

**TYPICAL CHARACTERISTICS  
ON  
PA-218-45-5-4W-24V-SFF**

PMI MODEL NUMBER PA-218-45-5-4W-24V-SFF-2 IS A 2 TO 18 GHz POWER AMPLIFIER WITH 45 dB MIN AND 56 dB MAX GAIN, A NOISE FIGURE OF 5 dB MAX AND A SATURATED OUTPUT POWER OF 4 WATTS MIN.



**December 9, 2024**

**Designed By:**

**Engineering PMI**

**Drawings By:**

**Noor Azhar**

**Tested and Reported By:**

**Alfredo Lopez**

# TYPICAL CHARACTERISTICS ON PA-218-45-5-4W-24V-SFF

## Product Feature

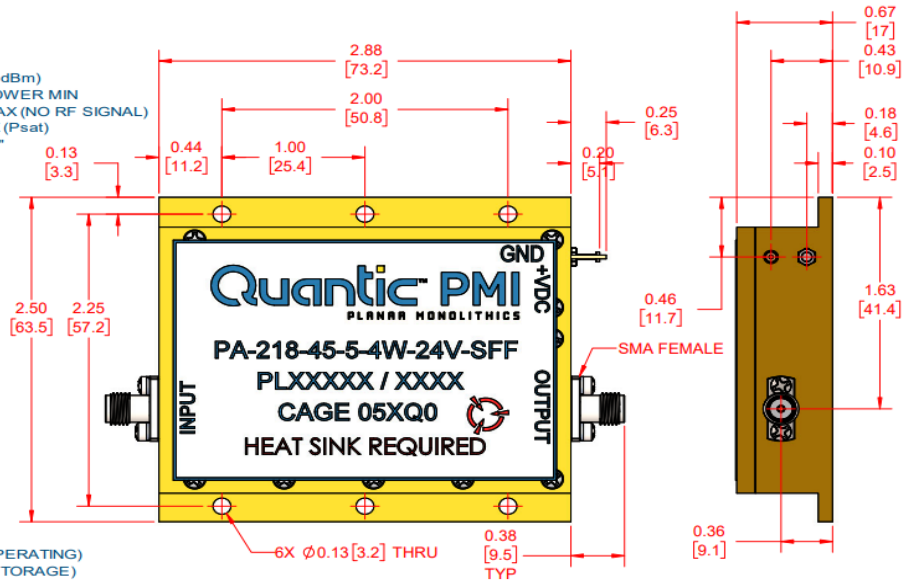
**DESCRIPTION:**

PMI MODEL NUMBER PA-218-45-5-4W-24V-SFF IS A 2 TO 18 GHz POWER AMPLIFIER WITH 45 dB MIN AND 56 dB MAX GAIN, A NOISE FIGURE OF 5 dB MAX AND A SATURATED OUTPUT POWER OF 4 WATTS MIN.

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	3/1/2024	
	B1	ECN # 24-0320	11/6/2024	

**SPECIFICATIONS:**

- FREQUENCY RANGE:..... 2.0 TO 18.0 GHz
  - GAIN:..... 45 dB MIN / 56 dB MAX
  - GAIN FLATNESS:..... ±3.5 dB
  - VSWR (INPUT):..... 2.4 : 1 MAX
  - VSWR (OUTPUT):..... 2.4 : 1 MAX
  - NOISE FIGURE:..... 5 dB MAX
  - RF INPUT POWER:..... +20 dBm MAX
  - SATURATED OUTPUT POWER (Psat):..... 4 WATTS MIN (+36 dBm)  
@ 0 dBm INPUT POWER MIN
  - DC VOLTAGE SUPPLY:..... +24V @ 900 mA MAX (NO RF SIGNAL)  
@ 1.9 A MAX (Psat)
  - SIZE:..... 2.88" X 2.50" X 0.67"
  - CONNECTORS:..... SMA FEMALE
  - FINISH:..... GOLD PLATED
- \*ADD THERMAL GREASE FOR THERMAL DISSIPATION



**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... -55°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

<small>7309-A GROVE ROAD, FREDERICK, MD 21704 USA PHONE: (301) 662-5019 FAX: (301) 662-1731 WWW.QUANTICPMI.COM EMAIL: SALES@QUANTICPMI.COM ISO 9001 CERTIFIED</small>		<b>Quantic PMI</b> PLANAR MONOLITHICS	
APPROVALS	DATE	TITLE	PA-218-45-5-4W-24V-SFF
DEKAY		OUTLINE	
S AZHAR	3/1/2024	SIZE	B
ISSUED		FSCM NO.	05XQ0
		DWG NO.	27048200
		SCALE	1:1
		REV	B1
		SHEET	1 OF 1

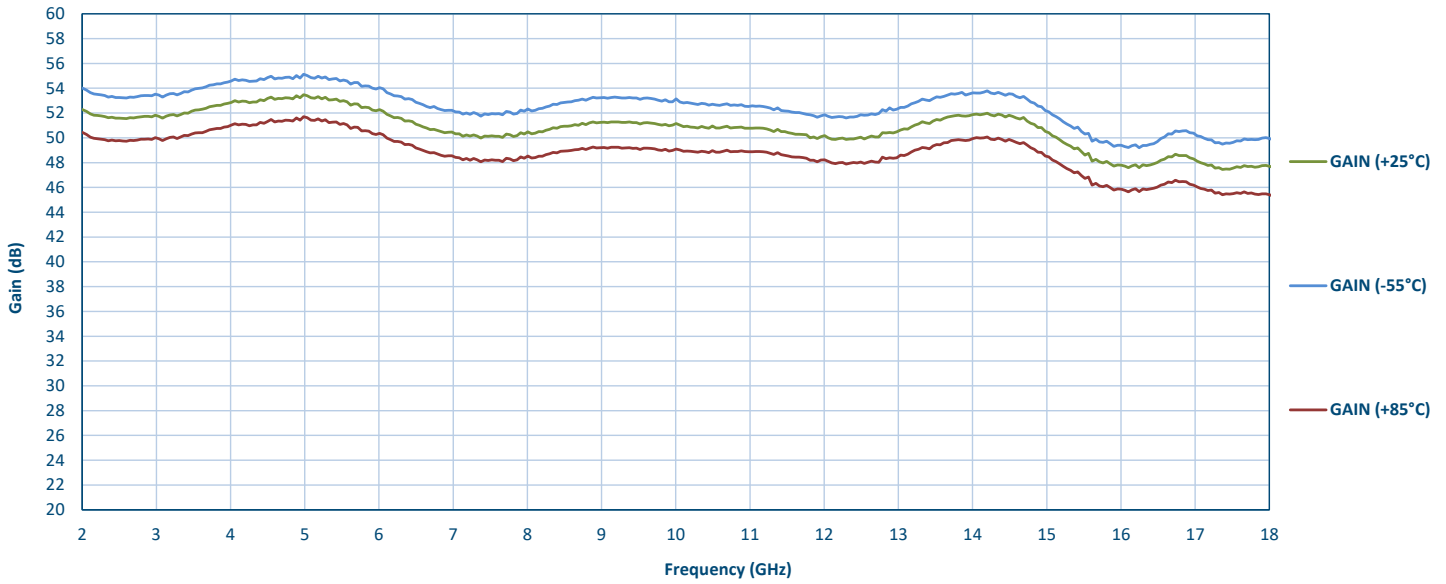
**TYPICAL CHARACTERISTICS  
ON  
PA-218-45-5-4W-24V-SFF**

