

**TYPICAL CHARACTERISTICS
ON
PEC-12-50M40G-4R0-15-292FF**

PLANAR MONOLITHICS INDUSTRIES MODEL NO: PEC-12-50M40G-4R0-15-292FF IS AN AMPLIFIER OPERATING OVER THE 50 MHz TO 40 GHz FREQUENCY RANGE. THIS MODEL OFFERS A GAIN OF 10 dB TYPICAL WHILE MAINTAINING A MAXIMUM FLATNESS OF ± 2.5 dB.



May 14, 2025

Designed By:

Engineering PMI

Tested and Reported By:

Alfredo Lopez

TYPICAL CHARACTERISTICS ON PEC-12-50M40G-4R0-15-292FF

Outline Drawing

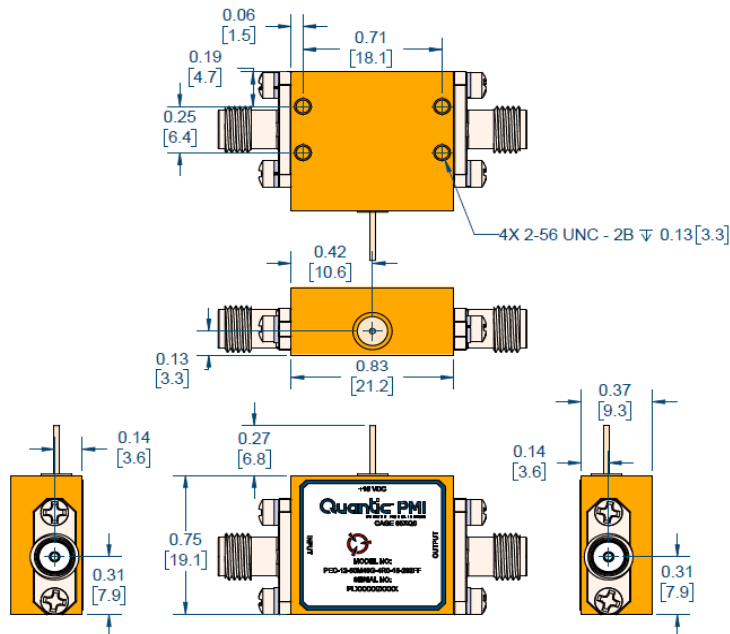
DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NO: PEC-12-50M40G-4R0-15-292FF IS AN AMPLIFIER OPERATING OVER THE 50 MHZ TO 40 GHZ FREQUENCY RANGE. THIS MODEL OFFERS A GAIN OF 10 DB MINIMUM WHILE MAINTAINING A MAXIMUM FLATNESS OF ± 2.5 DB.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/17/24	
	B1	ECN # 25-0137	6/6/25	

SPECIFICATIONS:

- | | |
|---------------------|---|
| ● FREQUENCY RANGE: | 50 MHz TO 40.0 GHz |
| ● GAIN: | +10 dB MINIMUM |
| ● FLATNESS: | ±2.5 dB MAXIMUM |
| ● NOISE FIGURE: | 8.5 dB MAXIMUM [0.05 GHz TO 0.5 GHz]
5.5 dB MAXIMUM [0.5 GHz TO 31 GHz]
8.5 dB MAXIMUM [31 GHz TO 40 GHz] |
| ● P1dB COMPRESSION: | +13 dBm MINIMUM |
| ● VSWR IN: | 2.8:1 MAXIMUM [0.1 GHz TO 40 GHz] |
| ● VSWR OUT: | 2.8:1 MAXIMUM [0.05 GHz TO 35 GHz]
3.3:1 MAXIMUM [35 GHz TO 40 GHz] |
| ● POWER SUPPLY: | +12 VDC (±5%) @ 300 mA MAX |
| ● CONNECTORS: | 2.92 mm FEMALE |
| ● SIZE: | 0.83" x 0.75" x 0.37"
21.2 mm x 19.1 mm x 9.3 mm |
| ● FINISH: | GOLD PLATED |



