TYPICAL CHARACTERISTICS
ON
DTA-30M2D5G-60DB-10B

PMI Model Number DTA-30M2D5G-60DB-10B is a Non-Reflective, 10 Bit, Programmable, 60 dB, PIN Diode Attenuator, with step resolution as low as 0.06 dB over the Frequency range of 30 MHz to 2.5 GHz.

August, 14 2019

Designed By: PMI Engineering

Tested By: Kevin Mansfield

7311-F Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
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Table of Contents

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TYPICAL CHARACTERISTICS ON DTA-30M2D5G-60DB-10B

DESCRIPTION:

PMI MODEL NUMBER DTA-30M2D5G-60dB-10B IS A NON-REFLECTIVE 10 BIT PROGRAMMABLE 60 dB PIN DIODE ATTENUATOR WITH STEP RESOLUTION AS LOW AS 0.06 dB OVER THE FREQUENCY RANGE OF 30 MHz TO 2.5 GHz.

SPECIFICATIONS:

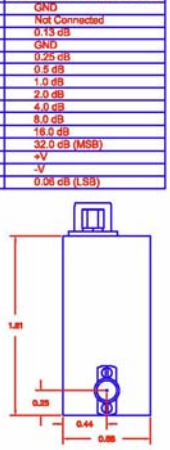
- FREQUENCY: 30 MHz TO 2.5 GHz
- MEAN ATTENUATION RANGE: 60dB
- INSERTION LOSS: 4.5 dB MAX
- VSWR: 2.0 :1 MAX
- FLATNESS UP TO
  - 20 dB ±0.6 dB TYP
  - 40 dB ±1.0 dB TYP
  - 60 dB ±3.0 dB TYP
- ACCURACY OF ATTENUATION
  - 0 dB TO 20 dB ±0.5 dB MAX
  - 20 dB TO 40 dB ±0.75 dB MAX
  - 40 dB TO 60 dB ±1.5 dB MAX
- MINIMUM ATTENUATION STEP 0.06 dB
- SURVIVAL POWER: 1W Average from -65°C to +25°C
- SWITCHING TIME
  - ON TIME 1 us MAX
  - OFF TIME 1 us MAX
- DC POWER SUPPLY +12 TO +15V @ 100mA MAX
  -12 TO -15V @ 100 mA MAX
- CONNECTORS 2 SMA Female & 15 PIN D-SUB Shipped with Mating D-SUB Including pigtails >24" length
- WEIGHT 3.0 oz (85 gm) Approximate
- FINISH PAINTED BLUE.
- LOGIC INPUT
  LOGIC "0" (BIT OFF) -0.3 to +0.8V
  LOGIC "1" (BIT ON) +2.0 to +5.0V
- MONOTONICITY GUARANTEED

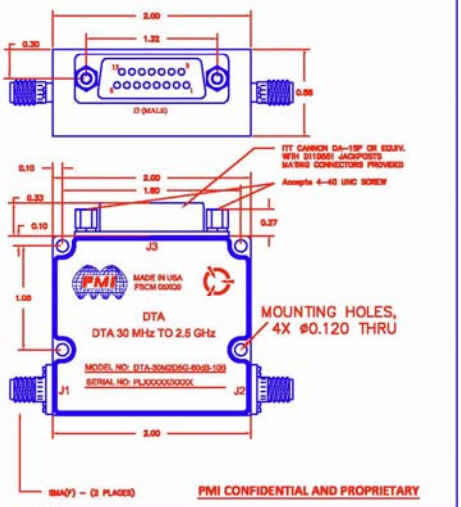
ENVIRONMENTAL RATINGS:

- TEMPERATURE: -50°C TO +100°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
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PIN NO:	J3 PIN FUNCTIONS
1	GND
2	Not Connected
3	0.13 dB
4	GND
5	0.25 dB
6	0.5 dB
7	1.0 dB
8	2.0 dB
9	4.0 dB
10	8.0 dB
11	16.0 dB
12	32.0 dB (MSB)
13	+V
14	-V
15	0.06 dB (LSB)





PMI CONFIDENTIAL AND PROPRIETARY

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	04/24/19	

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

PLANAR MONOLITHICS INDUSTRIES, INC.
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E-MAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

