



**TYPICAL CHARACTERISTICS
ON
DTA-18G40G-50-CD-1**

PMI MODEL NUMBER DTA-18G40G-50-CD-1 IS A 10 BIT PROGRAMMABLE 50 dB ATTENUATOR WITH STEP RESOLUTION AS LOW AS 0.05 dB OVER THE FREQUENCY RANGE OF 18 GHz TO 40 GHz. THIS MODEL IS OFFERED IN THE SLIM LINE HOUSING MEASURING ONLY 0.5" IN HEIGHT WITH 2.92mm FEMALE CONNECTORS.



September 27, 2018

**Designed By: PMI Engineering
Tested By: Kevin Mansfield**



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DESCRIPTION:

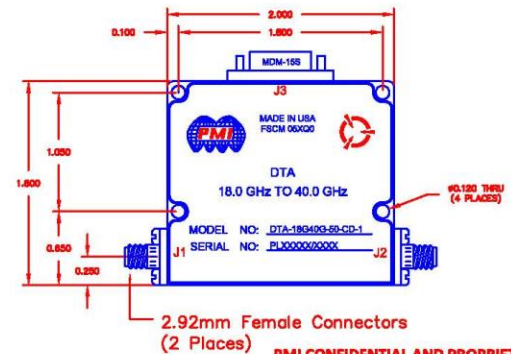
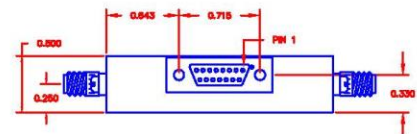
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	12/22/16	
	A1	ECN # 16-0193	12/07/16	
	B1	ECN # 18-0197	09/25/18	

SPECIFICATIONS:

- FREQUENCY: 18 GHz TO 40 GHz
- MEAN ATTENUATION RANGE: 50 dB
- INSERTION LOSS: 8.5 dB TYP
- VSWR: 2.5:1 MAX
- FLATNESS: ±1.5 dB TYP
- ACCURAY OF ATTENUATION: ±2.0 dB TYP
- POWER HANDLING CAPABILITY: +24 dBm CW MAX
- INPUT 1dB COMPRESSION: +10 dBm TYP
- SWITCHING TIME:
 - ON TIME 1.0 us MAX
 - OFF TIME 0.5 us MAX
- POWER SUPPLY: 15V @ 100mA MAX
- CONNECTORS: (2) 2.92mm(F) & 15 PIN Micro-D-Female
Shipped with mating Micro-D Male
- WEIGHT: 3.0 oz (85 gm) Approximate
- 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.
- LOGIC INPUT:
 - LOGIC "0" (BIT OFF) +0.3 to +0.8V
 - LOGIC "1" (BIT ON) +2.0 to +5.0V

PIN NO:	J3 PIN FUNCTIONS
1	1.6dB
2	0.8dB
3	0.4dB
4	0.2dB
5	GND
6	0.1 dB
7	0.05 dB (LSB)
8	GND
9	Not Used
10	Not Used
11	+15VDC
12	25.6dB (MSB)
13	12.8dB
14	6.4dB
15	3.2dB



PMI CONFIDENTIAL AND PROPRIETARY

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
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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

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ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN <i>B. Thomas</i>		12/22/16	PRODUCT FEATURE DTA-18G40G-50-CD-1			
CHECKED			SIZE A	FRM NO. 05XQ0	DRG NO. 27028621	REV. B1
ISSUED			SCALE N:S		SHEET 1 OF 1	



