

Broadband Standard Product PA001040-27 Medium Power Amplifier Module Broadband Power 0.1 GHz to 4GHz

December 16, 2008

www.aeroflex.com/bband



DESCRIPTION

Our new innovative broadband power amplifier designs provide performance without sacrificing output power. The ultra wideband performance of the PA001040-27 is ideal for Electronic Warfare and Broadband Communication applications. The Compact package has field replaceable SMA connectors and removable bottom plate for drop-in mounting.

Our team of engineers can custom design power amplifiers using the latest simulation software and proprietary technology to meet even the most demanding specifications.

FEATURES

- >27dBm P_{1dB} up to 4GHz
- Ultra Wideband 0.1 to 4GHz
- 25dB typical gain
- Single Supply +10V to +15V
- Unconditionally Stable
- Compact Size

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS¹

PARAMETER	SYMBOL	MIN	MAX	UNITS
Operating Temperature – Case	T _{MO}	-40	+85	°C
Storage Temperature – Case	T _{MS}	-40	+125	°C
Positive Supply Voltage	V _{PS}	+10	+15	V

1. Stresses above those listed under "Absolute Maximums Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOMINAL OPERATING CONDITIONS

PARAMETER	CONDITIONS	MIN	MAX	UNITS
Temperature, T _O	Full Range	-40	+85	°C
Positive Supply Voltage, V _{PS}		+10	+15	V

Aeroflex Plainview

SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

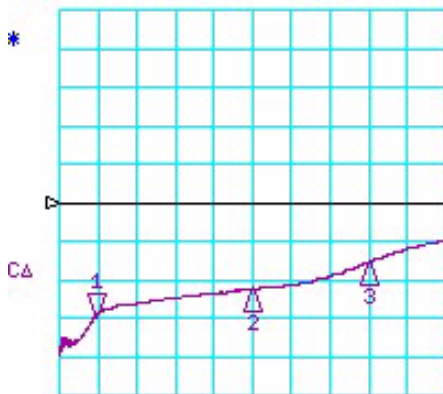
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Frequency Range		0.1	-	4.0	GHz
Power Output	1dB Compression Point	-	+27	-	dBm
Power Output Variation	Over Frequency & Temperature	-1	-	+1	dBm
Gain		-	25	-	dB
Gain Flatness		-1.5	-	+1.5	dB
Noise Figure	@ 2.5GHz	-	-	5	dB
RF Input Impedance	Reference to 50Ω	-	-	2.0:1	-
RF Output Impedance	Reference to 50Ω	-	-	2.0:1	-
IP3		37	40		dBm
Positive Supply Voltage		+10	-	+15	V
Positive Supply Current +10V, +15V		-	290	-	mA

TYPICAL S-PARAMETERS

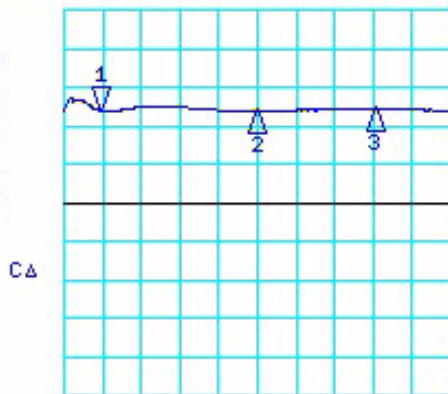
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CH1 LOG 10 dB/ REF 0 dB
S11 1:-29.885 dB .499 505 000 GHz

CH2 LOG 10 dB/ REF 0 dB
S21 1: 24.091 dB .499 505 000 GHz



CH1 Markers
2:-22.398 dB
2.50000 GHz
3:-15.695 dB
4.00000 GHz



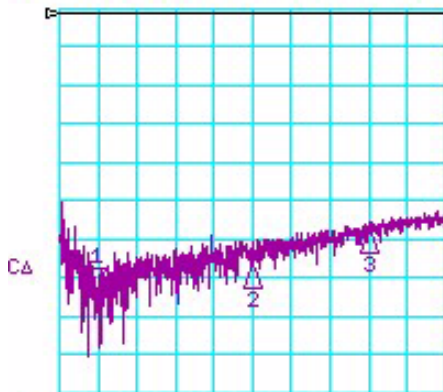
CH2 Markers
2: 23.849 dB
2.50000 GHz
3: 24.448 dB
4.00000 GHz