ENVIRONMENTAL RATINGS:

- | | |
|----------------------|---|
| ● TEMPERATURE: | 0°C TO +85°C (OPERATING)
-65°C TO +125°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

 7304 L GARDEN ROAD, SUITE 100, FORT MYERS, FL 33907 USA TEL: 888.888.8888 FAX: 888.888.8888 WWW.QUANTACPMI.COM										
<table border="1"> <tr> <th>APPROVALS</th> <th>DATE</th> </tr> <tr> <td>D. HOSCHAR</td> <td>10/17/24</td> </tr> </table>	APPROVALS	DATE	D. HOSCHAR	10/17/24	<table border="1"> <tr> <th>TITLE</th> </tr> <tr> <td>Outline</td> </tr> <tr> <td>PEC-12-50M40-4R0-15-202FF</td> </tr> <tr> <td>FORM NO. 27002981-B</td> </tr> <tr> <td>SCALE 2:1</td> </tr> </table>	TITLE	Outline	PEC-12-50M40-4R0-15-202FF	FORM NO. 27002981-B	SCALE 2:1
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DESIGN (CUSTOMER APPROVED) ARCHITECTURE AND MECHANICAL TO: JAMES E. HOSCHAR BY: J. E. HOSCHAR DATE: 10/17/24	<table border="1"> <tr> <th>REVISION</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td>REV B</td> <td></td> <td></td> </tr> </table>	REVISION	DESCRIPTION	DATE	REV B					
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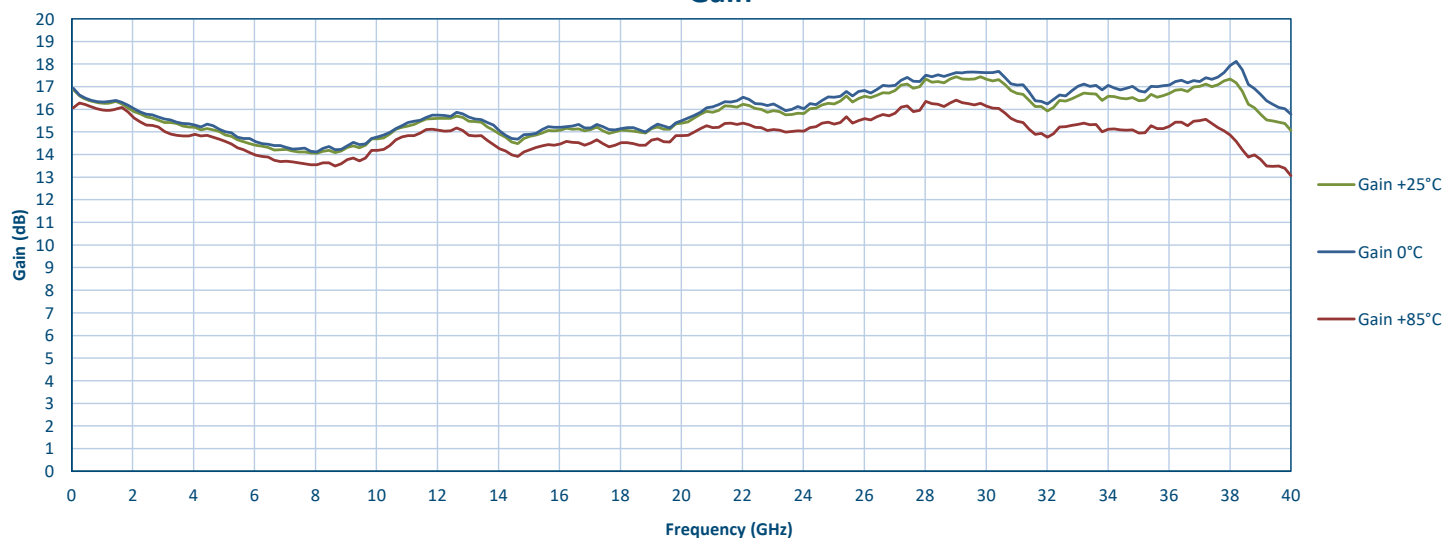
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Technical specifications

