

Features:

- **Frequency Range: 6-18 GHz**
- **Excellent RF Performance:**
 - **30 dBm P1dB**
 - **31 dBm Psat**
 - **8.0 dB Small Signal Gain**
 - **12 dB Input / Output Return Loss**
- **Advanced 0.25 um AlGaAs / InGaAs PHEMT Technology with Excellent Reliability**
- **RoHS Compliant 10 mm x 10 mm Surface Mount Package (Hermitical Version Available)**
- **MTTF > 100 years @ 85°C ambient temperature**

Description:

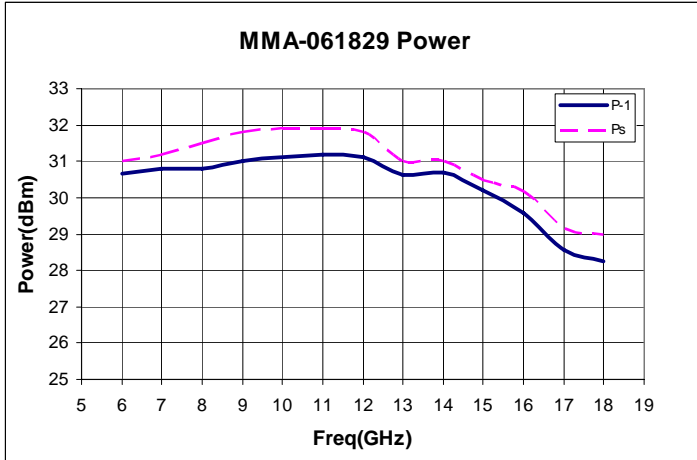
The MMA-061829 is a balanced board power amplifier module containing 6-18 GHz MMIC chips and Lange couplers. Small signal gain is 8.0 dB across the band. It provides 1 watt output power at P1dB gain compression point and 31 dBm saturated output power up to 15 GHz. This broadband MMIC power amplifier module is suitable for EW, defense communication, EW jamming, and commercial wireless applications. Hi-rel and space screening services for this part are available, (Contact factory for details).

Electrical Specifications: (Vds = 8.0V, Vgs = -0.65V, Ids=380mA, Zo=50 ohm, TA=25 °C)

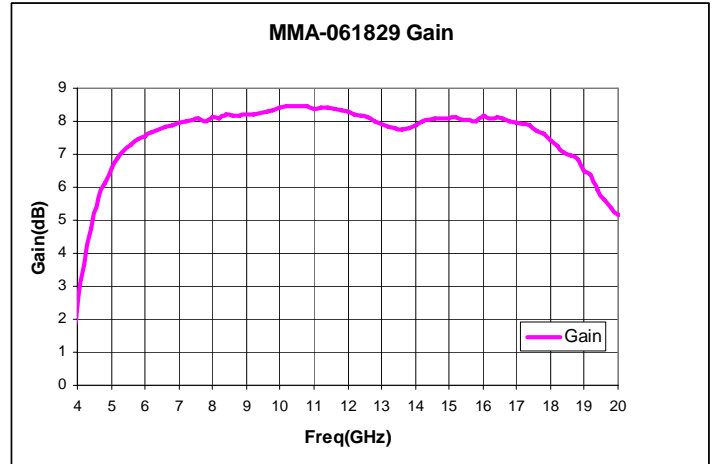
Parameter	Units	Min.	Typ.	Max.
Frequency Range (Min/Max)	GHz	6		18
Small Signal Gain	dB	6.0	8.0	
Gain Flatness	+/-dB		1.0	
Input Return Loss	dB		-10	
Output Return Loss	dB		-10	
Output P1d: 6 – 18 GHz	dBm	+27.0	+30.0	
6 – 15 GHz	dBm	+29.0	+31.0	
Output Saturation Power	dBm		+31.5	
Noise Figure	dB	5.5	6.5	
Operating Current Range (Min/Max)	mA	300	380	500
Thermal Resistance	°C/W		20	

Typical RF Performance: ($V_{ds} = 8.0V$, $I_{ds}=380mA$, $T_A=25^\circ C$, 50 Ohm system unless stated otherwise)

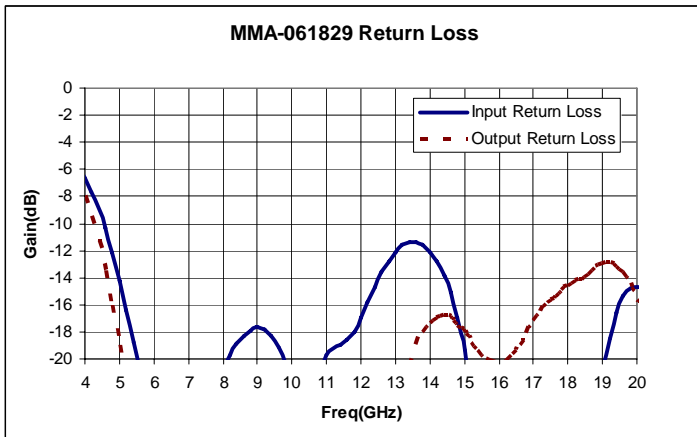
Output Power



Gain



Input and Output Return Loss



S-parameters: ($V_{ds} = 8.0V$, $I_{ds}=380mA$, $T_A=25\text{ }^\circ C$, 50 Ohm system)

Freq(G Hz)	magS11	angS11	magS21	angS21	magS12	angS12	magS22	angS22
4	0.47	136.0	1.32	-22.8	0.019	-92.9	0.40	142.0
5	0.20	-14.3	2.14	-144.0	0.030	148.0	0.11	10.5
6	0.05	150.0	2.39	108.0	0.033	43.1	0.02	129.0
7	0.07	-63.2	2.50	7.4	0.036	-55.2	0.09	5.8
8	0.09	123.0	2.54	-88.5	0.040	-151.0	0.07	-84.7
9	0.13	-9.1	2.57	177.0	0.044	118.0	0.05	-106.0
10	0.08	-91.9	2.63	83.7	0.048	26.5	0.06	163.0
11	0.10	-147.0	2.63	-11.1	0.052	-65.2	0.06	60.5
12	0.14	63.7	2.60	-105.0	0.055	-157.0	0.07	-17.9
13	0.25	-74.2	2.48	161.0	0.056	110.0	0.06	-29.2
14	0.25	173.0	2.48	69.0	0.063	18.2	0.14	-85.8
15	0.11	59.1	2.53	-27.4	0.069	-76.4	0.13	-175.0
16	0.05	64.9	2.56	-125.0	0.076	-173.0	0.10	107.0
17	0.05	-54.9	2.49	133.0	0.081	88.6	0.14	22.0
18	0.02	-82.1	2.35	27.7	0.081	-12.0	0.19	-44.0
19	0.09	-42.8	2.11	-78.6	0.076	-118.0	0.22	-116.0
20	0.19	166.0	1.81	169.0	0.071	131.0	0.17	144.0

Absolute Maximum Ratings (*):

SYMBOL	PARAMETER	UNITS	ABSOLUTE MAXIMUM
Vds	Drain-Source Voltage	V	9.0
Vgs	Gate-Source Voltage	V	-2.0 to +0.8
I _{ds}	Drain Current	mA	600
I _{gs}	Gate Current	mA	3.0
P _{diss}	DC Power Dissipation	W	5.0
P _{in max}	RF Input Power	dBm	+25
T _{ch}	Channel Temperature	°C	175
T _{stg}	Storage Temperature	°C	-60 to 150

(*) Operation of this device above any one of these parameters may cause permanent damage.

Mechanical information:

