

## DESCRIPTION

PMI MODEL: PEC-9770M10270M-12-17R5-15-SFF IS A 9770 to 10270 MHz AMPLIFIER MEETING THE FOLLOWING SPECIFICATIONS:

## SPECIFICATIONS

- FREQUENCY RANGE: ----- 9770 TO 10270 MHz
- INPUT POWER: ----- -11.0±1.5 dBm WITH NO DAMAGE FROM REMOVAL OF INPUT SIGNAL, OPEN OR SHORT CIRCUIT ON INPUT CABLE, OR INPUT POWER VARIATIONS OF ±5dB FROM NOMINAL POWER LEVEL
- INPUT IMPEDANCE: ----- 50 Ω NOMINAL, WITH A MAXIMUM VSWR OF 1.5:1, AN OR ALL PHASES
- OUTPUT POWER: ----- +17.5 dBm NOMINAL (TRANSFERRED TO THE SPECIFIED LOAD WITH INPUT POWER APPLIED)
- POWER VARIATIONS: ----- OUTPUT POWER MAY VARY AS MUCH AS ±1.5 dB UNDER ANY COMBINATION OF THE FOLLOWING CONDITIONS:  
 TEMPERATURE: 20 °C TO 70 °  
 FREQUENCY RANGE: 9770 TO 10270 MHz  
 POWER SUPPLY VARIATION (VOLTAGE:+15 VDC ±1%, CURRENT: 0.4 ADC MAXIMUM, REGULATION: ±2%)  
 ELAPSED TIME: 2 MINUTES AFTER TURN ON THROUGH 240 MINUTES OF CONTINUOUS OPERATION ON A DAILY BASIS FOR A MINIMUM PERIOD OF 12 MONTHS.
- OUTPUT IMPEDANCE: ----- 50 Ω NOMINAL, WITH A MAXIMUM VSWR OF 1.4:1
- NOISE FIGURE: ----- 12 dB MAXIMUM
- LOAD: ----- 50 Ω MAXIMUM WITH A MAXIMUM VSWR OF 1.4:1
- AM/PM SIDEBANDS: ----- AMPLITUDE AND/OR PHASE MODULATION SIDEBAND POWER GENERATED BY POWER RIPPLE SHALL NOT BE GREATER THAN 66 dB DOWN FROM THE OUTPUT SIGNAL
- SPURIOUS OUTPUT LEVEL: ----- ALL IN-BAND, NON-HARMONICALLY RELATED SPURIOUS OUTPUT SIGNALS SHALL BE NOT LESS THAN 66 dB BELOW THE OUTPUT SIGNAL
- TOTAL NOISE: ----- THE TOTAL NOISE POWER CONTAINED IN A 2.5 MHz BANDWIDTH ANYWHERE IN THE OPERATING FREQUENCY BAND SHALL NOT BE GREATER THAN 66 dB BELOW THE OUTPUT SIGNAL. THE INPUT SHOULD BE TERMINATED WITH A 50 Ω LOAD DURING TOTAL NOISE MEASUREMENTS
- ADDITIVE NOISE MODULATION: ----- WITH THE INPUT SIGNAL AN IDEAL SPECTRAL LINE OF 1 Hz BANDWIDTH AND ALL SIDEBANDS AT THE THERMAL NOISE FLOOR LEVEL, THE MAXIMUM NOISE POWER, ADDED BY THE UNIT TO THE OUTPUT SPECTRUM, IN EITHER SIDEBAND 100 Hz TO 5 MHz SEPARATED FROM THE CARRIER FREQUENCY SHALL BE LESS THAN INDICATED IN THE SIGNAL-TO-NOISE RATIO VERSUS FREQUENCY REMOVED GRAPH IN SHOWN IN FIGURE 2.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	2/21/2018	

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

ALL DIMENSIONS  
 ARE IN INCHES [mm]  
 TOLERANCES:  
 X,XX ±0.020  
 X,XXX ±0.010

**PMI CONFIDENTIAL AND PROPRIETARY**

**PLANAR MONOLITHICS INDUSTRIES, INC.**  
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 ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN <i>EMF</i>		02/21/18	PRODUCT FEATURE PEC-9770M10270M-12-17R5-15-SFF			
REDRAWN			SIZE	FSCM NO.	DWG NO.	REV.
ISSUED			A	05XQ0	PRELIMINARY	-
			SCALE	N:S	SHEET	1 OF 3

