

**TYPICAL CHARACTERISTICS
ON
PEC-50-500M40G-20-12-292FF-BG-OPT250M**

PMI MODEL NUMBER PEC-50-500M40G-20-12-292FF-BG-OPT250M IS A 250 MHz TO 40 GHz LOW NOISE AMPLIFIER.
THIS AMPLIFIER HAS A GAIN OF 47 dB WITH ± 2.5 dB FLATNESS.



June 9, 2025

Designed By:

Engineering PMI

Tested and Reported By:

Alfredo Lopez

TYPICAL CHARACTERISTICS ON PEC-50-500M40G-20-12-292FF-BG-OPT250M

Outline Drawing

DESCRIPTION:

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ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1		ORIGINAL RELEASE	1/28/2005	
B1		ECN # 25-0175	6/6/2005	

SPECIFICATIONS:

- FREQUENCY RANGE:..... 250 MHz TO 40 GHz
- GAIN:..... 47 dB NOM / 45 dB MIN
- GAIN FLATNESS:..... ± 2.5 dB MAX (@ +25°C TO +85°C) / ± 3 dB (@ -55°C)
- NOISE FIGURE:..... 5.5 dB TYP / 7.0 dB MAX
- OP1dB:..... +21 dBm MIN (250 MHz TO 10 GHz)
+19 dBm MIN (10 GHz TO 18 GHz)
+16 dBm MIN (18 GHz TO 40 GHz)
- PSAT:..... +27 dBm MAX
- RF INPUT (ABSOLUTE MAX):..... +23 dBm (DC TO 26 GHz)
+20 dBm (26 GHz TO 40 GHz)
- VSWR (INPUT/OUTPUT):..... 2.2:1 / 2.5:1 MAX
- DC VOLTAGE SUPPLY:..... +12 TO +15 VDC
- DC CURRENT DRAW:..... 550 mA NOM / 650 mA MAX (Iq)
- CONNECTORS (INPUT/OUTPUT):..... 2.92mm (F)
- FINISH:..... GOLD PLATED



ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
-65°C TO +117°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

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

PMI CONFIDENTIAL AND PROPRIETARY

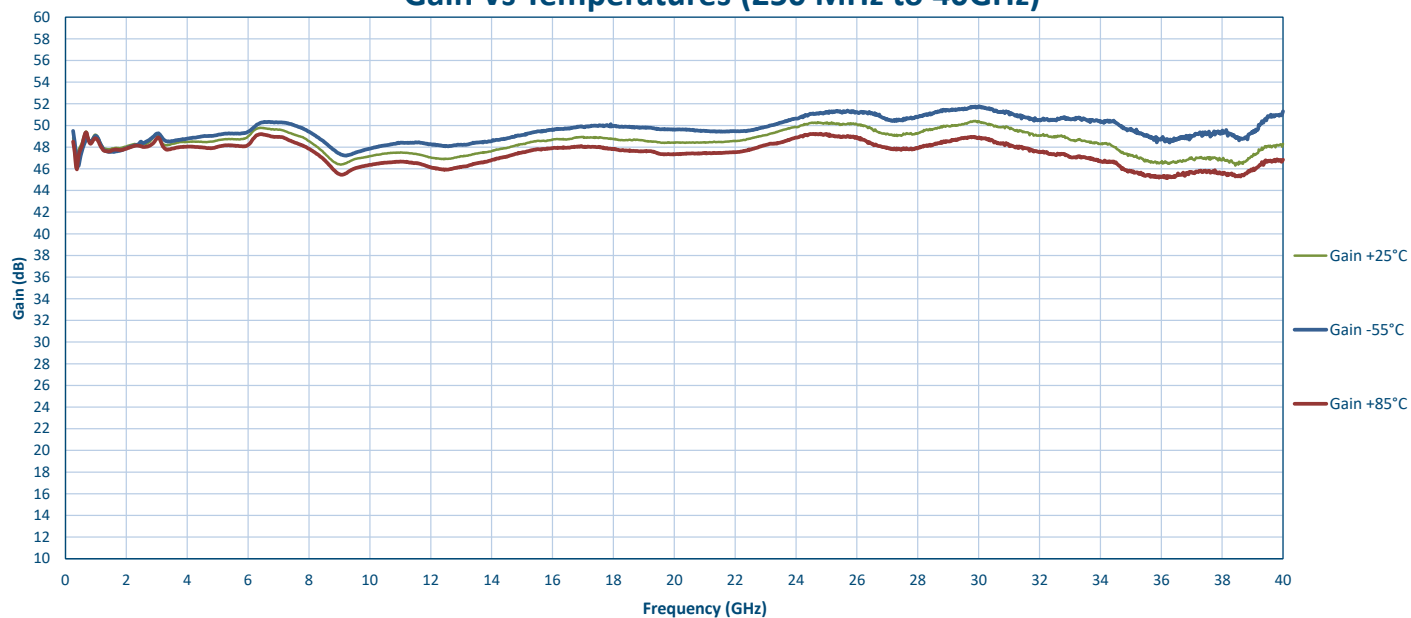
APPROVALS		DATE	TITLE	
DESIGNED	J ESCANO	1/28/2005	OUTLINE	
DRAWN				
ISSUED				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES			PEC-50-500M40G-20-12-292FF-BG-OPT250M	
			SIZE: PECN NO. DWG NO.	REV.
			B 05XQ0 27050580	B1
			SCALE 3:1	SHEET 1 OF 2