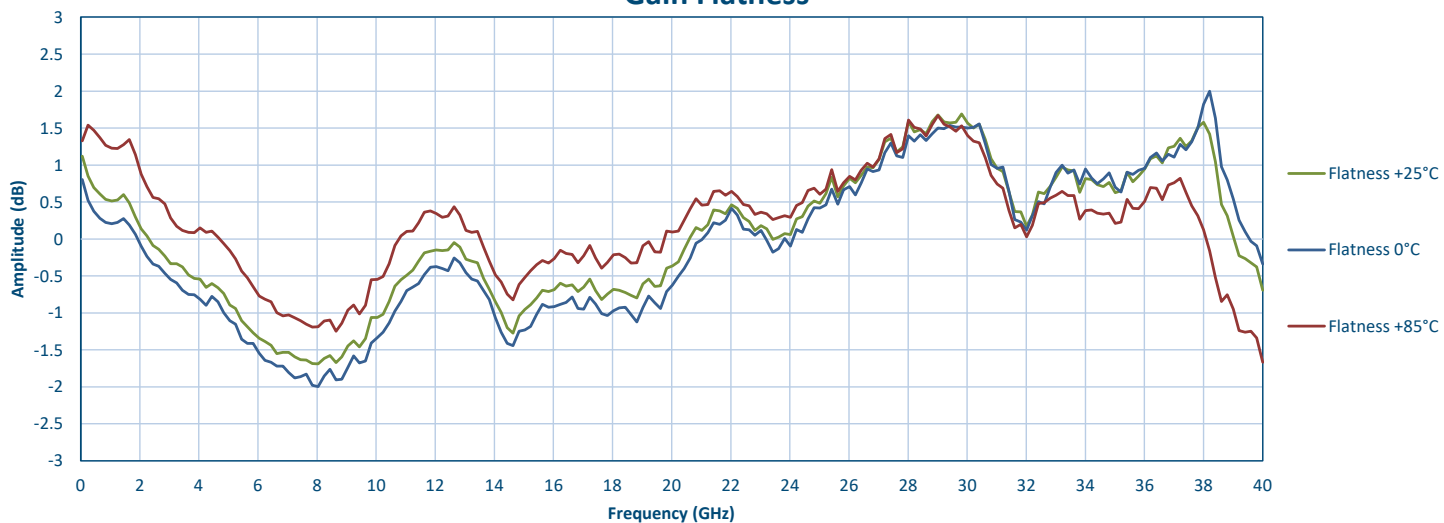
TEST ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results		
			25°C	0°C	+85°C
1	Frequency Range:	50MHz TO 40GHz	50MHz TO 40GHz	50MHz TO 40GHz	50MHz TO 40GHz
2	Gain:	+10 dB Min.	+ 17.44 dB Max. + 14.06 dB Min. See Graph	+ 18.12 dB Max. + 14.12 dB Min. See Graph	+ 16.4 dB Max. + 13.07 dB Min. See Graph
3	Gain Flatness:	±2.5 dB Max.	1.69 dB See Graph	2 dB See Graph	1.67 dB See Graph
4	Noise Figure:	8.5 dB Max. (0.05 to 0.5 GHz)	8.21 dB (0.05 to 0.5 GHz)	7.51 dB (0.05 to 0.5 GHz)	8.21 dB (0.05 to 0.5 GHz)
		5.5 dB Max. (0.5 to 31 GHz)	5.37 dB (0.5 to 31 GHz)	5.07 dB (0.5 to 31 GHz)	5.37 dB (0.5 to 31 GHz)
		8.5 dB Max. (31 to 40 GHz)	8.15 dB (31 to 40 GHz)	7.92 dB (31 to 40 GHz)	8.15 dB (31 to 40 GHz)
			See Graph	See Graph	See Graph
5	OP1dB:	+13 dBm Min.	+ 16.76 dBm	+ 16.86 dBm	+ 16.56 dBm
			+ 15.06 dBm	+ 15.93 dBm	+ 13.53 dBm
			See Graph	See Graph	See Graph
6	VSWR: (In)	2.8:1 Max. (0.1 to 40 GHz)	2.34 :1	2.44 :1	2.25 :1
	VSWR: (IOut)	2.8:1 Max. (0.05 to 35 GHz)	2.58 :1	2.73 :1	2.35 :1
		3.3:1 Max. (35 to 40 GHz)	2.75 :1	3.25 :1	2.01 :1
			See Graph	See Graph	See Graph
7	DC Supply:	+12 V @ 300 mA Max.	+12 VDC @ 179 mA	+12 VDC @ 175 mA	+12 VDC @ 187 mA