START 50.000 MHz STOP 5000.000 MHz

START 50.000 MHz STOP 5000.000 MHz

CH3 LOG 10 dB/ REF 0 dB
S12 1:-72.375 dB .499 505 000 GHz

CH4 LOG 10 dB/ REF 0 dB
S22 1:-21.916 dB .499 505 000 GHz



CH3 Markers
2:-65.296 dB
2.50000 GHz
3:-56.147 dB
4.00000 GHz



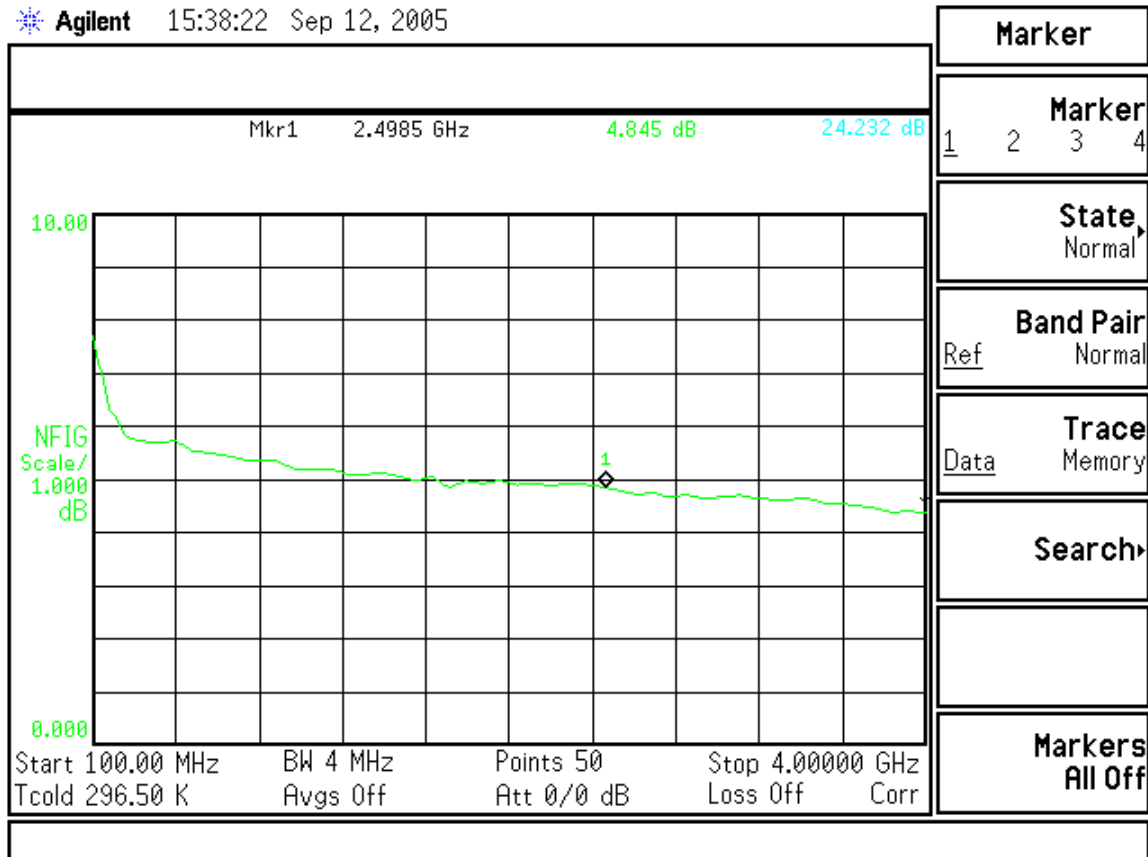
CH4 Markers
2:-11.680 dB
2.50000 GHz
3:-15.662 dB
4.00000 GHz