Technical Specifications

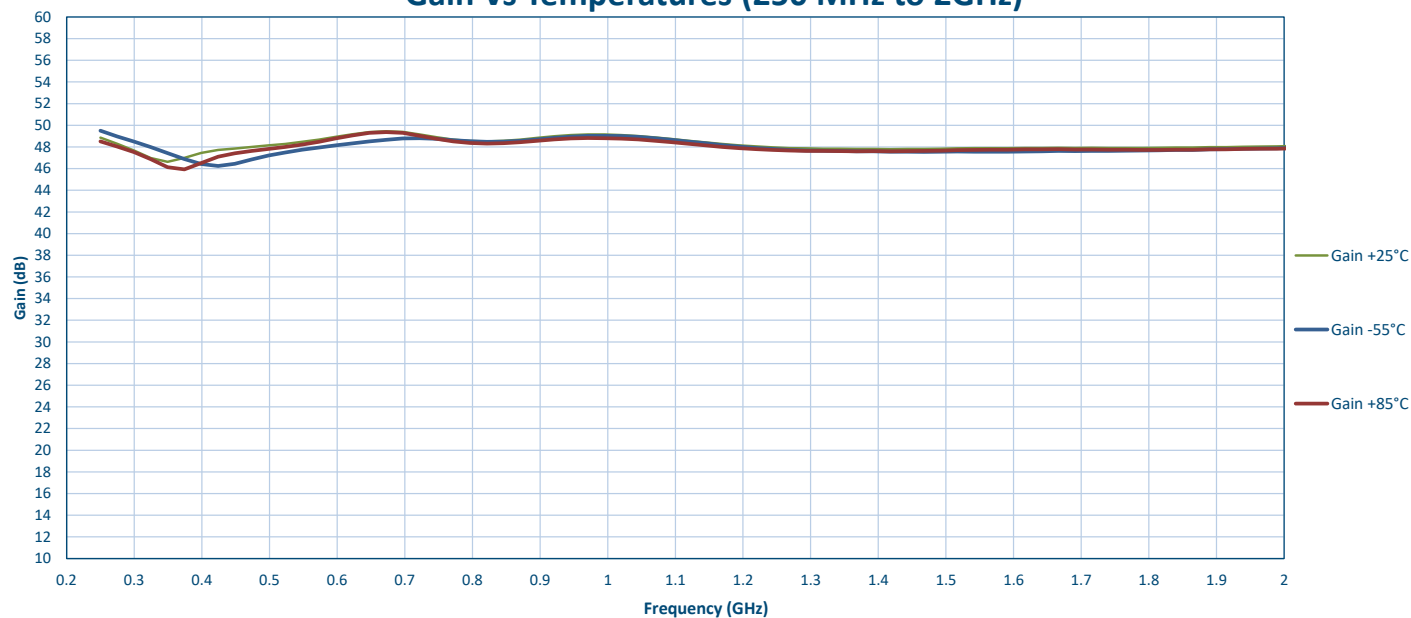
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-55°C	+85°C
1	Frequency Range:	250 MHz - 40 GHz	250 MHz - 40 GHz	250 MHz - 40 GHz	250 MHz - 40 GHz
2	Gain:	+47 dB Nom +45 dB Min	+ 50.43 dB Max. + 46.29 dB Min. See Graph	+ 51.78 dB Max. + 46.24 dB Min. See Graph	+ 49.37 dB Max. + 45.13 dB Min. See Graph
3	Gain Flatness:	±2.5 dB Max (@+25°C to +85°C) ±3.0 dB Max. (@-55°C)	±2.07 dB See Graph	±2.77 dB See Graph	±2.12 dB See Graph
4	Noise Figure :	5.5 dB Typ 7.0 dB Max	6.74 dB See Graph	6.4 dB See Graph	6.91 dB See Graph
5	OP1dB:	+21 dBm Min (0.25-10 GHz) +19 dBm Min (10-18 GHz) +16 dBm Min (18-40 GHz)	+ 22.38 dBm	+ 21.73 dBm	+ 22.02 dBm
			+ 22.5 dBm	+ 21.96 dBm	+ 21.82 dBm
			+ 18.77 dBm	+ 16.53 dBm	+ 19.15 dBm
			See Graph	See Graph	See Graph
6	Psat:	+27 dBm Max	+ 25.95 dBm	+ 26.19 dBm	+ 25.58 dBm
			See Graph	See Graph	See Graph
7	Input Power Handling:	+23 dBm Max (DC-26 GHz) +20 dBm Max (26-40 GHz)	Pass +23 dBm See Graph	Pass +23 dBm See Graph	Pass +23 dBm See Graph
			Pass +20 dBm See Graph	Pass +20 dBm See Graph	Pass +20 dBm See Graph
8	VSWR: (Input/Output)	2.2:1 Max. (Input) 2.5:1 Max. (Output)	1.81 :1 (In)	1.86 :1 (In)	1.78 :1 (In)
			2.08 :1 (Out)	2.33 :1 (Out)	2.04 :1 (Out)
			See Graph	See Graph	See Graph
9	DC Supply:	+12 to +15 VDC @ 550 mA Nom 650 mA Max (Iq)	+12 to +15 VDC @ 537 mA	+12 to +15 VDC @ 505 mA	+12 to +15 VDC @ 555 mA