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## SPECIFICATIONS

- DAMAGE: ----- THE AMPLIFIER SHALL NOT BE DAMAGED BY AN OPEN OR SHORT CIRCUIT ON THE OUTPUT LINE WITH ANY OF THE FOLLOWING INPUT CONDITIONS: OPEN OR SHORT CIRCUIT ON INPUT CABLE, OR INPUT POWER VARIATIONS OF  $\pm 5$ dB FROM NOMINAL POWER LEVEL
- VOLTAGE: ----- +15 VDC  $\pm 1\%$
- CURRENT: ----- 0.4 ADC MAXIMUM
- REGULATION: -----  $\pm 2\%$
- RIPPLE: ----- 1.5 mV PEAK TO PEAK, INCLUDING LINE INPUT FREQUENCY (400 Hz) AND HARMONICS OF THE LINE INPUT CONDITIONS, PLUS TOTAL RANDOM NOISE FROM dc TO 10 MHz
- RADIATION: ----- THE RF RADIATION LEVEL AT A DISTANCE OF 1 FOOT FROM THE UNIT UNDER TEST SHALL NOT EXCEED -50 dBm/SQUARE FOOT AT  $f_o$
- CONDUCTED INTERFERENCE: ----- THE LEVEL OF CONDUCTED INTERFERENCE AT THE UNIT POWER LINE CONNECTION POINT SHALL NOT EXCEED -50 dBm AT  $f_o$
- RADIATION SUSCEPTIBILITY: ----- AN RF INTERFERENCE FIELD OF -20 dBm/SQUARE FOOT AT THE UNIT POSITION AND OF FREQUENCY ( $f_o + 30$  MHz) SHALL NOT CAUSE A UNIT OUTPUT AT ( $f_o + 30$  MHz) OF MORE THAN -80 dBm
- CONDUCTED SUSCEPTIBILITY: ----- AN RF INTERFERENCE OF LEVEL -20 dBm AT ( $f_o + 30$  MHz) ON THE UNIT DC POWER LINE SHALL NOT CAUSE A UNIT OUTPUT OF MORE THAN -80 dBm AT ( $f_o + 30$  MHz)
- CONDUCTED SUSCEPTIBILITY (INTERMODULATION): ----- AN RF INTERFERENCE LEVEL OF -20 dBm ON THE UNIT DC POWER LINE BETWEEN 20 MHz AND 40 MHz SHALL NOT CAUSE 20 TO 40 MHz SIDEBANDS ON THE  $f_o$  SIGNAL HIGHER THAN -80 dBm

## ENVIRONMENTAL RATINGS

- TEMPERATURE: ----- 0 °C TO +70 °C (OPERATING)  
-55 °C TO +75 °C (STORAGE)
- VIBRATION: ----- MIL-STD-202, METHOD 201  
EXCEPT FREQUENCY OF 5 TO 55 Hz,  
DOUBLE AMPLITUDE OF 0.06 INCH
- SHOCK: ----- MIL-STD-202, METHOD 213 COND. A,  
EXCEPT 18G IN EACH AXIS
- ALTITUDE: ----- SEA LEVEL TO 10,000 FEET (OPERATING)  
50,000 FEET MAXIMUM (NON-OPERATING)
- HUMIDITY: ----- MIL-STD-202, METHOD 103 COND. B
- SALT SPRAY: ----- MIL-STD-202, METHOD, COND. B, 5% SALT  
SOLUTION
- ELECTROMAGNETIC INTERFERENCE: MIL-STD-461

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TOLERANCES:  
X,XX  $\pm 0.020$   
X,XXX  $\pm 0.010$

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REDRAWN			SIZE	FSCM NO.	DWG NO.	REV.
ISSUED			A	05XQ0	PRELIMINARY	-
			SCALE	N:S	SHEET	2 OF 3