**Technical Specifications**

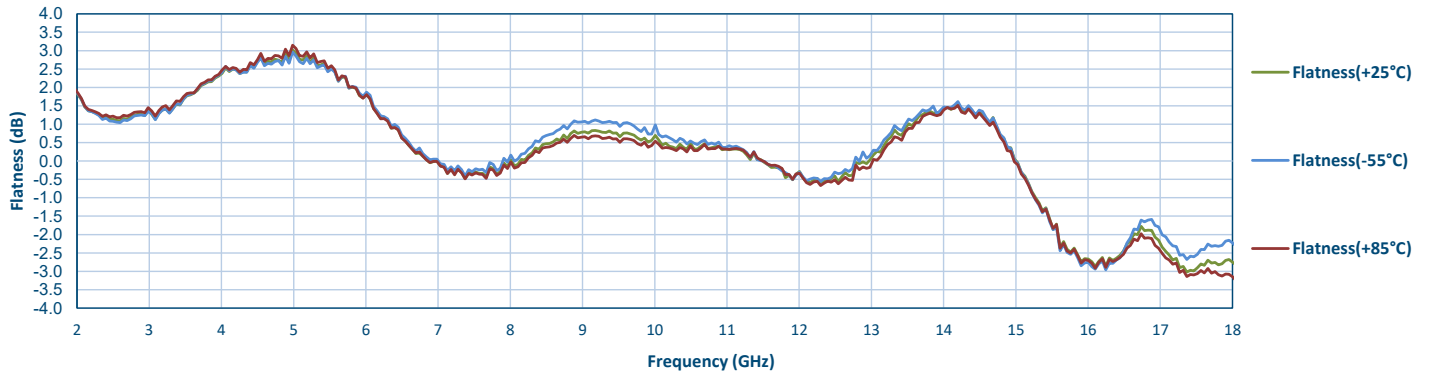
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-55°C	+85°C
1	Frequency Range:	2.0 - 18.0 GHz	2.0 - 18.0 GHz	2.0 - 18.0 GHz	2.0 - 18.0 GHz
2	Gain:	45 dB Min. 56 dB Max.	53.48 dB Max.	55.13 dB Max.	51.71 dB Max.
			47.44 dB Min.	49.21 dB Min.	45.41 dB Min.
			See Graph	See Graph	See Graph
3	Gain Flatness:	±3.5 dB Max.	3.02 :1 See Graph	2.96 :1 See Graph	3.15 :1 See Graph
4	VSWR: (Input)	2.4:1 Max.	2.26 :1 See Graph	2.35 :1 See Graph	2.18 :1 See Graph
5	VSWR: (Output)	2.4:1 Max.	2.06 :1 See Graph	2.08 :1 See Graph	2.18 :1 See Graph
6	Noise Figure:	5.0 dB Max	3.12 dB See Graph	2.93 dB See Graph	3.34 dB See Graph
7	PSAT:	4W Min. (36 dBm ) @ 0 dBm Input Power Min	+39.17 dBm Max.	+39.41 dBm Max.	+38.91 dBm Max.
			+36.96 dBm Min.	+37.31 dBm Min.	+36.59 dBm Min.
			See Graph	See Graph	See Graph
8	Maximum Input Power:	+20 dBm Max.	Pass +20 dBm		
9	DC Voltage Supply:	+24 VDC @ 900 mA Max. (No RF) @ 1.9 A Max. Psat	+24 VDC @ 680 mA.(No RF) @ 1.77 A.(Psat)	+24 VDC @ 650 mA.(No RF) @ 1.79 A.(Psat)	+24 VDC @ 730 mA.(No RF) @ 1.77 A.(Psat)

# TYPICAL CHARACTERISTICS ON PA-218-45-5-4W-24V-SFF

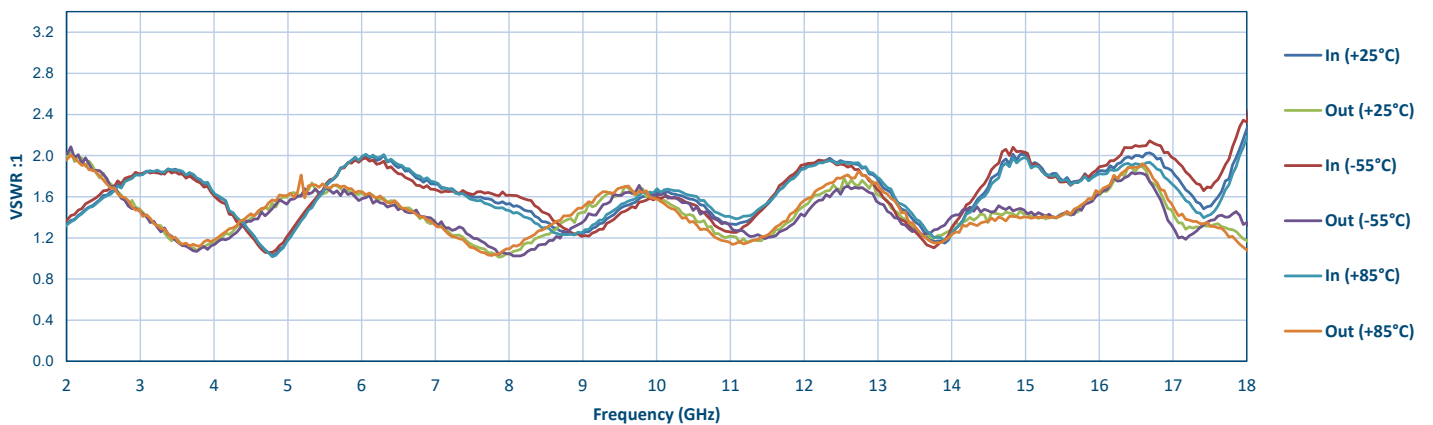
### Gain Vs Temperature



### Gain Flatness Vs Temperature

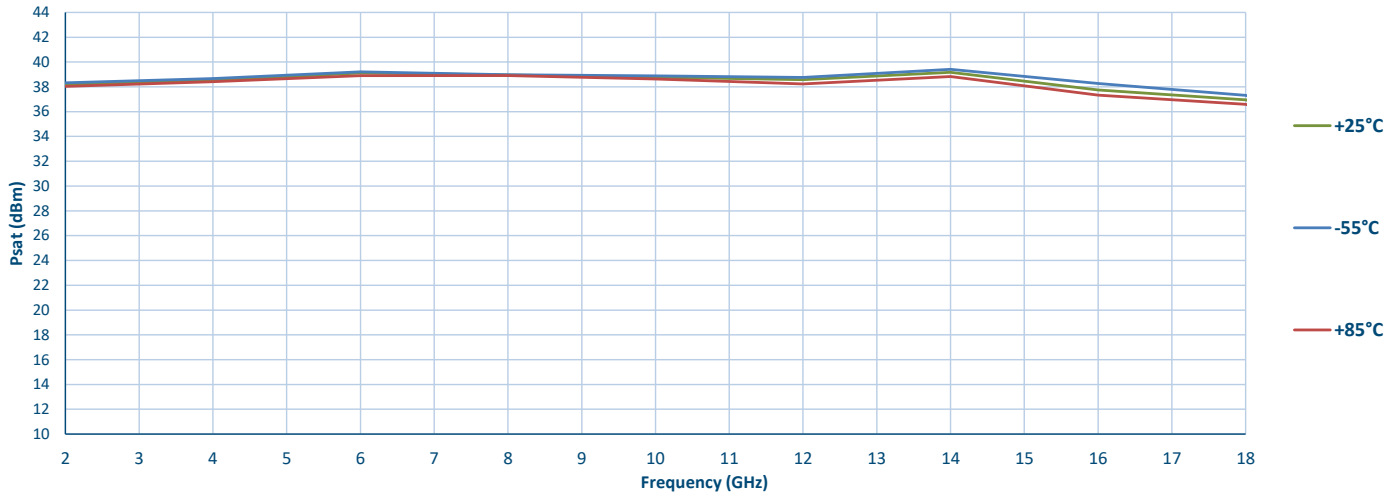


### VSWR Vs Temperature

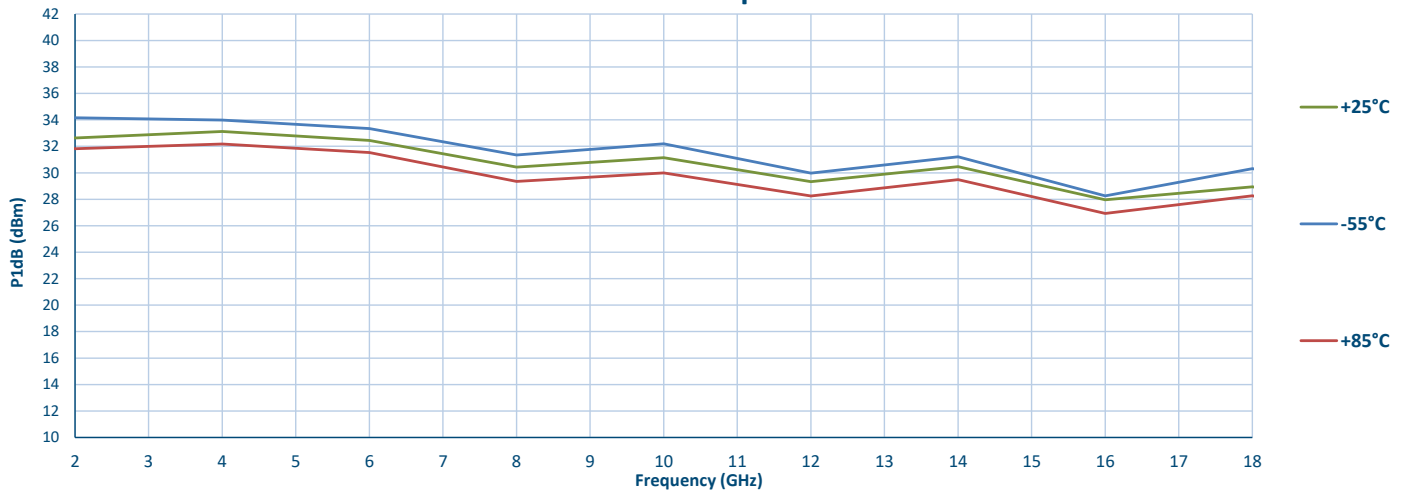


# TYPICAL CHARACTERISTICS ON PA-218-45-5-4W-24V-SFF

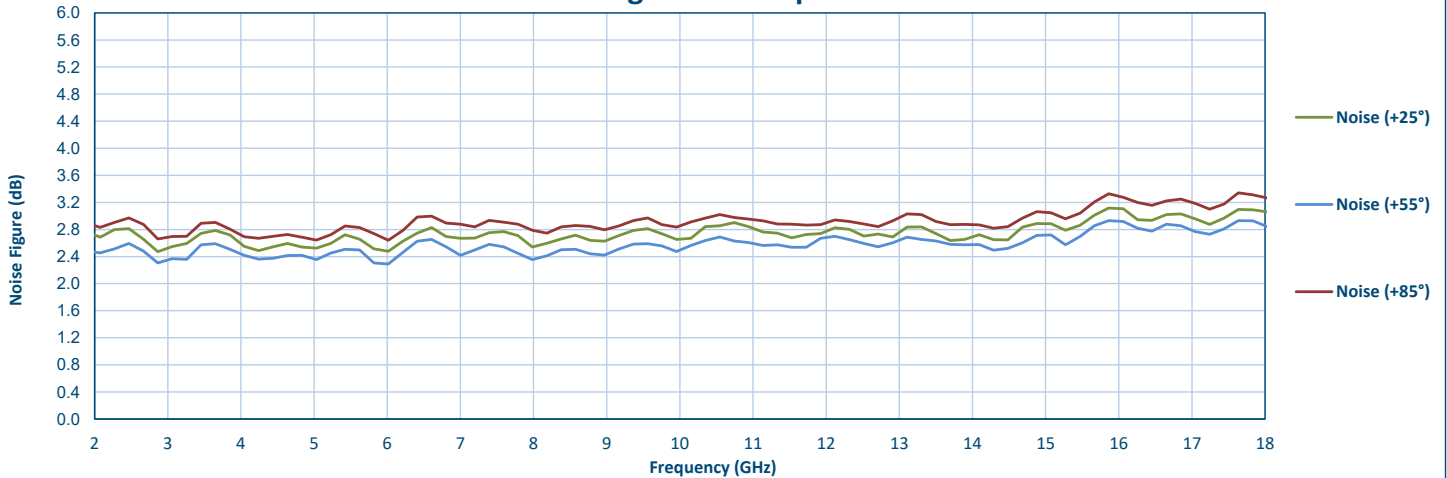
**Psat Vs Temperature**



**P1dB Vs Temperature**

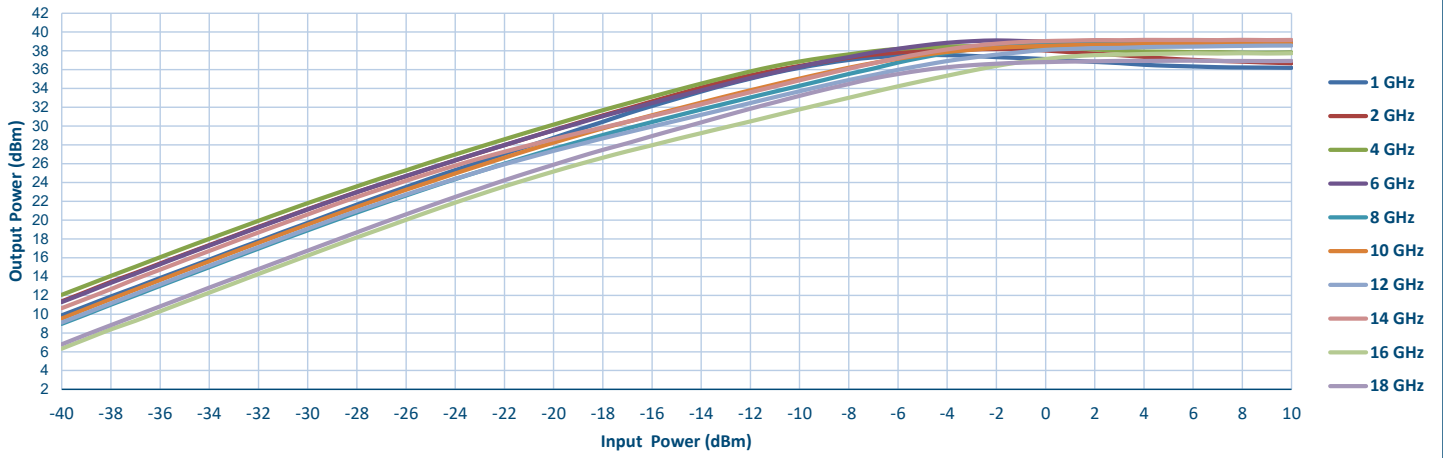