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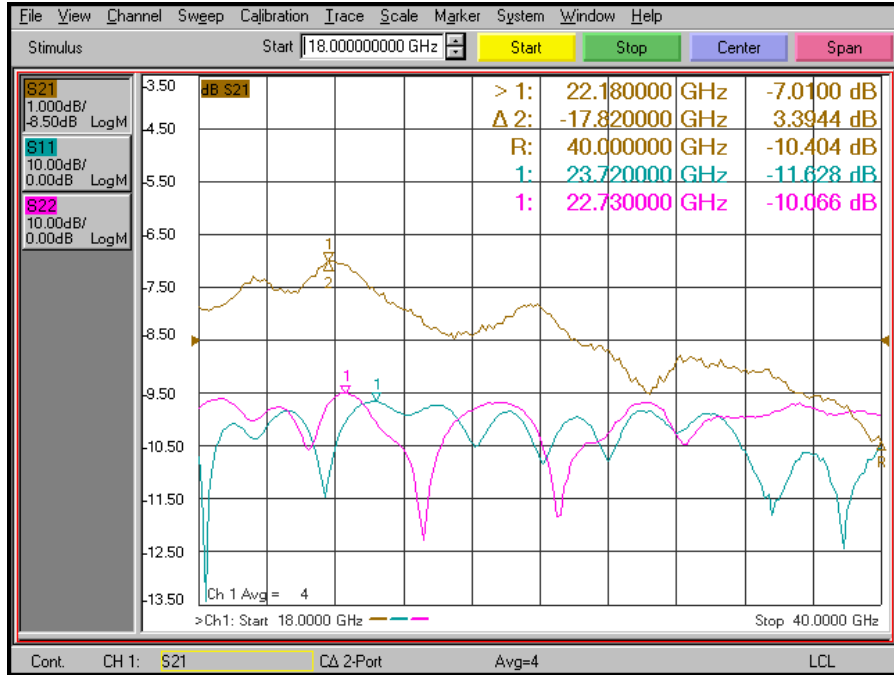
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	PASS/FAIL	QA QC
1	Frequency Range:	18.0 GHz – 40 GHz	14 GHz – 40 GHz	
2	Insertion Loss:	8.5 dB TYP	10.4 dB	
3	VSWR:	2.5 : 1 MAX	2.27 : 1	
4	Flatness to 16 dB:	± 1.5 dB TYP	1.20 dB	
5	Flatness to 32 dB:	± 1.5 dB TYP	2.10 dB	
6	Flatness to 50 dB:	± 1.5 dB TYP	3.80 dB	
7	Accuracy of Attenuation 0 to 16 dB:	± 2 dB TYP	0.14 dB	
8	Accuracy of Attenuation 16 to 32 dB:	± 2 dB TYP	0.18 dB	
9	Accuracy of Attenuation 32 to 50 dB:	± 2 dB TYP	0.48 dB	
10	Switching Speed:	On Time 1.0 us MAX Off Time 0.5 us MAX	120 ns 266 ns	
11	DC Supply:	+15VDC @ 100 mA	38 mA	

Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB	Programed Attenuation dB	Attenuation dB	Accuracy of Attenuation dB	Flatness dB
0.05	0.08	-0.03	0.02	5.00	5.06	-0.06	0.58
0.10	0.14	-0.04	0.02	10.00	10.11	-0.11	0.95
0.20	0.25	-0.05	0.03	15.00	15.14	-0.14	1.17
0.40	0.46	-0.06	0.05	20.00	20.14	-0.14	1.30
0.80	0.87	-0.07	0.10	25.00	25.16	-0.16	1.50
1.60	1.67	-0.07	0.18	30.00	30.14	-0.14	1.92
3.20	3.27	-0.07	0.36	35.00	35.12	-0.12	2.35
6.40	6.49	-0.09	0.70	40.00	40.11	-0.11	2.77
12.80	12.93	-0.13	1.09	45.00	45.22	-0.22	3.28
25.60	25.75	-0.15	1.54	50.00	50.14	-0.14	3.65
51.15	51.30	-0.15	3.91				

