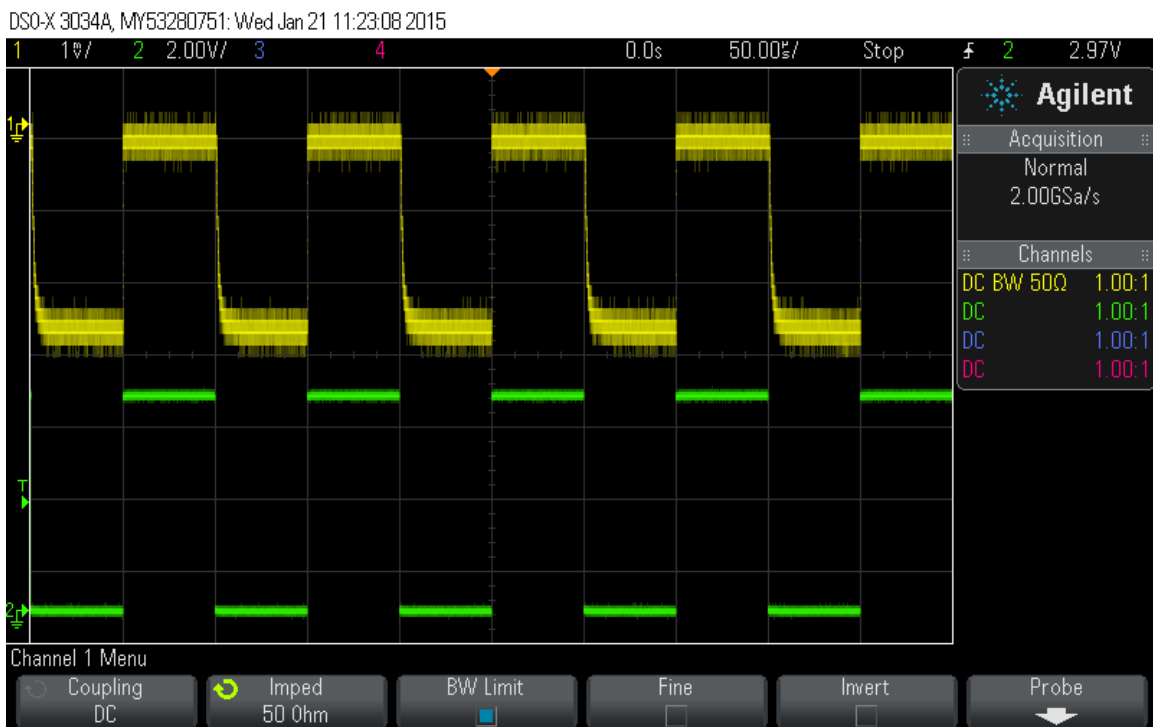
Channel 1 (Yellow): RF output

Channel 2 (Green): TTL Input from Signal Generator



Typical Characteristics on PVVAN-2040-60-MP

Full Pulse



Channel 1 (Yellow): RF output

Channel 2 (Green): TTL Input from Signal Generator