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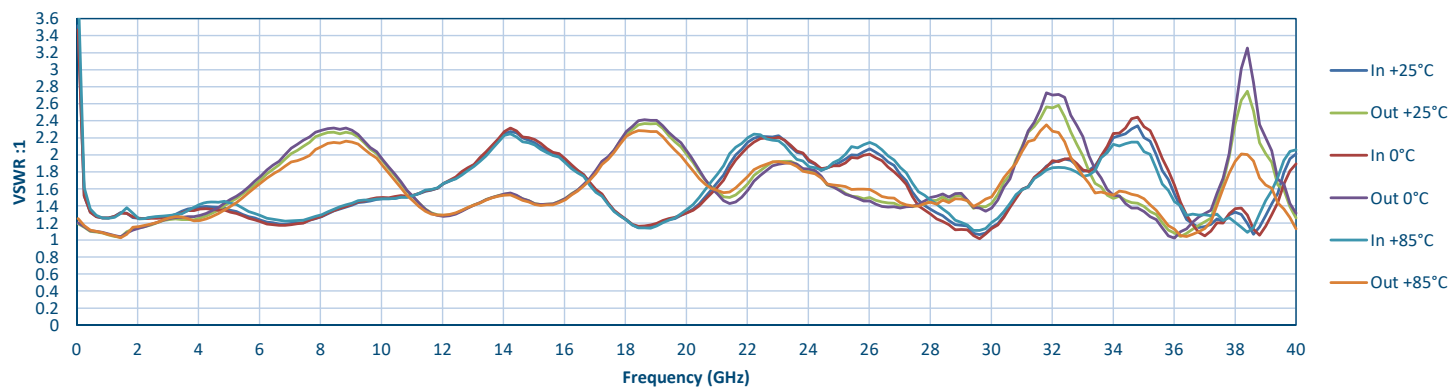
Gain