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Gain Vs Temperatures (250 MHz to 40GHz)

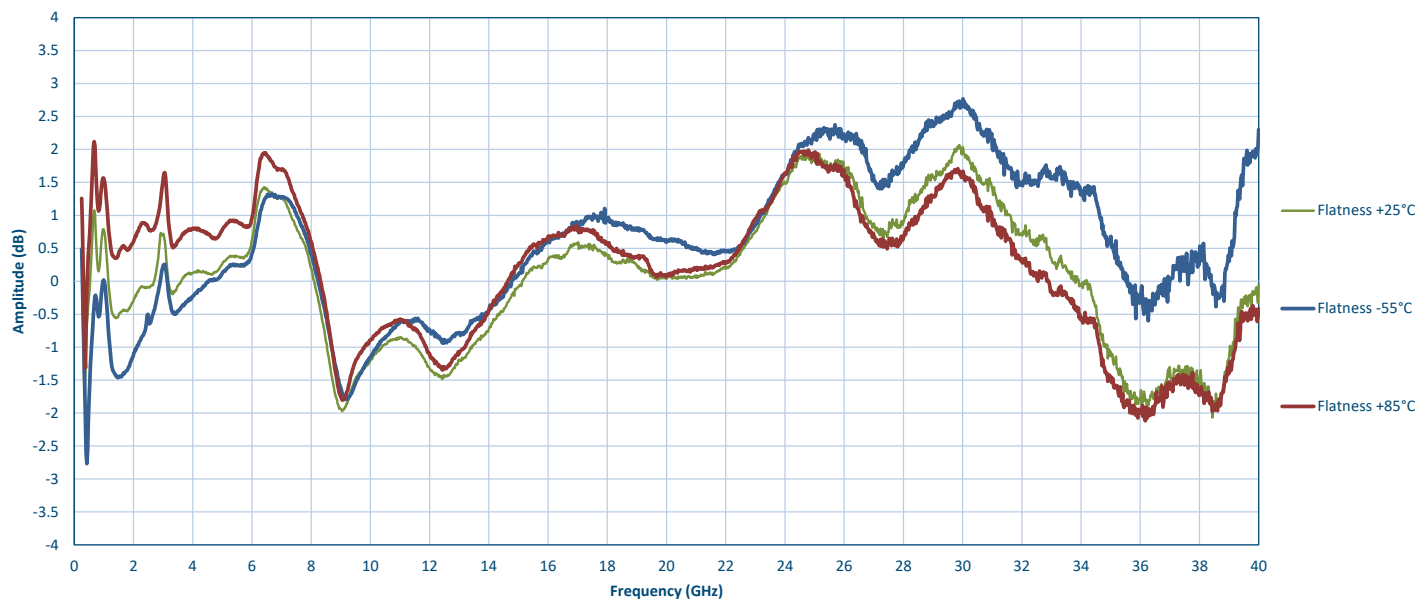


Gain Vs Temperatures (250 MHz to 2GHz)

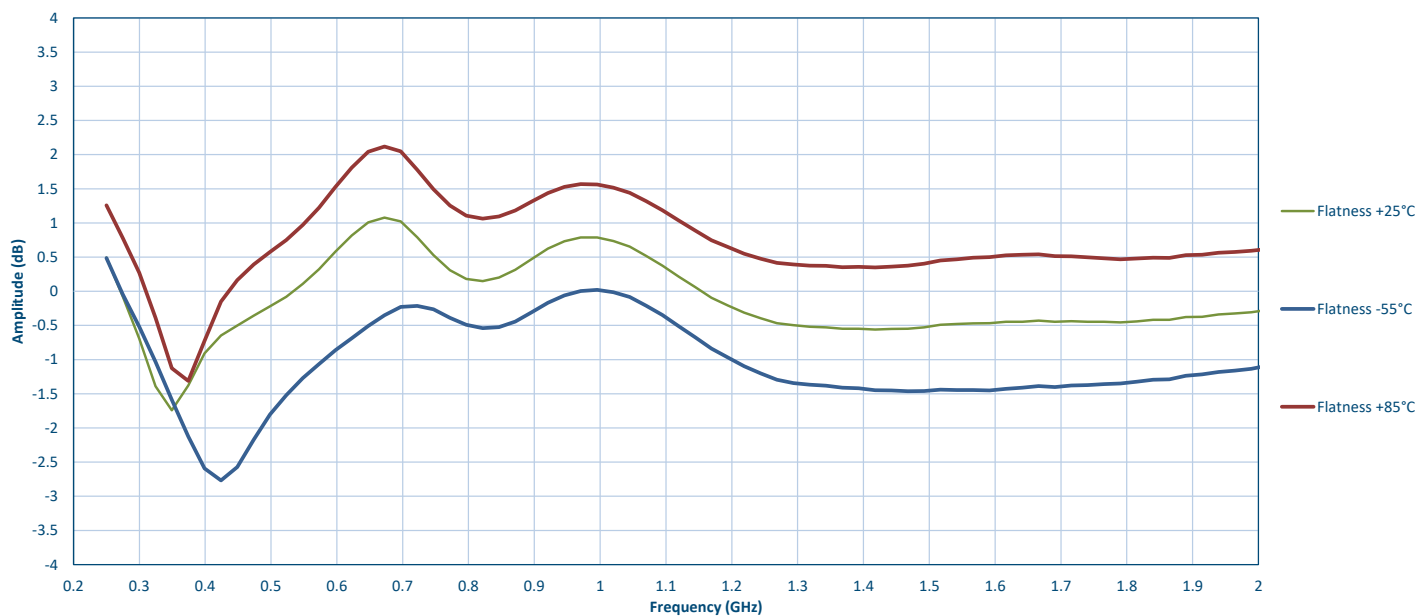


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Gain Flatness Vs Temperatures (250 MHz to 40 GHz)

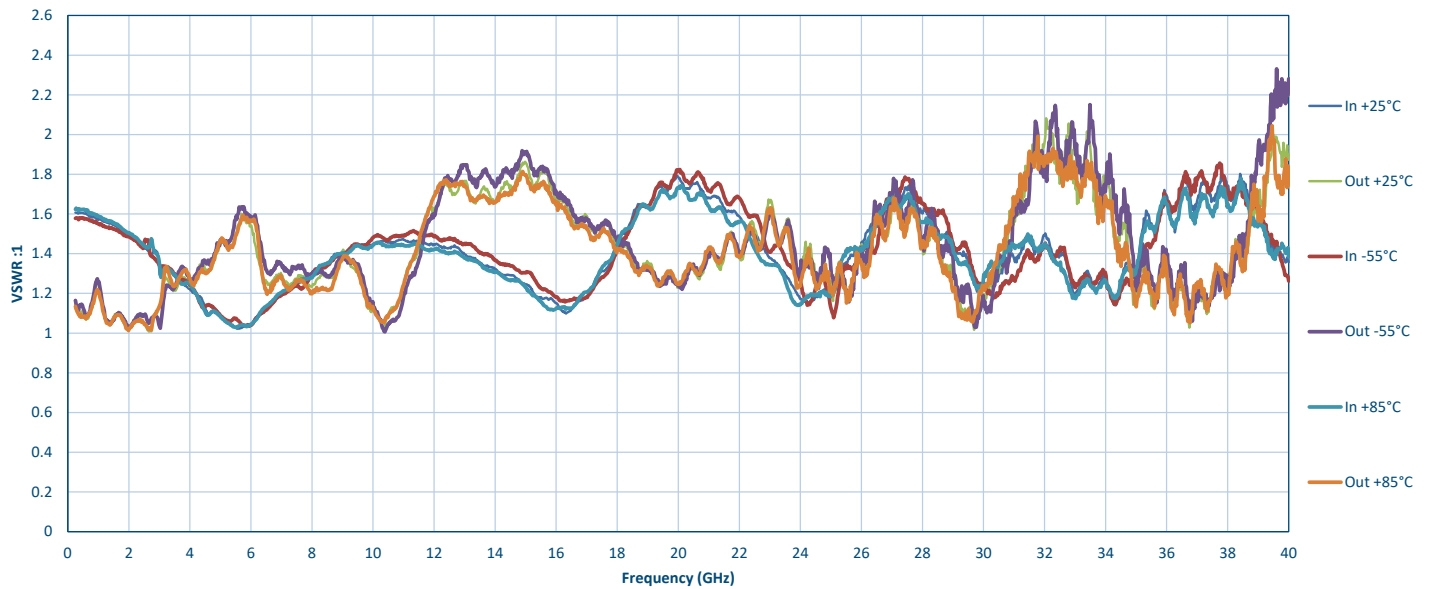


Gain Flatness Vs Temperatures (250 MHz to 2 GHz)

