

**DESCRIPTION:**

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER: PFS-20G40G IS A FREQUENCY SYNTHESIZER THAT OPERATES OVER THE 20.0 TO 40.0 GHz FREQUENCY RANGE. THIS UNIT FEATURES HIGH SPEED, HIGH ACCURACY AND LOW PHASE NOISE.

REVISONS		DATE	APPROVED
ZONE	REV.	DESCRIPTION	
	-	PRELIMINARY	5/31/22

**SPECIFICATIONS:**

- FREQUENCY RANGE: 20.0 TO 40.0 GHz
- FREQUENCY STEP SIZE, NOMINAL (LSB): 0.2 Hz (20 to 30 GHz) 0.4 Hz (30 to 40 GHz)
- FREQUENCY SWITCH TIME: 200us (SPI MODE) MAX
- OUTPUT POWER: 10 dBm MIN
- FREQUENCY ACCURACY:  $\pm 2 \times 10^{-7}$  (or same as external ref)
- FREQUENCY STABILITY:  $\pm 2 \times 10^{-7}$  (or same as external ref)
- SPURIOUS: -65/-60 (TYP/MAX 20 to 30 GHz)  
-60/-55 (TYP/MAX 30 to 40 GHz)
- HARMONICS: -20 dBc MAX
- INPUT REF FREQUENCY: 10/100 MHz (CUSTOMER CHOICE)

**PHASE NOISE:**

	20GHz	30GHz	40GHz
dBm/Hz@100Hz	$\leq -79$	$\leq -75$	$\leq -72$
dBm/Hz@1kHz	$\leq -101$	$\leq -97$	$\leq -94$
dBm/Hz@10kHz	$\leq -110$	$\leq -106$	$\leq -103$
dBm/Hz@100kHz	$\leq -110$	$\leq -106$	$\leq -103$
dBm/Hz@1MHz	$\leq -113$	$\leq -106$	$\leq -105$

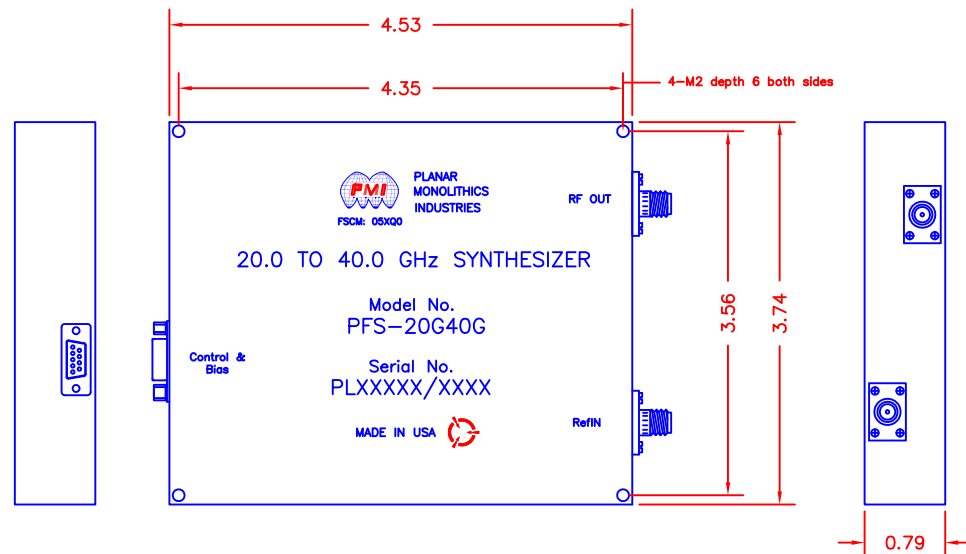
- REF INPUT POWER:  $5 \pm 3$  dBm
- POWER SUPPLY(V/A): +12/1.4 (WARM-UP) +12/1.2 (STABLE)
- SIZE: 4.53" X 3.74" X 0.79"
- CONTROL MODE: RS232/SPI
- OPERATE TEMP: -40 to +70°C
- STORAGE TEMP: -55 to +85°C
- WEIGHT: 0.95 kg MAX

**CTL OPTION SPI MODE CONTROL & BIAS DEFINITION**

1	+12V	2	+12V	3	LD
4	NC	5	MOSI	6	MISO
7	SCK	8	LE	9	GND
10	GND				

**CTL OPTION RS232 MODE CONTROL & BIAS DEFINITION**

1	+12V	2	+12V	3	LD
4	NC	5	RX	6	TX
7	NC	8	NC	9	GND
10	GND				



ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX  $\pm 0.020$   
X.XXX  $\pm 0.005$

**PMI CONFIDENTIAL AND PROPRIETARY**

**PLANAR MONOLITHICS INDUSTRIES, INC.**

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ISO 9001:2008 CERTIFIED



APPROVALS		DATE	TITLE			REV.
DRAWN <i>AF</i>		5/31/22	PRODUCT FEATURE PFS-20G40G 20.0 TO 40.0 GHz SYNTHESIZER			-
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY	
ISSUED			SCALE N:S	SHEET 1 OF 1		

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION