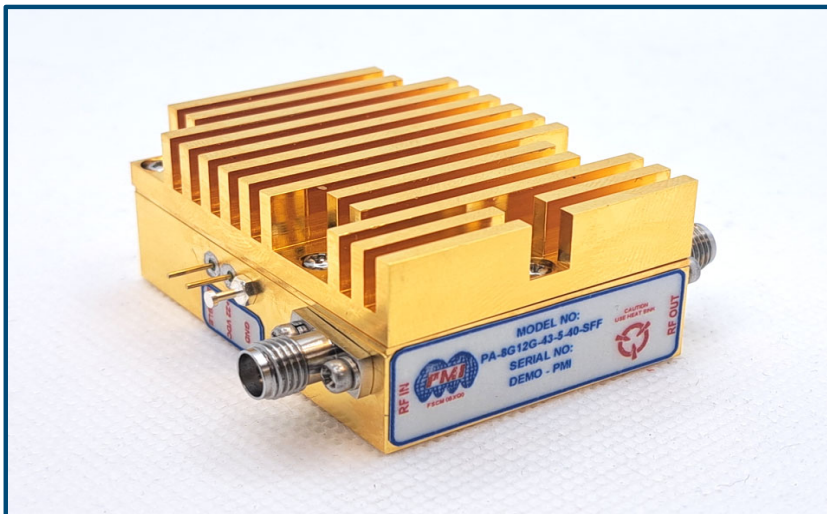


Typical Characteristics ON PA-2G18G-43-5-40-SFF

PMI MODEL NUMBER PA-2G18G-43-5-40-SFF IS A HIGH POWER AMPLIFIER WITH AN OPERATING FREQUENCY OF 2 TO 18 GHz, 43 dB GAIN AND SATURATED OUTPUT POWER OF 40 dBm.

Optional Heatsink Fan



September 16, 2022

Designed By:

Engineering PMI

Drawings By:

Robert Sirk

Tested and Reported By:

Alfredo Lopez

Typical Characteristics ON PA-2G18G-43-5-40-SFF

Product Feature

DESCRIPTION:

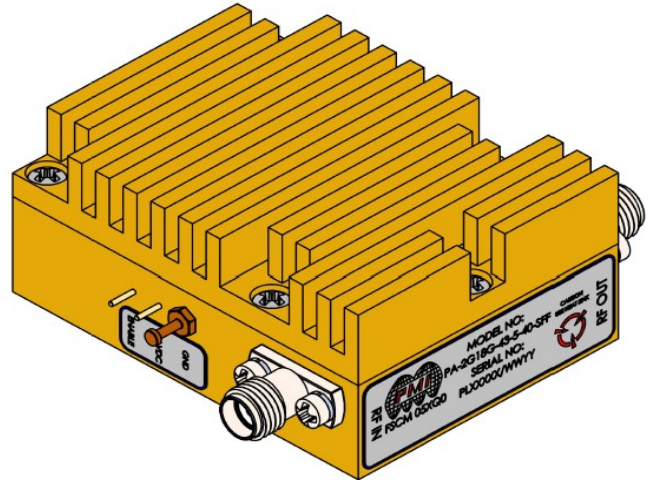
PMI MODEL NUMBER PA-2G18G-43-5-40-SFF IS A HIGH POWER AMPLIFIER WITH AN OPERATING FREQUENCY OF 2 TO 18 GHz, 43 dB GAIN AND SATURATED OUTPUT POWER OF 40 dBm.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	9/26/2022	

SPECIFICATIONS:

- FREQUENCY RANGE:..... 2.0 TO 18.0 GHz
- GAIN:..... 43 dB TYP
38 dB MIN
- VSWR (INPUT/OUTPUT):..... 2.0 : 1 MAX
- NOISE FIGURE:..... 5.0 dB MAX
- PSAT:..... 40 dBm (10W) TYP
35 dBm MIN
- INPUT POWER:..... 20 dBm MAX
- SUPPLY:..... +22 VDC
- POWER AMP CONTROL (ENABLE):..... "1" = +3V ON
"0" = 0 V OFF
- WEIGHT:..... 2.0 oz MAX (WITHOUT HEATSINK)
- CONNECTORS:..... SMA FEMALE REMOVEABLE
- FINISH:..... GOLD PLATED
- OPTION:..... HEATSINK WITH 120VAC FAN:
PA-2G18G-43-5-40-SFF-HS

Typical Current	
Quiescent current and maximum current	
-40°C	
-30 dBm Input Power	1,860 mA
+20 dBm Input Power	2,550 mA
+25°C	
-30 dBm Input Power	2,150 mA
+20 dBm Input Power	3,200 mA
+85°C	
-30 dBm Input Power	2,400 mA
+20 dBm Input Power	3,300 mA



ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -40°C TO +85°C (OPERATING)
-55°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

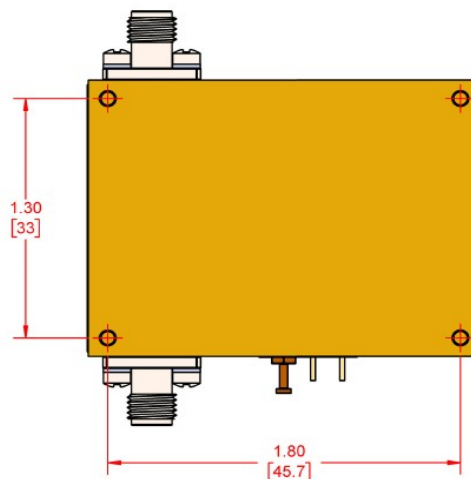
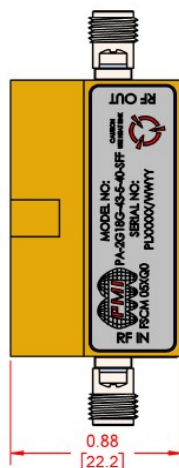
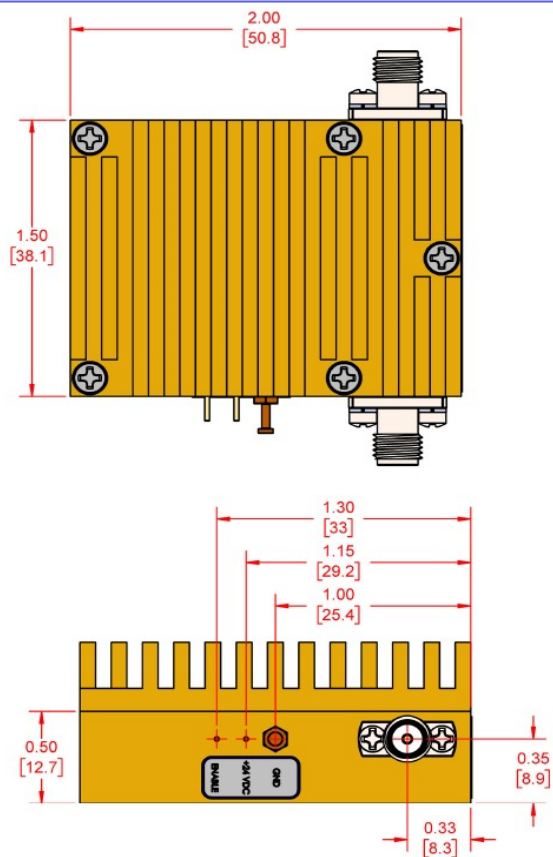
PMI CONFIDENTIAL AND PROPRIETARY

PLANAR MONOLITHICS INDUSTRIES, INC.
7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: (301) 662-5019 FAX: (301) 662-1731
WEB: www.pmi-rf.com EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

APPROVALS		DATE	TITLE	
DRAWN	R. SIKK	9/26/2022	OUTLINE	
REDRAWN			PA-2G18G-43-5-40-SFF	
ISSUED			SIZE	REV.
			B	A1
			PFCM NO. 05XQ0	
			DWG NO. 27045180	
			SCALE 3:2	
			SHEET 1 OF 2	

Typical Characteristics ON PA-2G18G-43-5-40-SFF

Mechanical Drawing



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

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGN	R. SIKK	5/9/2002	OUTLINE	
ISSUED			PA-2G18G-43-5-40-SFF	REV. A1
SIZE	B	750X100	DWG NO.	27045180
SCALE 3:2			SHEET 2 OF 2	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES AND
FINISHES DECIMALS ANGLES
± .010 ± .005
AND 3.00 3.00

PLANAR MONOLITHICS INDUSTRIES, INC.
2311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL (301) 662-5019 FAX (301) 662-1731
WWW: www.pmi-rf.com EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

Typical Characteristics ON PA-2G18G-43-5-40-SFF

Technical Specifications

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			+25°C	-40°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:	43 dB Typ. 40 dB Min.	43.32 dB See Graph	45.25 dB See Graph	40.52 dB See Graph	
3	VSWR: (Input/Output)	2.0:1 Max.	1.6 :1 See Graph	1.61 :1 See Graph	1.6 :1 See Graph	
4	Noise Figure:	5.0 dB Max	2.88 dB See Graph	2.72 dB See Graph	3.49 dB See Graph	
5	PSAT:	40 dBm (10W) Typ. 37 dBm Min	40.25 dBm Max. 36.74 dBm Min. See Graph	40.6 dBm Max. 37.86 dBm Min. See Graph	39.63 dBm Max. 35.52 dBm Min. See Graph	
6	Input Power:	20 dBm Max.	Pass +20 dBm See Graph	Pass +20 dBm See Graph	Pass +20 dBm See Graph	
7	DC Supply:	+22 VDC	+22 VDC & 2,150 mA	+22 VDC & 1,860 mA	+22 VDC & 2,400 mA	
8	Control (Enable)	"1" = +3V ON "0" = 0 V OFF	Pass	Pass	Pass	

Typical Current

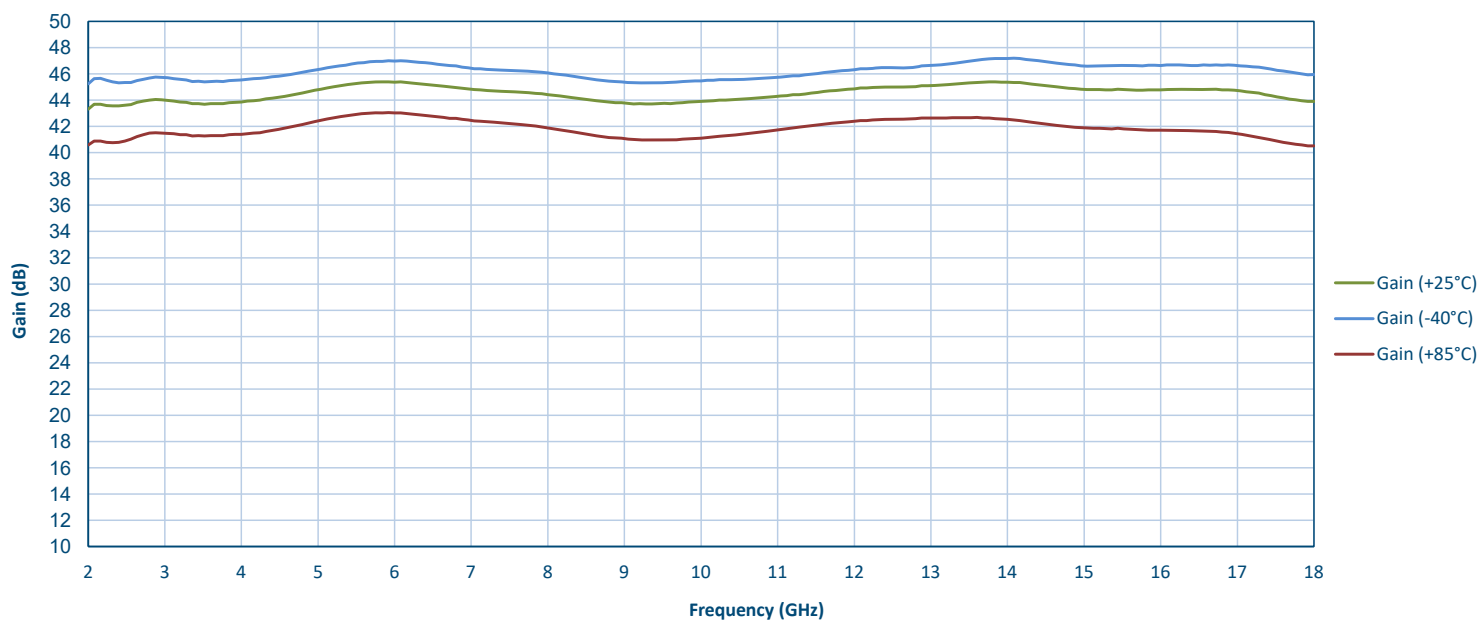
Quiescent current and maximum current	
-40°C	
-30 dBm Input Power	1,860 mA
+20 dBm Input Power	2,550 mA

+25°C	
-30 dBm Input Power	2,150 mA
+20 dBm Input Power	3,200 mA

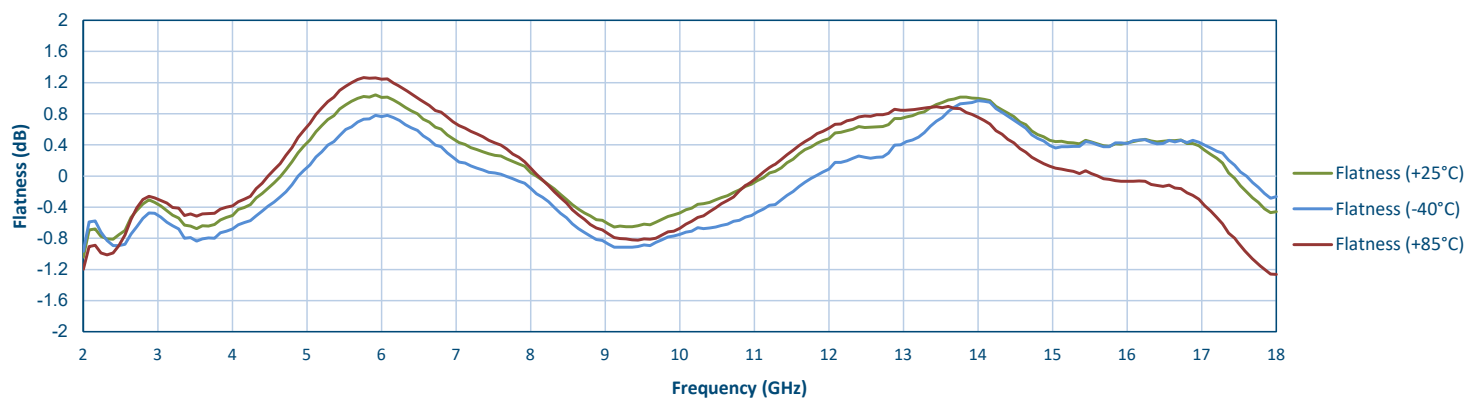
+85°C	
-30 dBm Input Power	2,400 mA
+20 dBm Input Power	3,300 mA

Typical Characteristics ON PA-2G18G-43-5-40-SFF

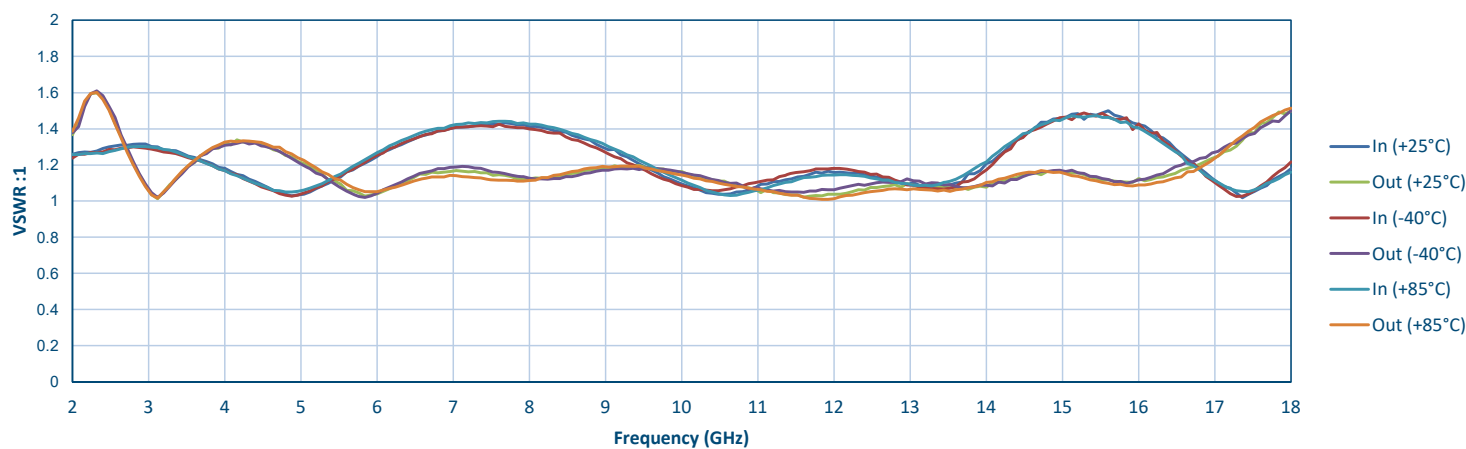
Gain Vs Temperature



Gain Flatness Vs Temperature

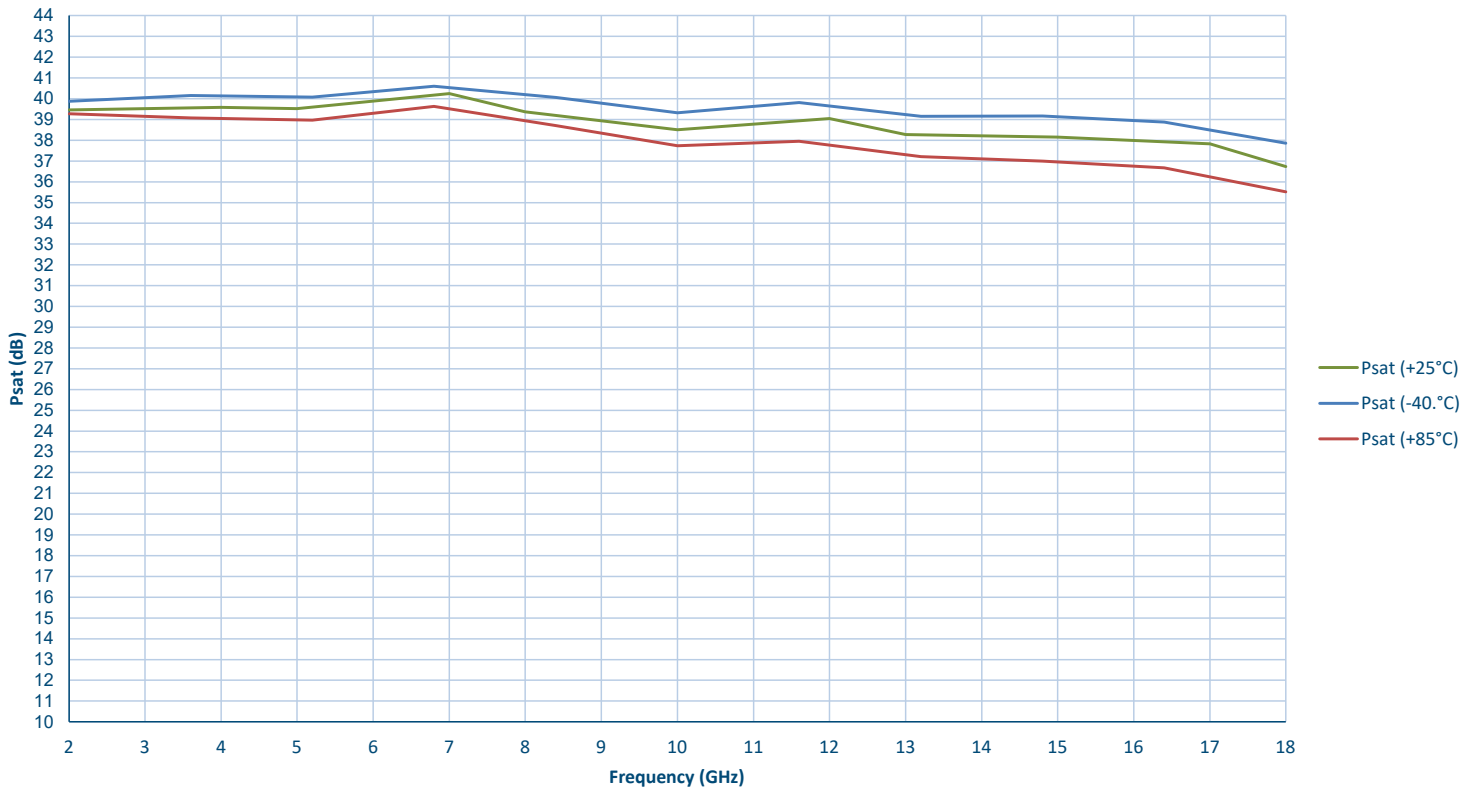


VSWR Vs Temperature

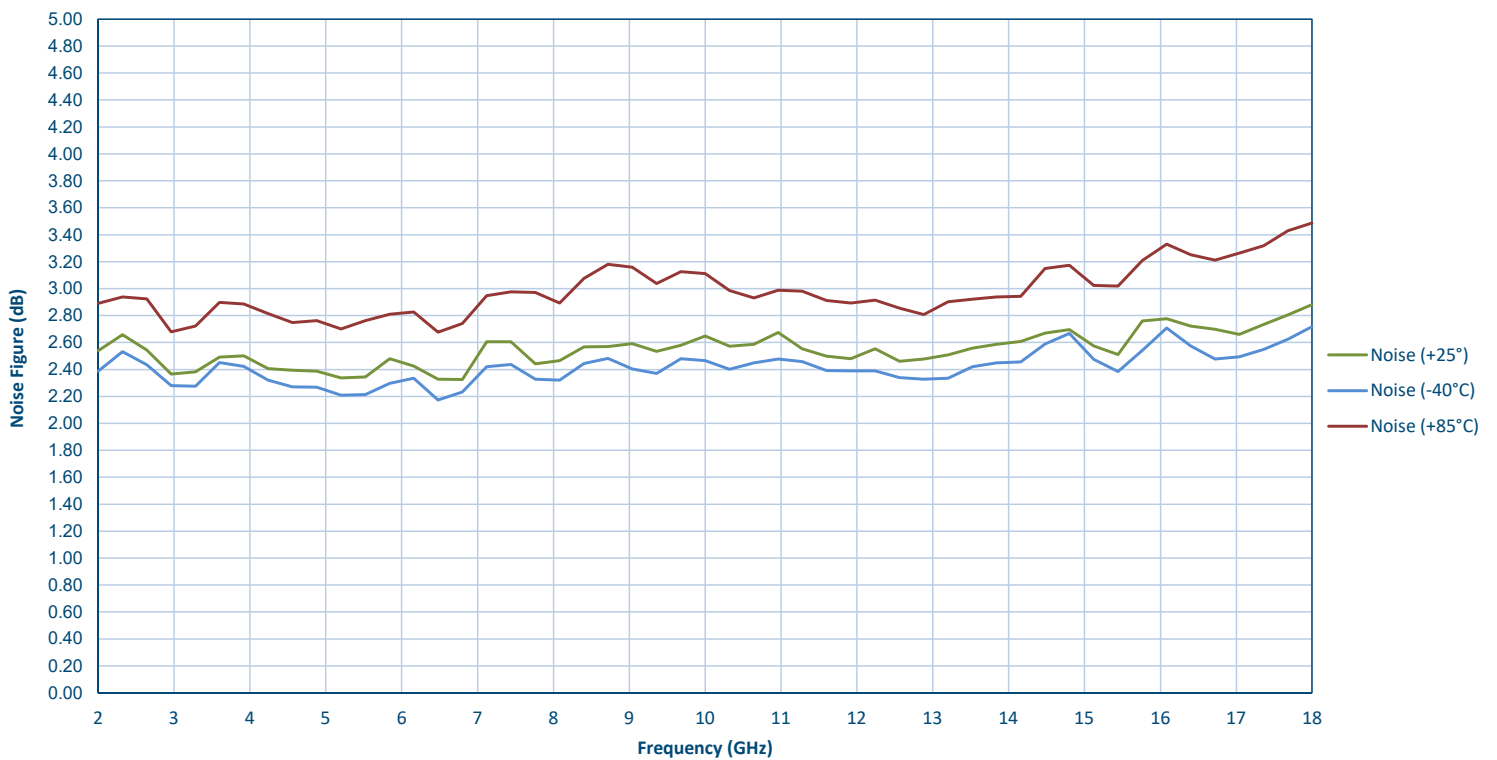


Typical Characteristics ON PA-2G18G-43-5-40-SFF

Psat Vs Temperature

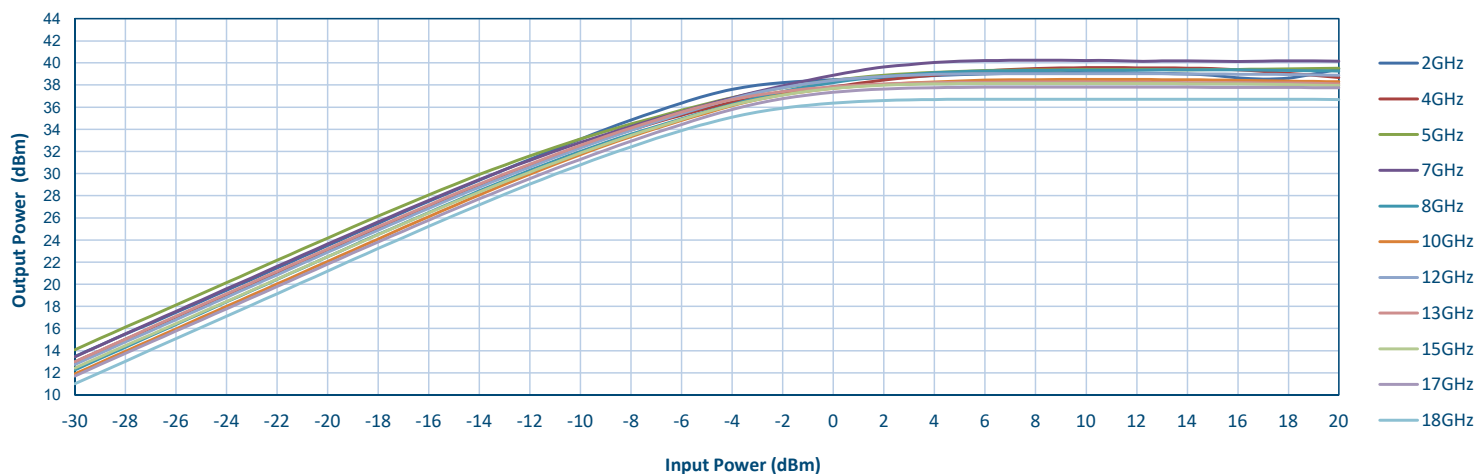


Noise Figure Vs Temperature

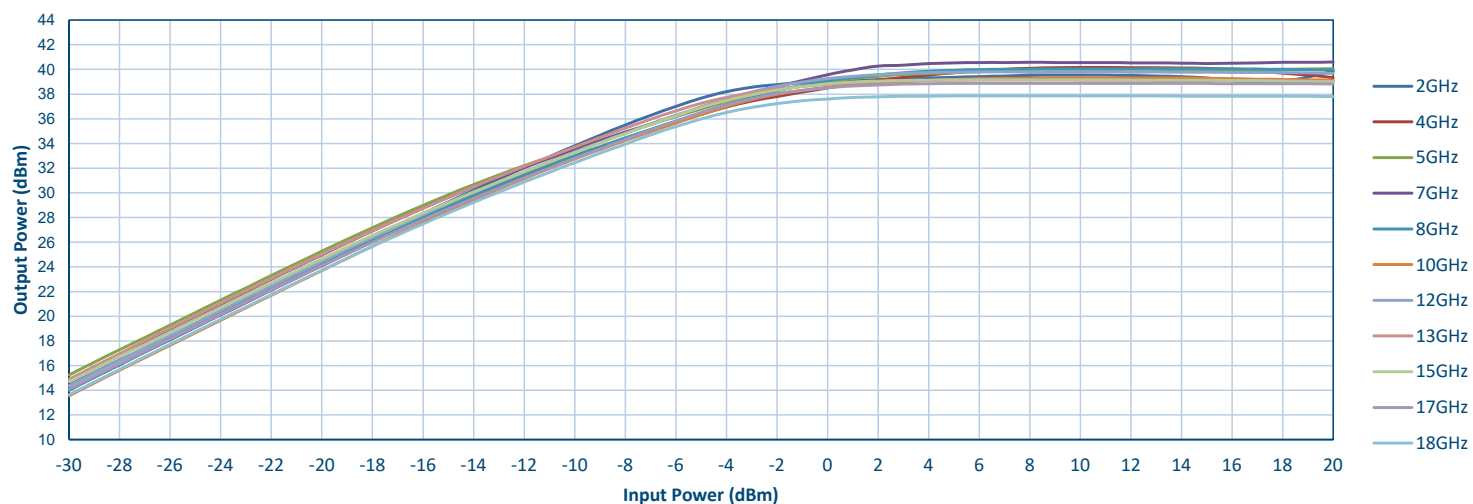


Typical Characteristics ON PA-2G18G-43-5-40-SFF

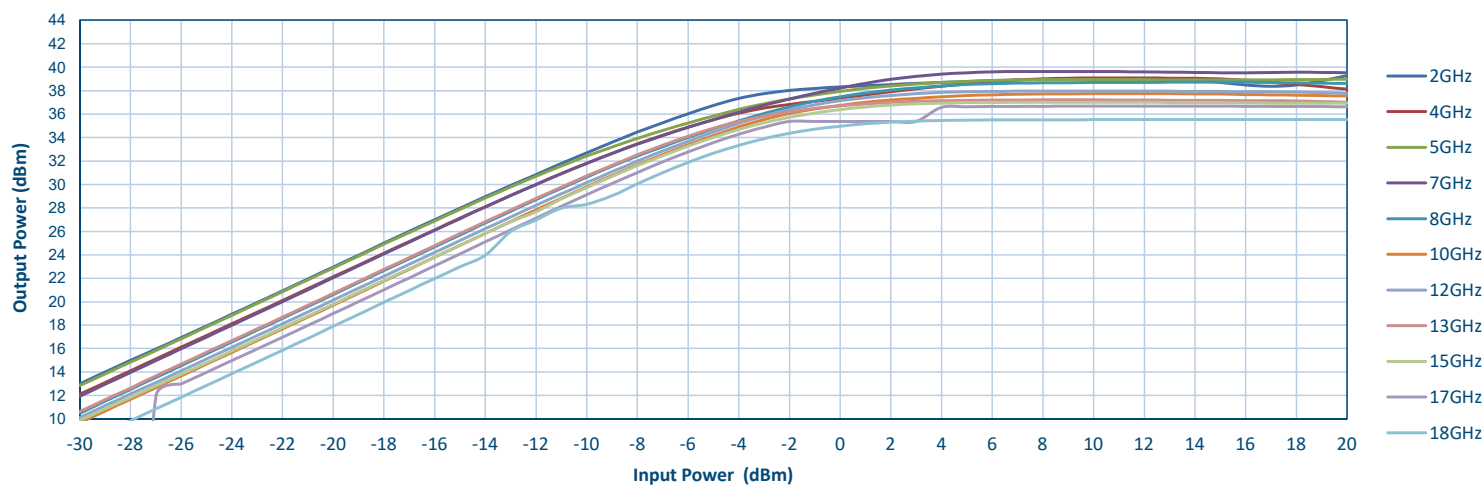
Input Power Vs Output Power (+25°C)



Input Power Vs Output Power (-40°C)



Input Power Vs Output Power (+85°C)



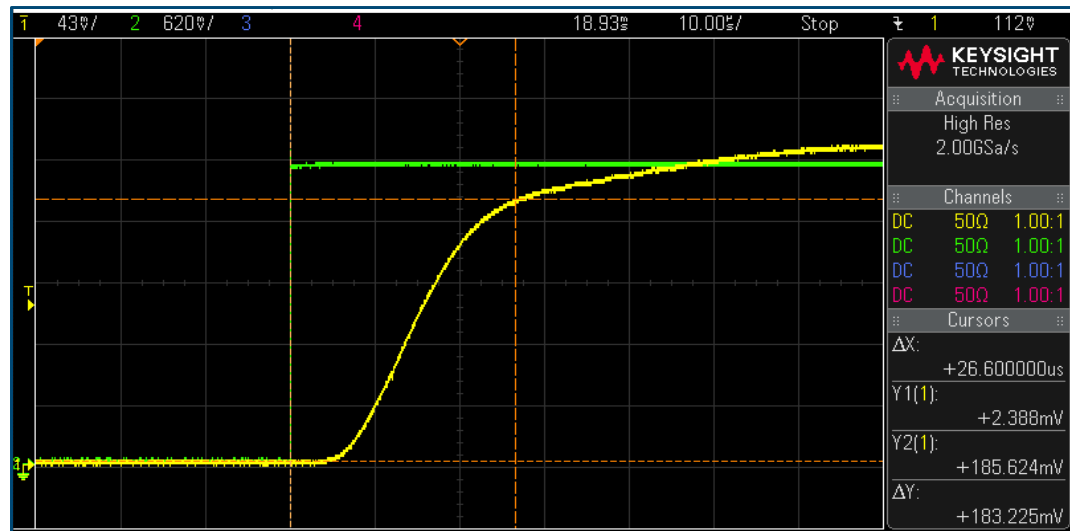
Typical Characteristics ON PA-2G18G-43-5-40-SFF

Switching Speed With Enable Control

Speed ON

PW - 1 ms
PRF - 100 Hz
Duty Cycle - 10%

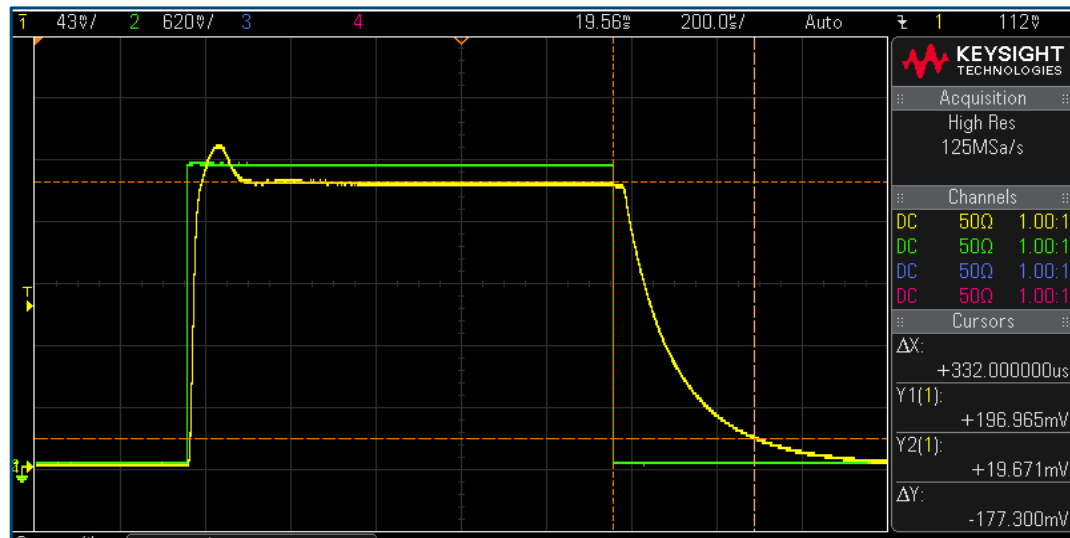
10µs Per Div.



Speed OFF

PW - 1 ms
PRF - 100 Hz
Duty Cycle - 10%

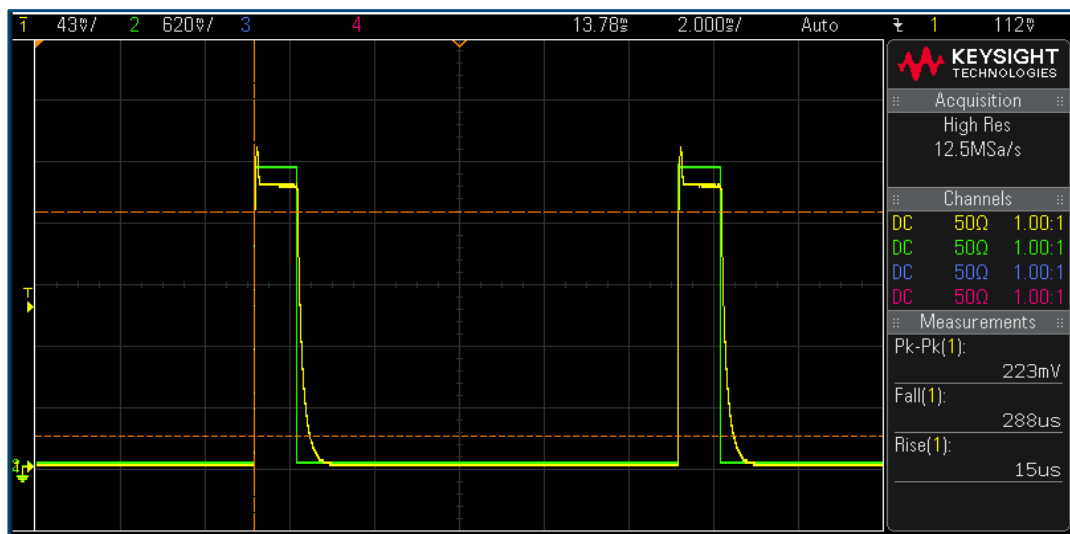
200 µs Per Div.



Full Pulse

PW - 1 ms
PRF - 100 Hz
Duty Cycle - 10%

200 µs Per Div.



Green Trace - TTL Signal

Yellow Trace - RF Signal with Diode Detector

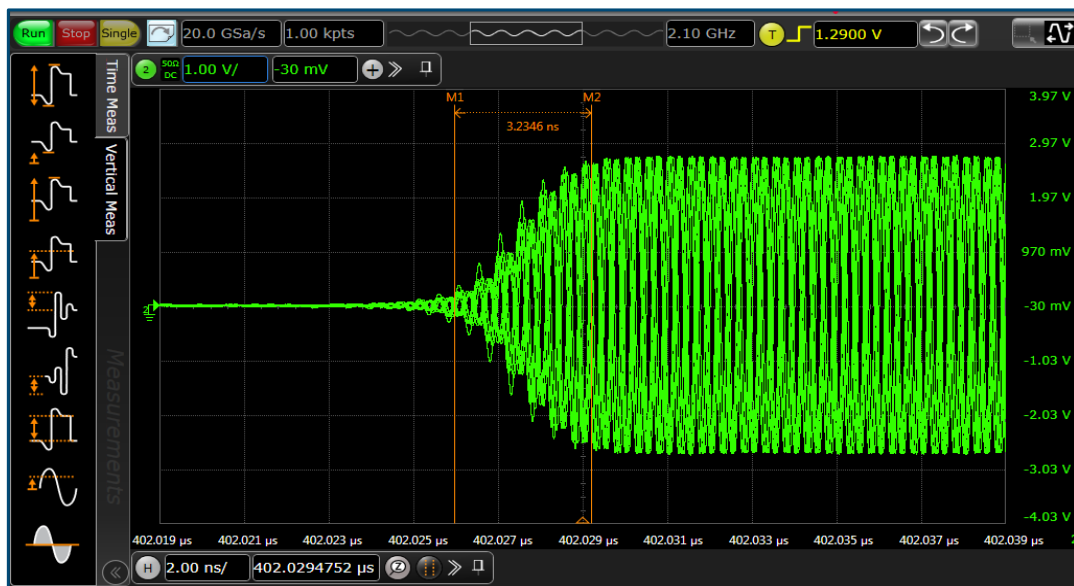
Typical Characteristics ON PA-2G18G-43-5-40-SFF

Rise Time
With Pulsed RF Signal Input
Maximun Output Power of the Amplifier

PW - 400 ns
PRF - 500 KHz
Duty Cycle - 20%

2 ns Per Div.

Measured Value - 3.25 ns



Fall Time
With Pulsed RF Signal Input

PW - 400 ns
PRF - 500 KHz
Duty Cycle - 20%

5 ns Per Div.

Measured Value - 3.91 ns



Full Pulse
With Pulsed RF Signal Input

PW - 400 ns
PRF - 500 KHz
Duty Cycle - 20%

5 ns Per Div.