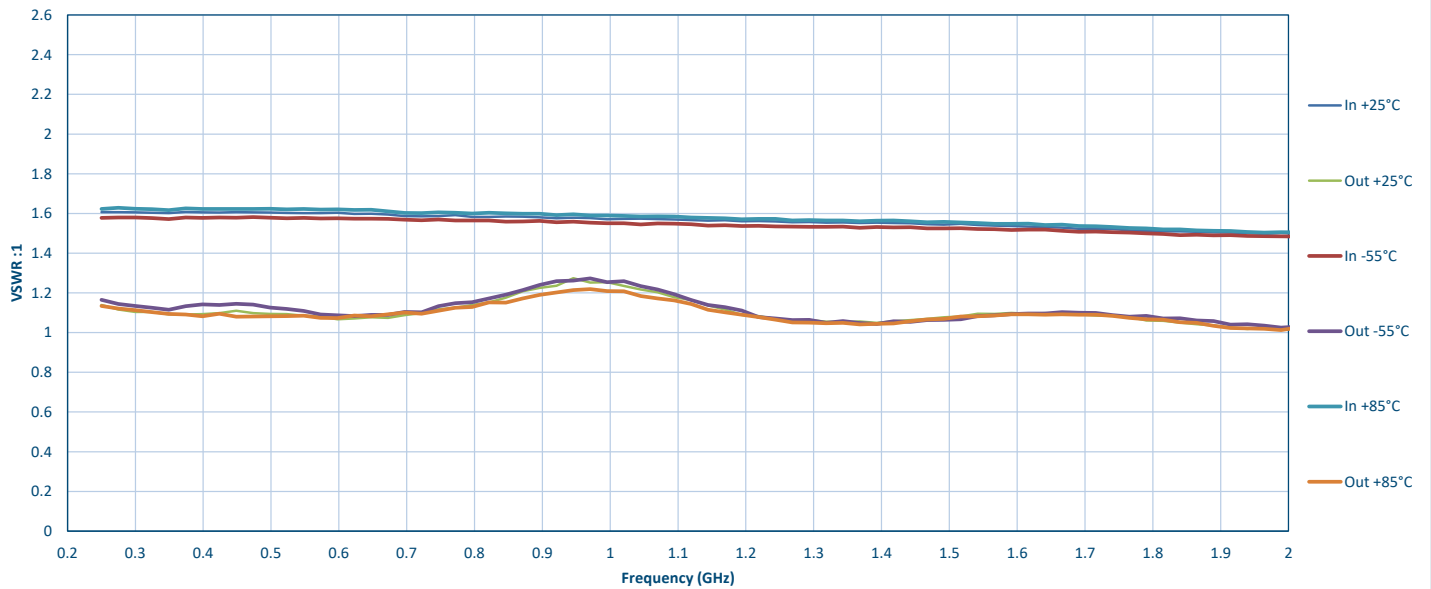


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VSWR Vs Temperatures (250 MHz to 40 GHz)

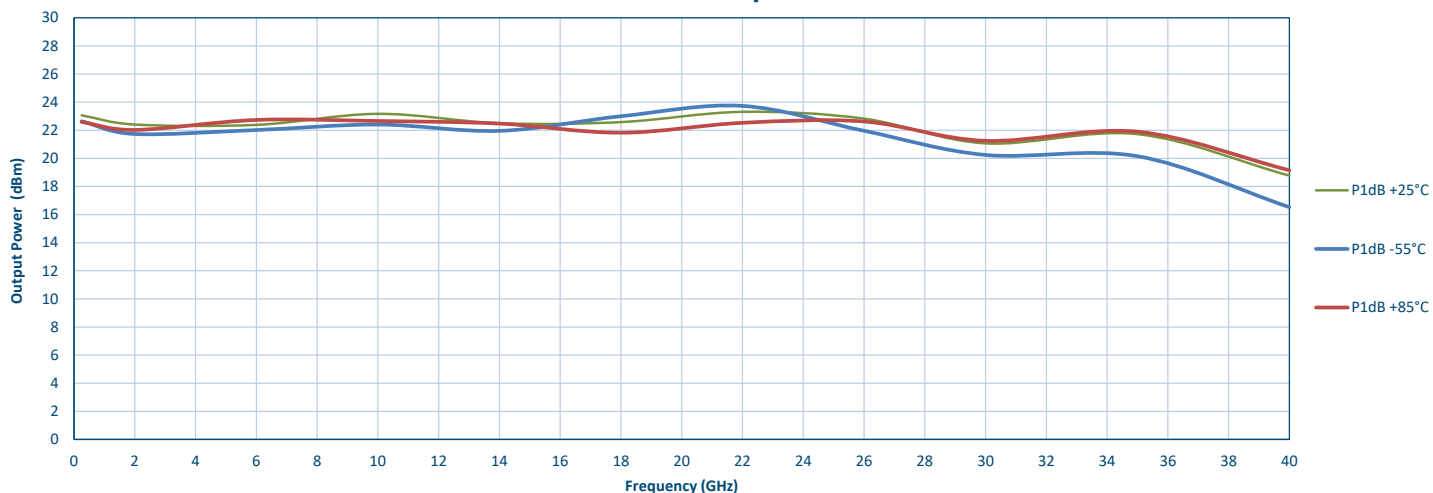


VSWR Vs Temperatures (250 MHz to 2 GHz)

