

## DESCRIPTION

PMI MODEL 4ASFB-26R5G40G-20GN IS A FOUR CHANNEL AMPLIFIED SWITCHED FILTER BANK OPERATING OVER THE 26.5 TO 40 GHz FREQUENCY RANGE WITH A 1MHz TO 26.5 GHz THRU PATH. THIS MODEL FEATURES SWITCHING SPEED OF 30ns, REJECTION OF 60dB FROM DC TO 50GHz. GAIN OF 20dB, AND A P1dB OF 20dBm IN A SLIM LINE HOUSING MEASURING ONLY 3 X 2 X 0.5 INCHES.

## SPECIFICATIONS:

- FREQUENCY RANGE: 1 MHz TO 40.0 GHz
- BYPASS RANGE: 1 MHz TO 26.5 GHz
- SFB FREQUENCY RANGE: 26.5 TO 40.0 GHz
- GAIN: 20 dB MIN.
- OUTPUT VSWR: 2.2:1 MAX.
- NOISE FIGURE: 25 dB MAX.
- OUTPUT P1dB: 20 dBm MIN.
- BYPASS PATH ISOLATION: 25 dB MIN.
- FILTER BANK PATH ISOLATION: 70 dB MIN (SP4T ALL OFF)
- SWITCHING SPEED: 30 ns MAX.
- TEMPERATURE COEFFICIENT: 0.02 dB/°C TYP.
- SHORT TERM REPEATABILITY: 0.05 dB MAX, 0.02 dB TYP.
- SECOND HARMONICS: 30dBc @ 10GHz (10dBm POUT)  
20dBc @ 20GHz (10dBm POUT)
- CONTROL: TTL COMPATIBLE
- POWER SUPPLY: +12VDC, 500mA MAX.  
-12VDC, 100mA MAX.
- FINISH: GOLD PLATED
- SIZE: 3.0" (L) X 2.0" (W) X 0.5" (H)

## BYPASS PATH:

- FREQUENCY RANGE: 1 MHz TO 26.5 GHz
- INPUT MAX POWER RATING: 25dBm.
- INPUT VSWR: 2.0:1 MAX.
- OUTPUT IP3: 30 dBm MIN.
- AMPLITUDE FLATNESS: ±3.0 dB MAX

## SWITCHED FILTER BANK:

- FREQUENCY RANGE: 26.5 TO 40.0 GHz
- INPUT MAX POWER RATING: 20dBm.
- INPUT VSWR: 1.5:1 MAX.
- OUTPUT IP3: 28 dBm MIN.
- PASSBANDS: 1dB
- STOPBAND REJECTION: 60 dB MIN (SEE TABLE)
- AMPLITUDE FLATNESS: ±5.0 dB MAX
- PHASE VARIATION: ±5.0° MAX, ±2.0° TYP  
DEVIATION FROM LINEAR PHASE  
OVER ANY 200 MHz BANDWIDTH  
WITHIN PASSBANDS

NOTE: BELOW 10MHz ONLY GAIN AND ISOLATION WILL BE TESTED  
FOR PRODUCTION UNITS

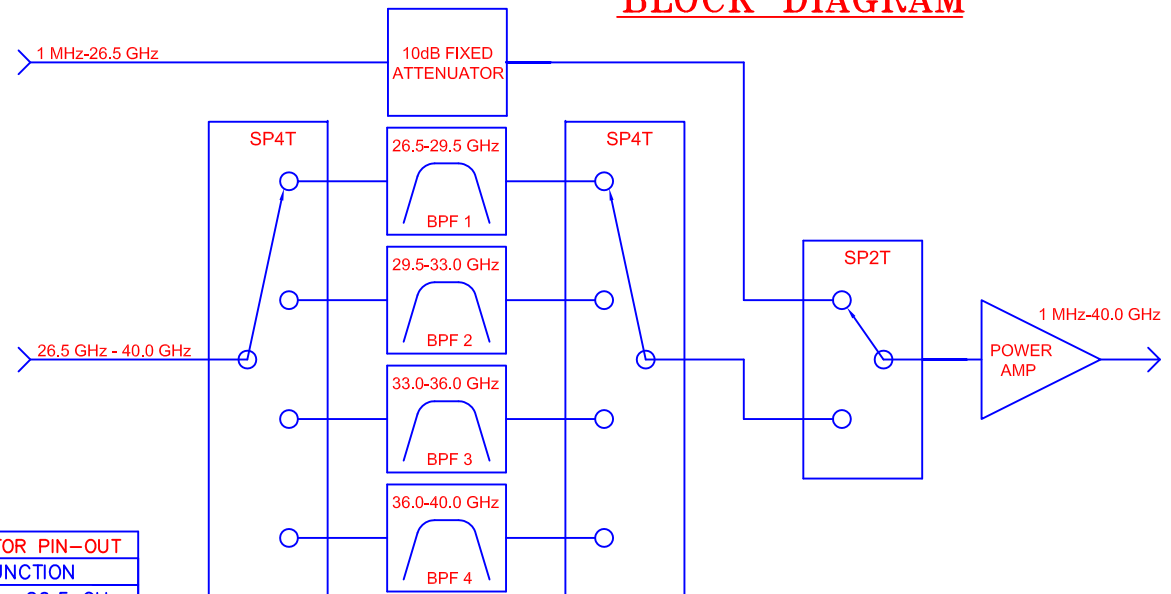
## ENVIRONMENTAL RATINGS:

- TEMPERATURE: 0°C TO +50°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 COND. A

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	2	PRELIMINARY RELEASE	8/13/14	

## BLOCK DIAGRAM



9-PIN CONNECTOR PIN-OUT	
PIN	FUNCTION
1	1MHz-26.5 GHz
2	26.5-29.5 GHz
3	29.5-33.0 GHz
4	33.0-36.0 GHz
5	36.0-40.0 GHz
6	GND
7	-VDC
8	GND
9	+VDC

LOGIC TABLE					PASSBAND (GHz)	LOWER STOPBAND (GHz)	UPPER STOPBAND (GHz)	REJECTION LEVEL (dB)
PIN5	PIN4	PIN3	PIN2	PIN1				
0	0	0	0	1	0.001-26.5	N/A	N/A	N/A
0	0	0	1	0	26.5-29.5	DC-24.5	31.5-50.0	60
0	0	1	0	0	29.5-33.0	DC-27.5	35.0-50.0	60
0	1	0	0	0	33.0-36.0	DC-31.0	38.0-50.0	60
1	0	0	0	0	36.0-40.0	DC-34.0	42.0-50.0	60

## PLANAR MONOLITHICS INDUSTRIES, INC.

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ISO 9001 CERTIFIED



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

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE		TITLE			
DRAWN		8/6/14		PRODUCT FEATURE			
CHECKED				4ASFB-26R5G40G-20GN			
ISSUED							
SIZE	FSCM NO.	DWG NO.	REV.				
A	05XQ0	270XXXXX	2				
SCALE N: S				SHEET 1 OF 2			

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Technical drawing of the 4ASFB-26R5G40G-20GN device, showing top, side, and detail views with dimensions and labels.

**Top View:**

- Dimensions: 0.50, 0.25, 0.00, 0.30, 0.80, 1.50, 2.00, 0.00, 0.50, 0.00, 0.10, 2.90, 3.00, 1.90, 2.00.
- Labels: J1, J2, J3, J4, R0.05 4 PLACES, MOUNTING HOLES, TAPPED 2-56 THRU, 4 PLACES.
- Text: **PMI** (with globe logo), **PLANAR MONOLITHICS INDUSTRIES**, **MADE IN USA FSCM 05XQ0**, **MODEL NO: 4ASFB-26R5G40G-20GN**, **SERIAL NO: PLXXXXX/XXXX**, and a red circular arrow symbol.

**Side View:**

- Dimensions: 0.00, 0.25, 0.50, 0.00, 0.80, 2.00.

**Detail View:**

- Label: 2.92mm (FEMALE) 2 HOLE FLANGE CONNECTOR, 3 PLACES.

**Other Labels:**

- 9 PIN MICRO-D CONNECTOR

TEMPERATURE: \_\_\_\_\_ 0°C TO +50°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  
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		<div> <div>TITLE</div> <div>PRODUCT FEATURE</div> <div>4ASFB-26R5G40G-20GN</div> </div>			
APPROVALS	DATE				
DRAWN <i>PJK</i>	<i>8/6/14</i>				
CHECKED		SIZE A	FSCM NO. 05XQ0	DWG NO. 270XXXXX	REV. 2
ISSUED		SCALE N: S			SHEET 2 OF 2