APPROVALS	DATE
DRAWN PJK	3/7/19
REDRAWN SPU	04/24/19
ISSUED	

TITLE: OUTLINE
DTA-30M2D5G-60dB-10B

SIZE	FSCM NO.	DWG NO.	REV.
A	05XQ0	27036640	A1

SCALE N:S SHEET 1 OF 1

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TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	QA QC
1	Frequency Range:	30 MHz – 2.5 GHz	**30 MHz – 2.5 GHz**	
2	Mean Attenuation Range:	60 dB	**63.2 dB**	
3	Insertion Loss:	4.5 dB Max.	**4.2 dB See Plot**	
4	VSWR:	2.0:1 Max.	**2:1 See Plot**	
5	Flatness to 20 dB:	± 0.6 dB Typ.	**± 0.31 dB**	
6	Flatness to 40 dB:	± 1.0 dB Typ.	**± 0.68 dB**	
7	Flatness to 60 dB:	± 3.0 dB Typ.	**± 2.36 dB**	
8	Accuracy of Attenuation 0 to 20 dB:	± 0.5 dB Max.	**± 0.37 dB**	
9	Accuracy of Attenuation 20 to 40 dB:	± 0.75 dB Max.	**± 0.26 dB**	
10	Accuracy of Attenuation 40 to 60 dB:	± 1.5 dB Max.	**± 0.55 dB**	
11	Minimum Attenuation Step:	0.06 dB	**0.0338 dB**	
12	Survival Power:	1 W Average from -65°C to +25°C	**Pass**	
13	Switching Speed:	ON: 1.0 µs Max. OFF: 1.0 µs Max.	**ON: < 1.0 µs OFF: < 1.0 µs**	
14	DC Supply:	+12 to +15 V @ 100 mA Max. -12 to -15 V @ 100 mA Max.	**+12 V @ 39 mA -12 V @ 52 mA**	

Programed Attenuation	Attenuation	Accuracy of Attenuation	Flatness dB	Programed Attenuation	Attenuation	Accuracy of Attenuation	Flatness dB
dB	dB	dB	±dB	dB	dB	dB	±dB
0.0625	0.03	0.03	0.00	5.00	5.35	-0.35	0.12
0.125	0.08	0.04	0.01	10.00	9.90	0.10	0.18
0.25	0.21	0.04	0.00	15.00	14.83	0.17	0.24
0.50	0.46	0.04	0.01	20.00	20.01	-0.01	0.31
1.00	1.02	-0.02	0.02	25.00	25.21	-0.21	0.37
2.00	2.16	-0.16	0.05	30.00	30.26	-0.26	0.46
4.00	4.37	-0.37	0.11	35.00	35.18	-0.18	0.55
8.00	8.06	-0.06	0.15	40.00	40.05	-0.05	0.68
16.00	15.85	0.15	0.26	45.00	45.34	-0.34	0.94
32.00	32.26	-0.26	0.51	50.00	50.55	-0.55	1.20
62.00	61.97	0.03	2.15	55.00	55.28	-0.28	1.69
63.94	63.19	0.75	2.78	60.00	59.81	0.19	2.36

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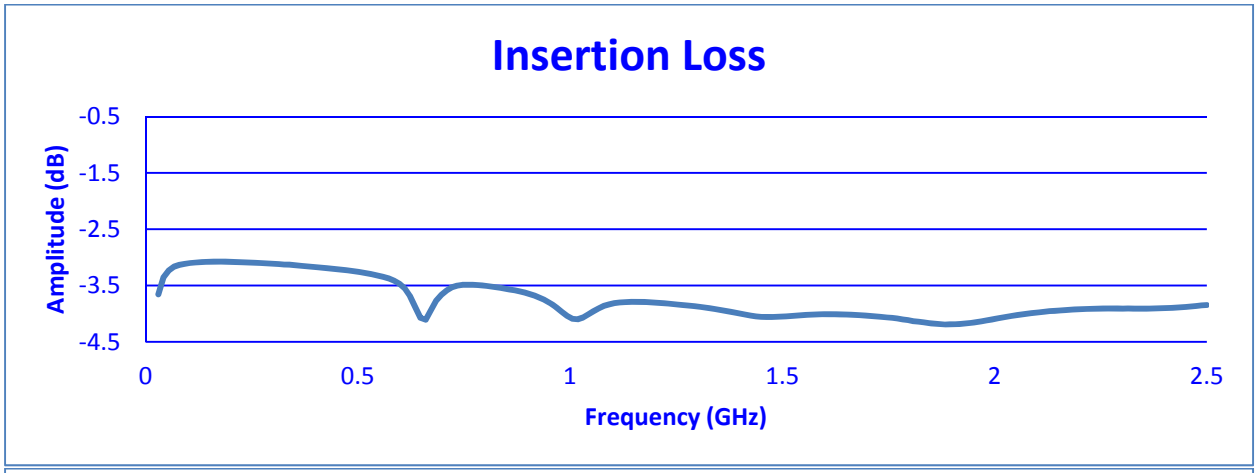