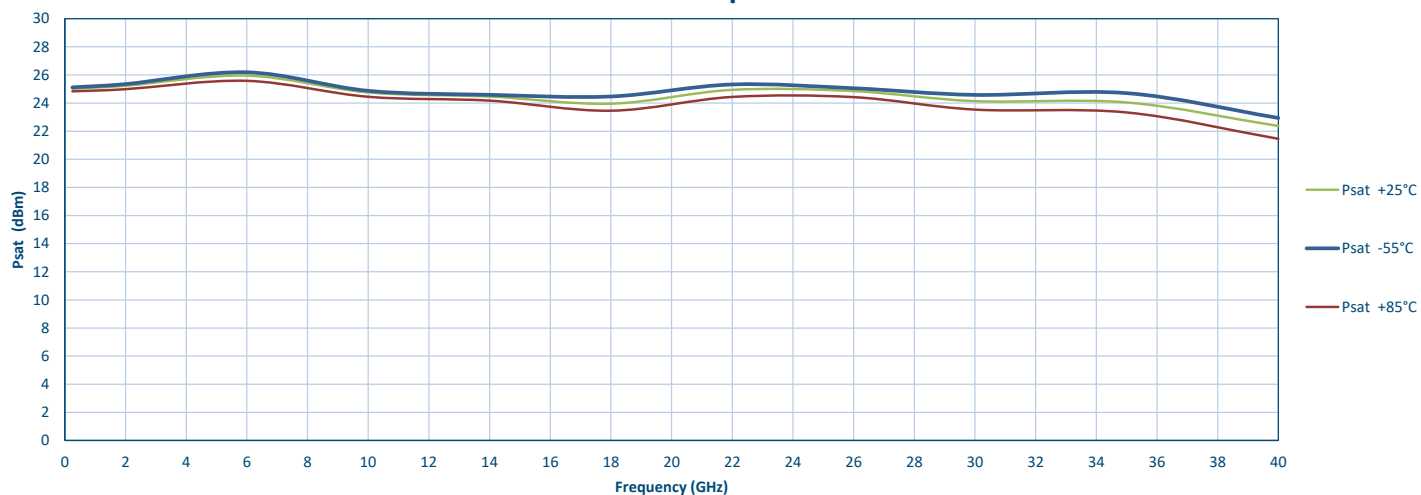


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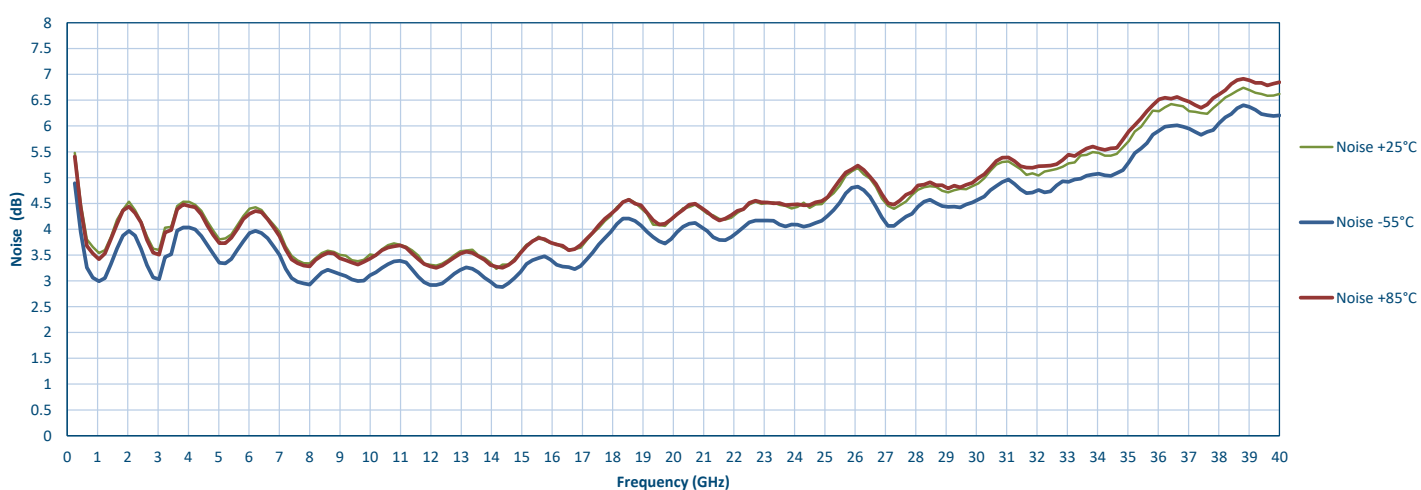
OP1dB Vs Temperatures