**Noise Figure Vs Temperature**

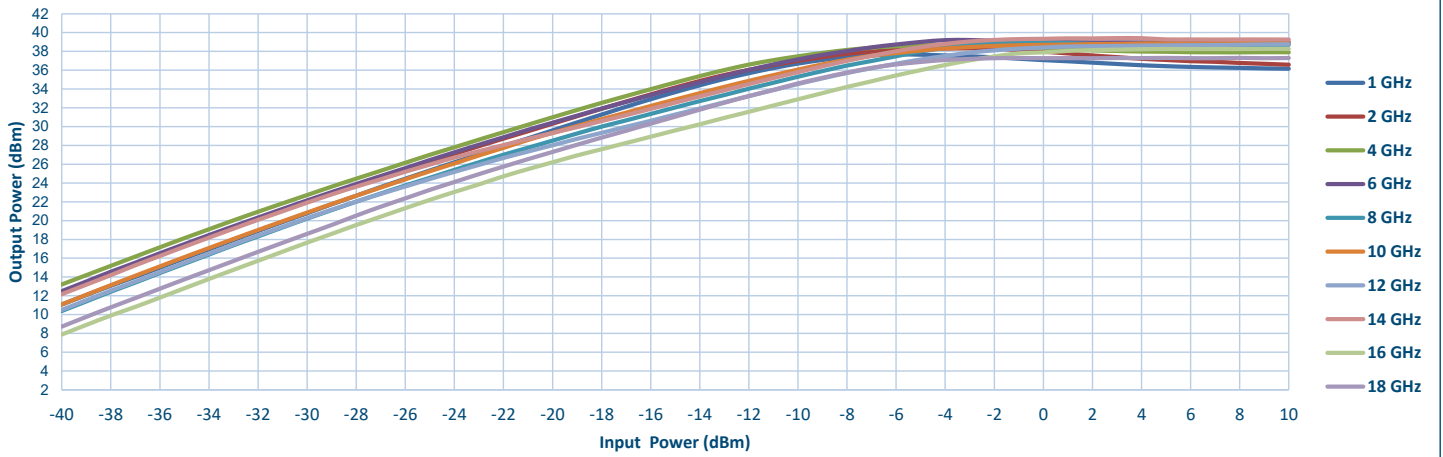


**TYPICAL CHARACTERISTICS  
ON  
PA-218-45-5-4W-24V-SFF**

**Input Power Vs Output Power (+25°C)**



**Input Power Vs Output Power (-55°C)**



**Input Power Vs Output Power (+85°C)**

