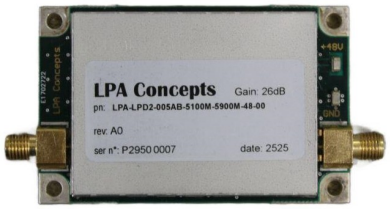
LPA Concepts

LINEAR POWER DRIVER AMPLIFIER	LPA-LPD2-003AA-2000M-4000M-28-00
P3450	

FEATURES

- ♦ 2000-4000MHz
- ♦ Gain: 32 dB / P_{1dB} = 3W
- ♦ OIP3 = +45dBm
- ♦ 50Ω input / output
- ♦ 28V / 650mA
- ♦ Aluminum flange

PACKAGE

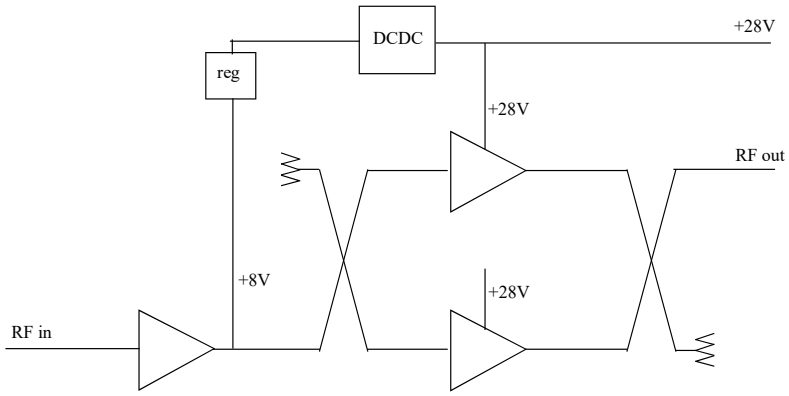


LPD2 package

APPLICATIONS

- ♦ Instrumentation
- ♦ General purpose

BLOCK DIAGRAM



Electrical characteristics: 50 ohms; +28V; -25°C to +80°C (1, 2)

Ref	Parameter	Conditions	Note	Min	Typ	Max	Units
1	Bandwidth			2000		4000	MHz
2	Gain small signal	4000 MHz; 50°C			32		dB
3	Gain variation vs frequency	2000 MHz - 4000 MHz			1	2	dBpp
4	Gain variation vs temperature	-25°C to +80°C	2		3		dB
5	Input return loss	50 ohms				-15	dB
6	Output return loss	50 ohms				-15	dB
7	P-1dB	2-4GHz		3	3.5		W
8	Peak envelope power	IMD3 = -30 dBc, f=3000 MHz	3	3	3.5		W
9	Output 3rd order intercept point	2 tones +16dBm each			+45		dBm
10	Current consumption	Pout < 1W			0.65		A
11	Max current	Shut down current			1.1		A

1. Unless otherwise specified
2. Housing temperature
3. 2 CW, tone spacing 5MHz

Maximum ratings

Ref	Parameter	Conditions	Note	Min	Nom	Max	Units
1	Operating temperature	flange temperature		-40°C		+80	°C
2	Supply voltage			24	28	32	V
3	Input peak power					+8	dBm
4	Input average power					+8	dBm
5	Max load VSWR	at 2W output			10:1		

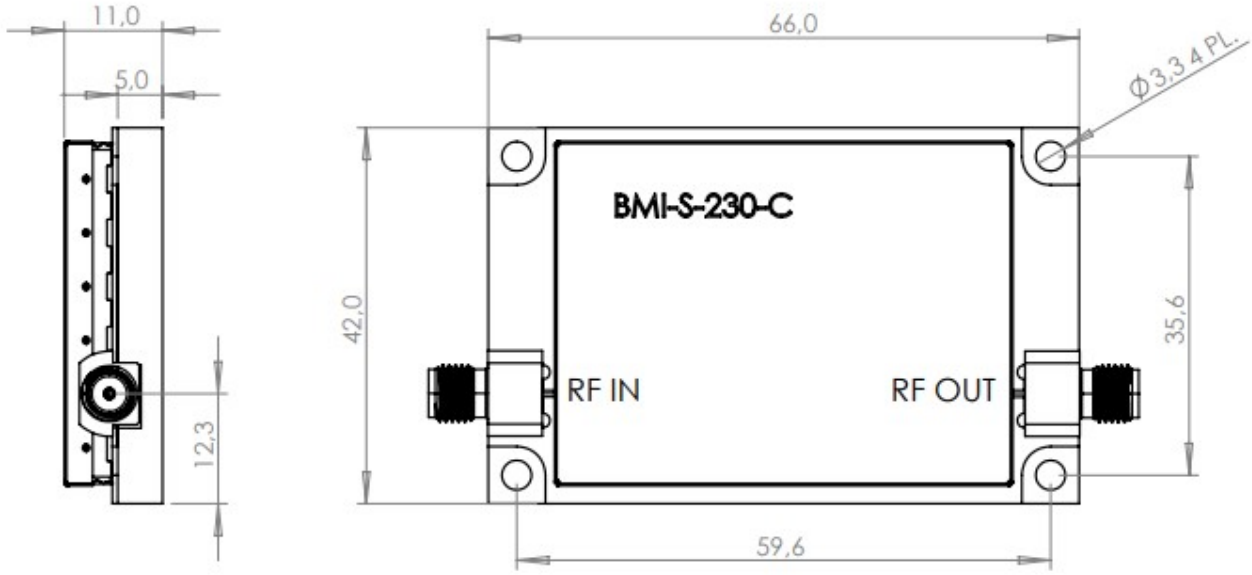
Power Supply DC Connection

Pin description			
Terminal 2 : Supply +28V		SMD LOOP TERMINAL	3.3mm x 1.85mm x 2.0mm
Terminal 1 : Gnd			

Mechanical characteristics

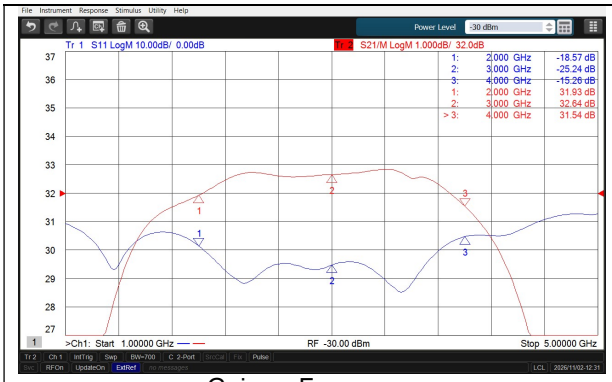
Ref	characteristic	description	remarks
1	Package dimensions	66mm x 42mm x 11mm	
2	Flange dimensions	66mm x 42mm x 5mm	4 x M3 screws for heatsink attach
3	Input/output RF connectors	SMA	
4	DC supply connection	SMD Loop terminal	For hook clip (Micrograbber or equivalent)
5	Weight	60 grams	

Package outline:

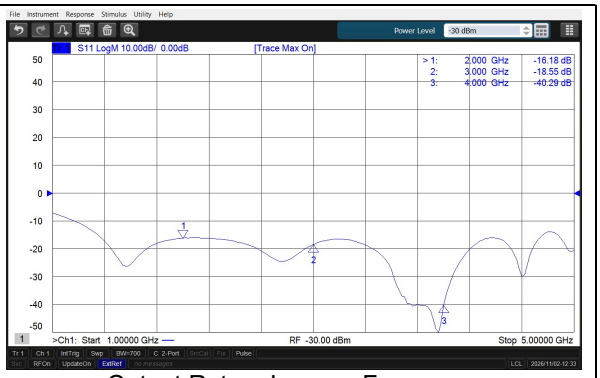


dimensions are in mm

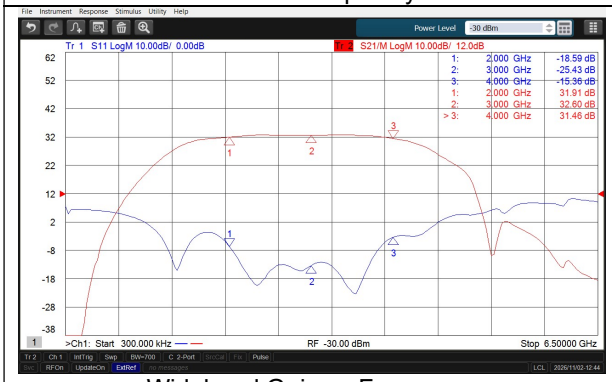
TYPICAL PERFORMANCE



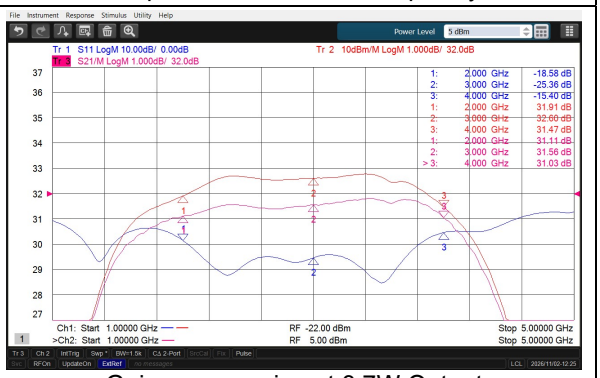
Gain vs Frequency



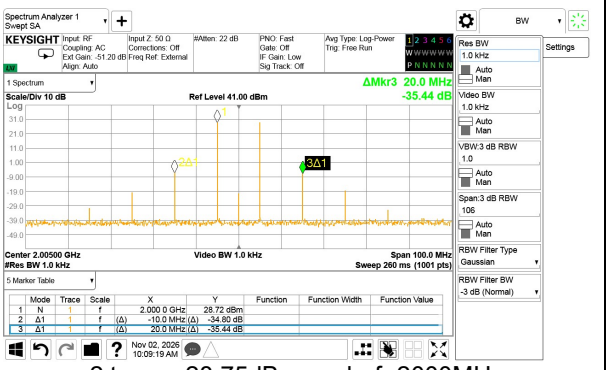
Output Return Loss vs Frequency



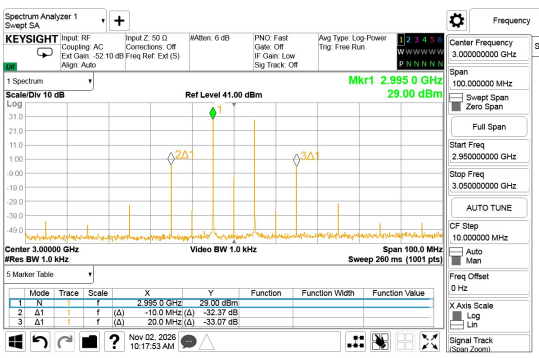
Wideband Gain vs Frequency



Gain compression at 3.7W Output

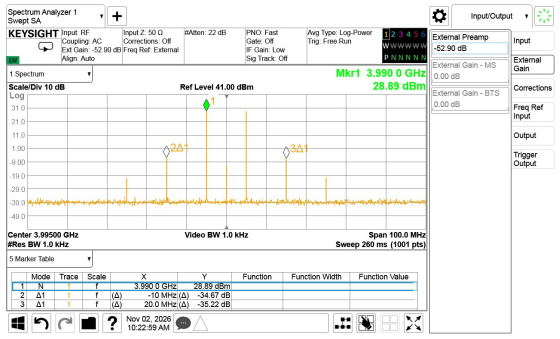


2 tones, 28.75dBm each, f=2000MHz

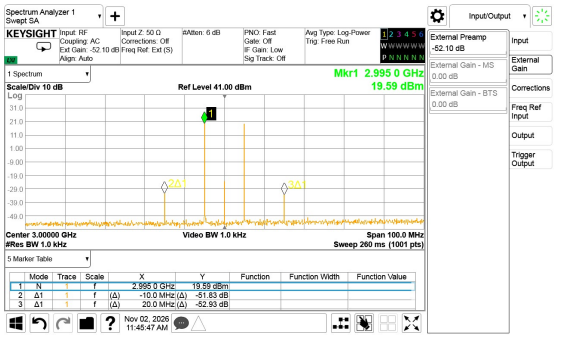


2 tones, 28.75dBm each, f=3000MHz

TYPICAL PERFORMANCE (continued)



2 tones, 28.75dBm each, f=4000MHz



2 tones, 18.75dBm each, f=3000MHz