PSAT Vs Temperatures

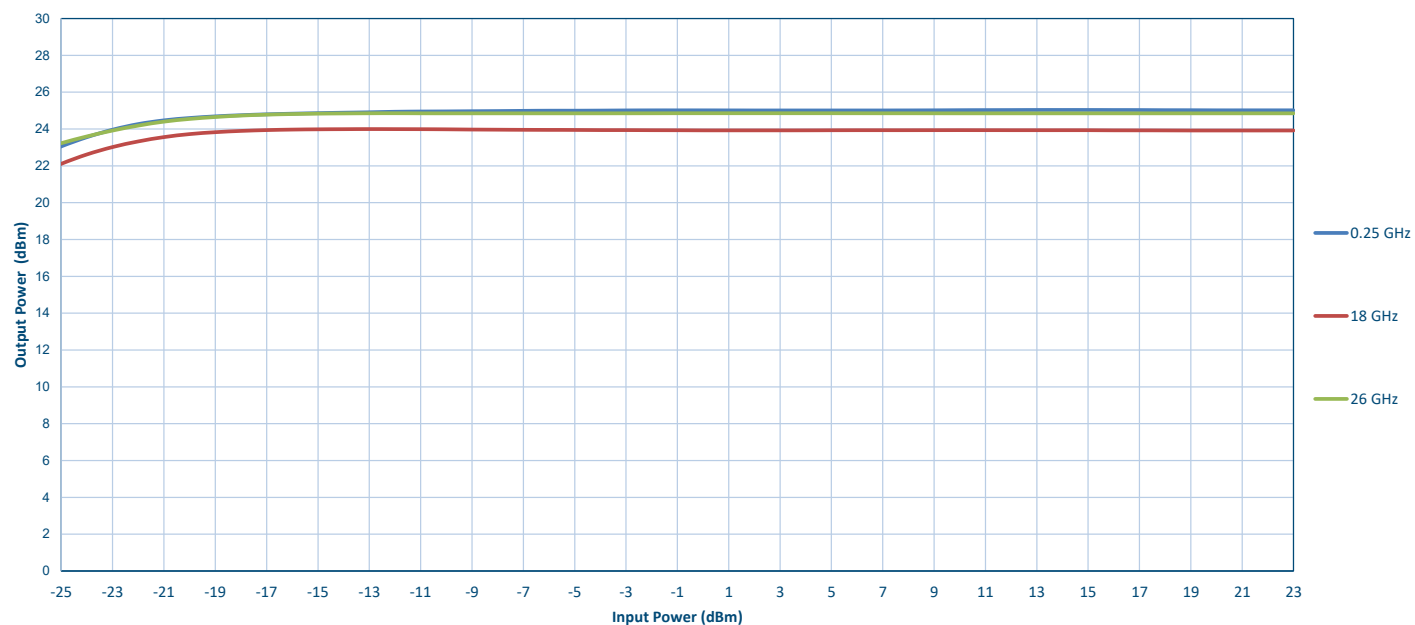


Noise Figure Vs Temperatures



TYPICAL CHARACTERISTICS ON PEC-50-500M40G-20-12-292FF-BG-OPT250M

Power Test (0.25 GHz to 26 GHz)



Power Test (26 GHz to 40 GHz)