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# MECHANICAL OUTLINE

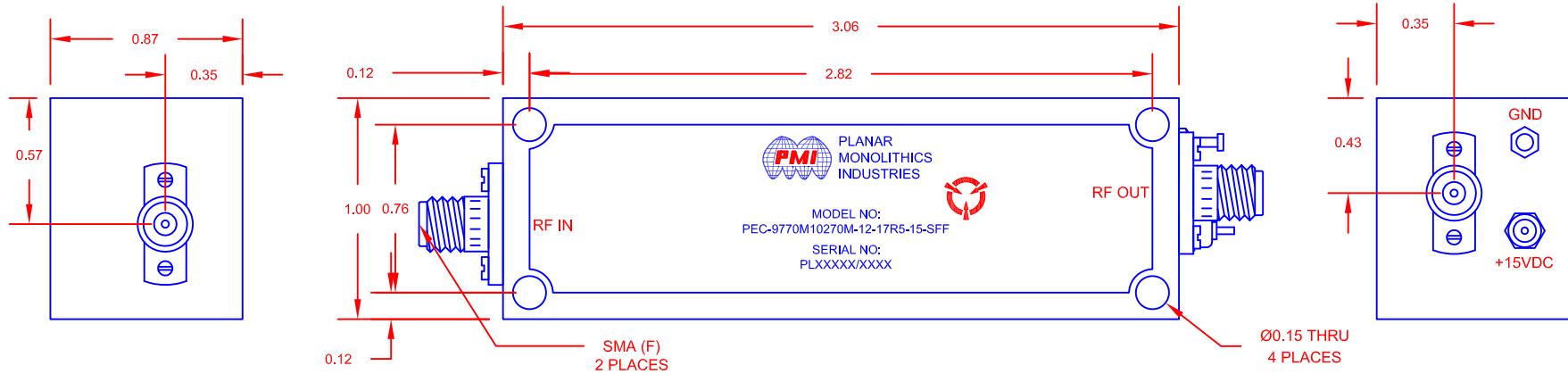
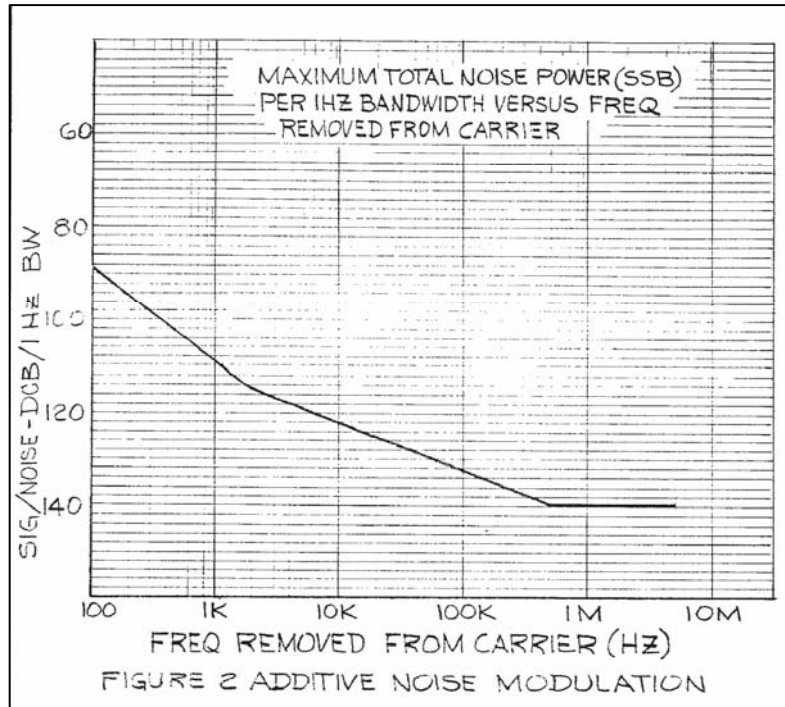


Figure 2



PMI CONFIDENTIAL AND PROPRIETARY

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ISSUED			SCALE N:S		SHEET 1 OF 1	

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 X.XXX ±0.010