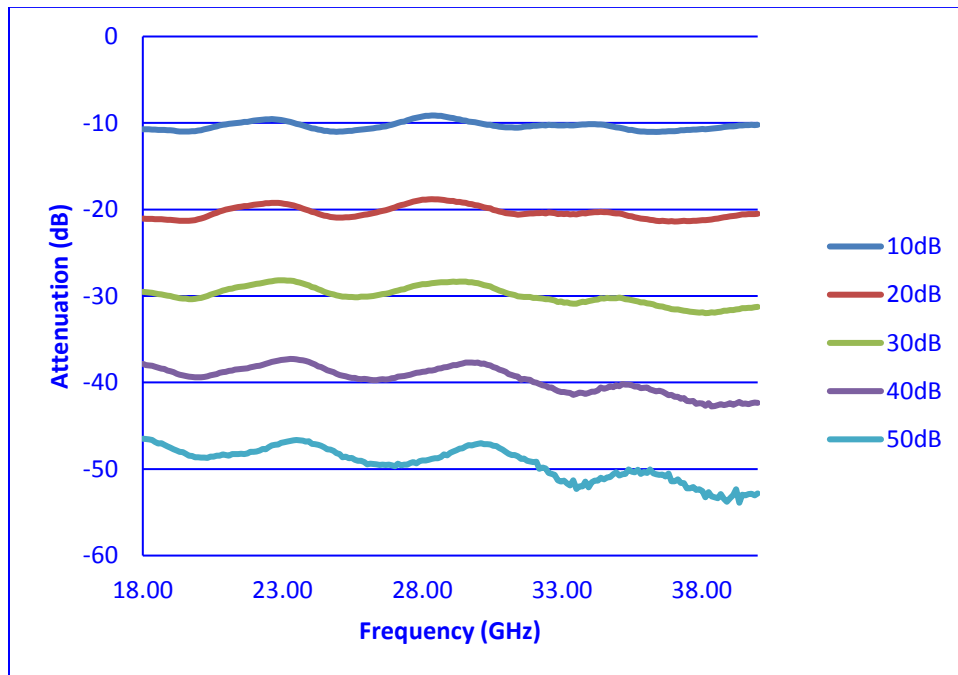


TYPICAL CHARACTERISTICS ON DTA-18G40G-50-CD-1

Insertion Loss



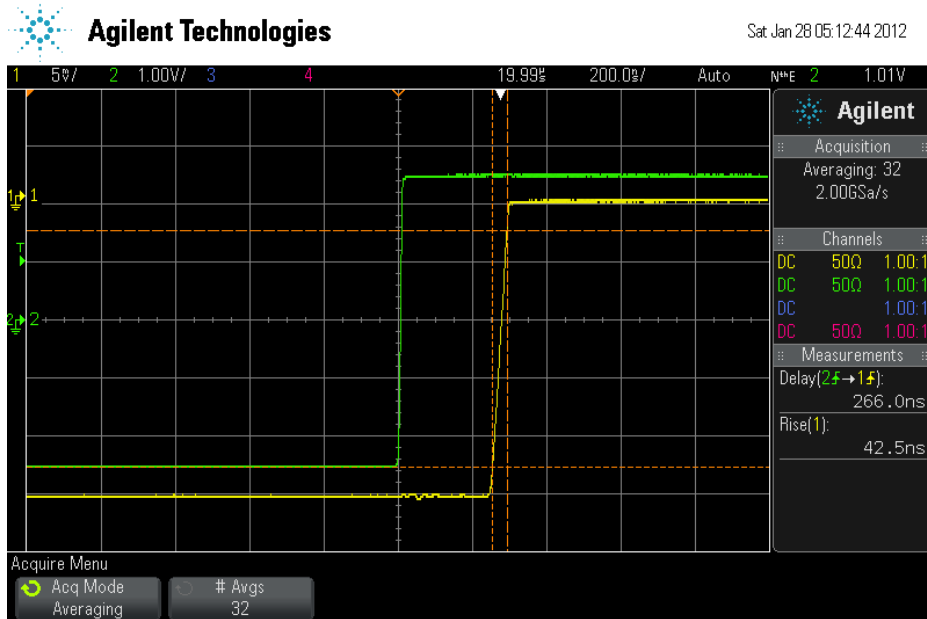
Attenuation Range and Flatness





TYPICAL CHARACTERISTICS ON DTA-18G40G-50-CD-1

Switching Time (0 to 50dB)



Switching Time (50 to 0dB)