START 50.000 MHz STOP 5000.000 MHz

START 50.000 MHz STOP 5000.000 MHz

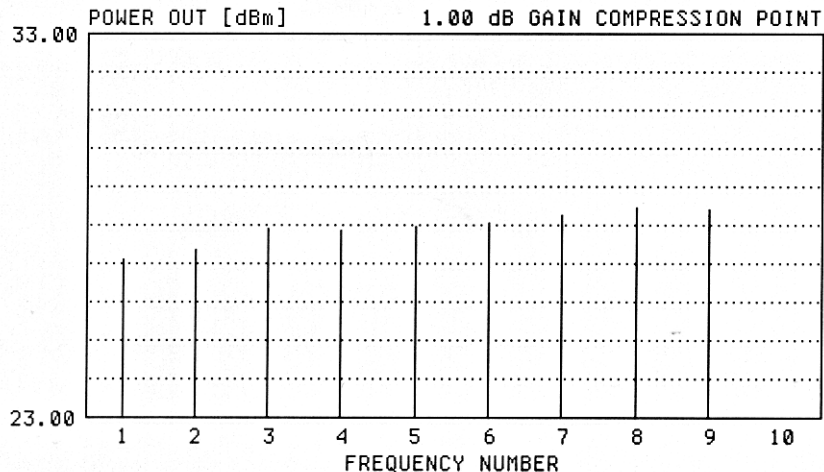
TYPICAL NOISE FIGURE

Agilent 15:38:22 Sep 12, 2005

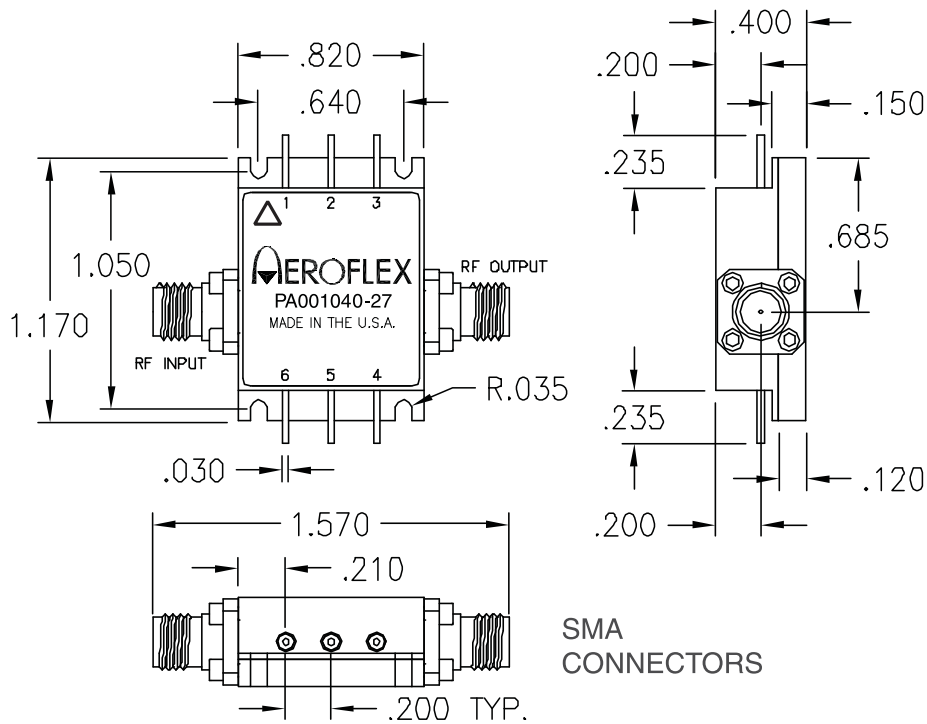


TYPICAL MULTIPLE FREQUENCY GAIN COMPRESSION POINT

SWEPT POWER FREQUENCIES		POWER IN	POWER OUT
1.	0.100000 GHz	0.76 dBm	27.10 dBm
2.	0.200000 GHz	0.59 dBm	27.35 dBm
3.	0.500000 GHz	3.90 dBm	27.89 dBm
4.	0.750000 GHz	3.73 dBm	27.84 dBm
5.	1.000000 GHz	3.54 dBm	27.91 dBm
6.	1.500000 GHz	3.61 dBm	28.03 dBm
7.	2.000000 GHz	4.34 dBm	28.21 dBm
8.	3.000000 GHz	4.23 dBm	28.44 dBm
9.	4.000000 GHz	3.43 dBm	28.37 dBm
10.	5.000000 GHz	not found	

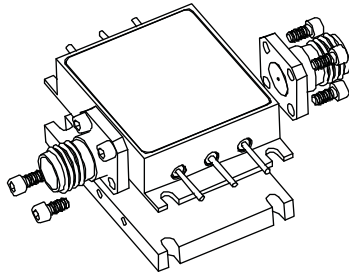


OUTLINE DRAWING



SMA
CONNECTORS

ISOMETRIC VIEW



PIN CONNECTIONS

PIN	FUNCTION
1,4	GND
3	V _{PS}
2,5,6	No Connection

ORDERING INFORMATION

MODEL NUMBER	HERMETICITY	PACKAGE
PA001040-27	Non Hermetic	.820L x 1.170W x .40Ht

PLAINVIEW, NEW YORK
Toll Free: 800-THE-1553
Fax: 516-694-6715

INTERNATIONAL
Tel: 805-778-9229
Fax: 805-778-1980

NORTHEAST
Tel: 603-888-3975
Fax: 603-888-4585

SE AND MID-ATLANTIC
Tel: 321-951-4164
Fax: 321-951-4254

WEST COAST
Tel: 949-362-2260
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