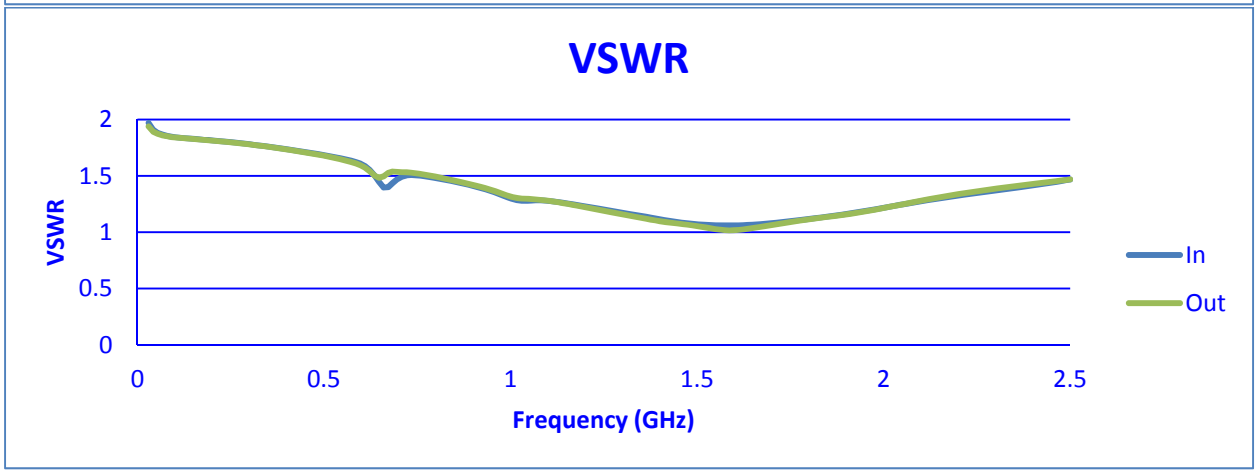

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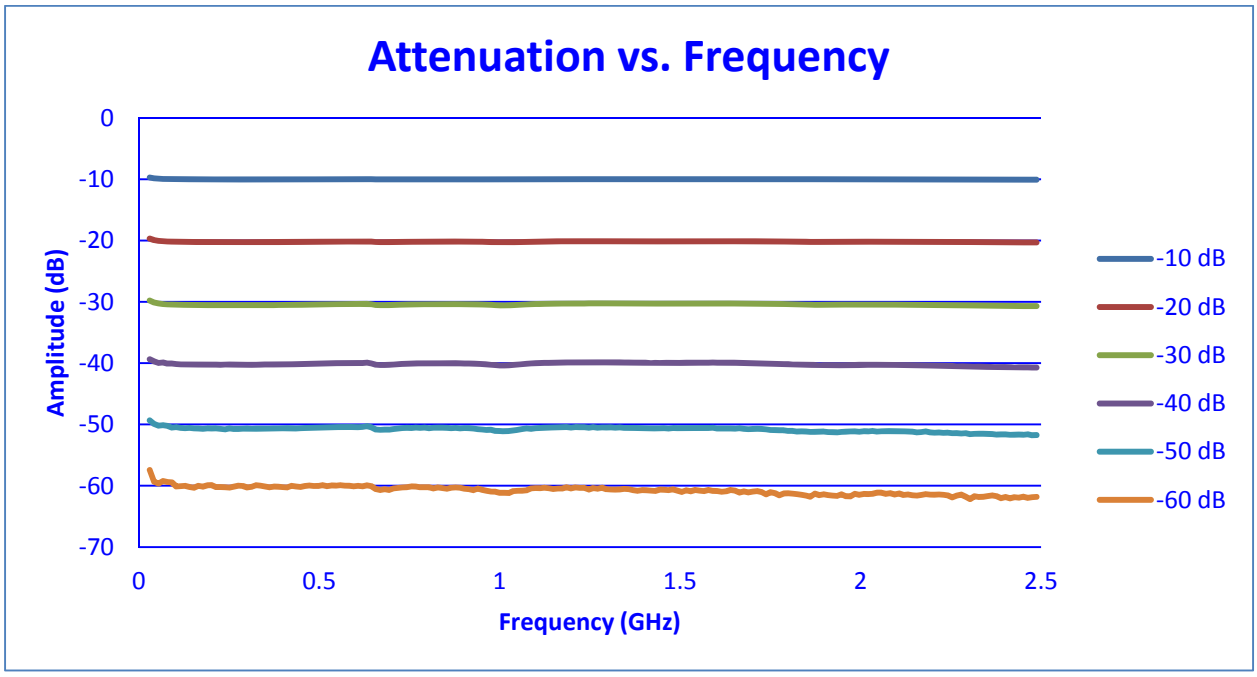
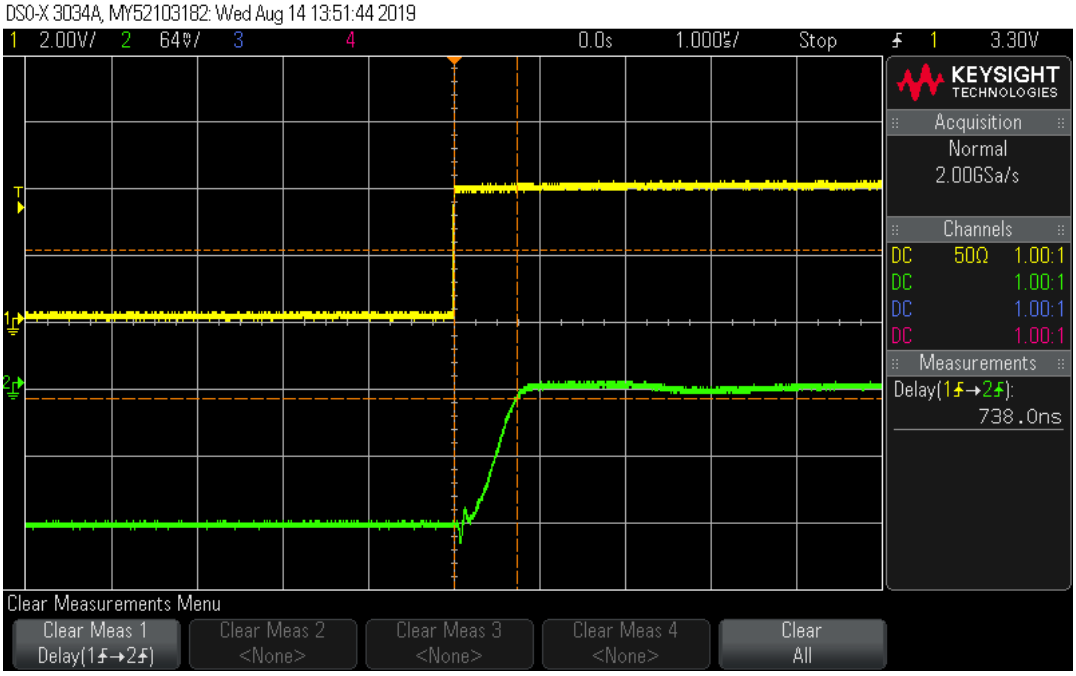


Switching Speed

0 dB to 60 dB



60 dB to 0 dB

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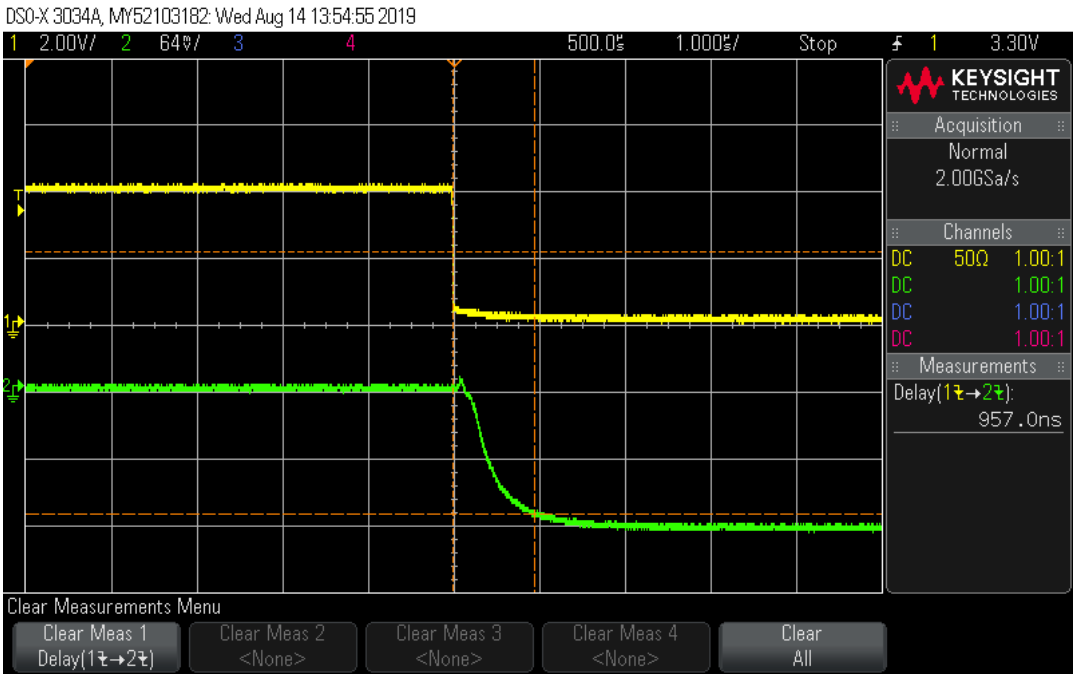

Yellow Trace = TTL
Green Trace = RF (Diode Detector)

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