Gain Flatness

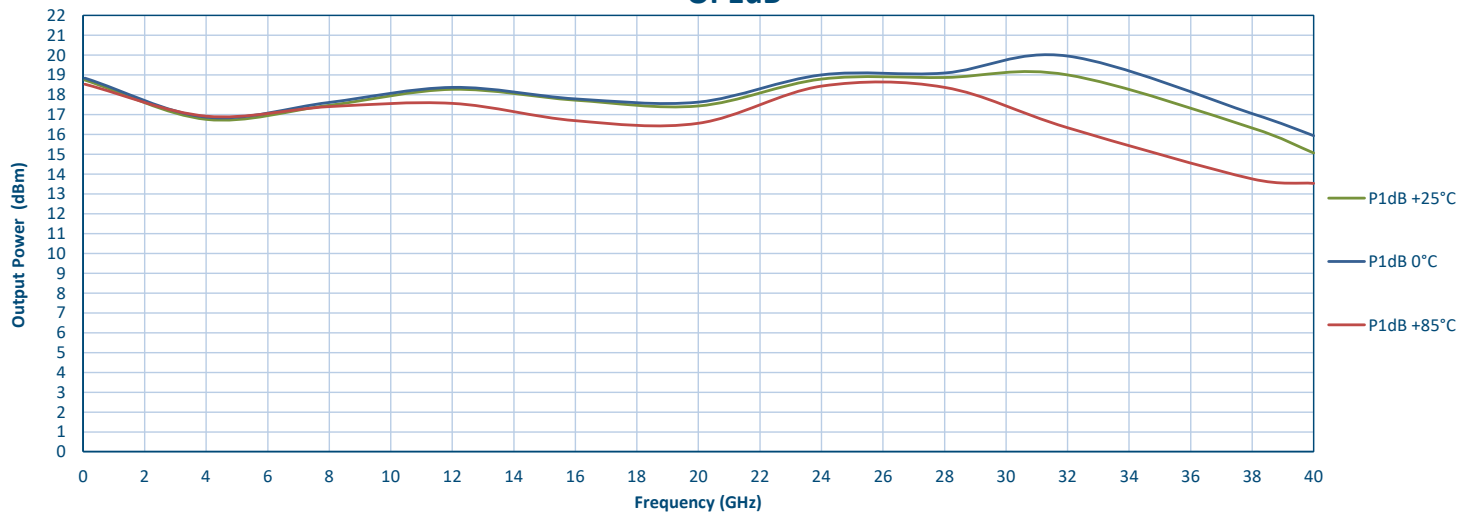


VSWR

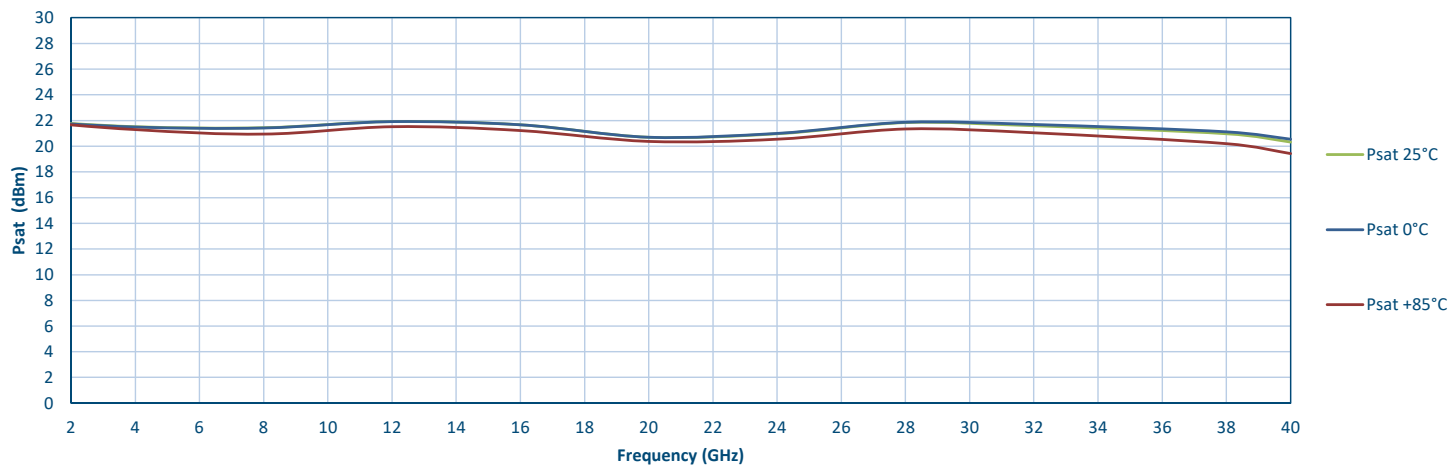


TYPICAL CHARACTERISTICS ON PEC-12-50M40G-4R0-15-292FF

OP1dB



PSat



Noise Figure

