Broadband Standard Product

PA020180-3922 GaN High Power Amplifier Module
Broadband Power 2GHz to 18GHz 8Watts CW

March 11, 2009

Preliminary

www.aeroflex.com/bband

DESCRIPTION

Our new industry leading broadband power amplifier designs provide performance without sacrificing output power. The ultra wideband performance of the PA020180-3922 can replace multiple narrowband power amplifiers, there by reducing cost and complexity in microwave systems. This design uses the intrinsic advantage of Gallium Nitride technology to provide broadband power and high efficiency.

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

- >39dBm PSAT up to 16GHz
- 22dB Typical Gain
- IP3 > 46dBm @ 7GHz
- Single Power Supply
- High Efficiency > 24%
- Compact Size

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS[1]

PARAMETER	SYMBOL	MIN	MAX	UNITS
Operating Temperature – Case	T_{MO}	-40	+65	°C
Storage Temperature – Case	T_{MS}	-40	+125	°C
Positive Supply Voltage	V_{PS}	+27	+30	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

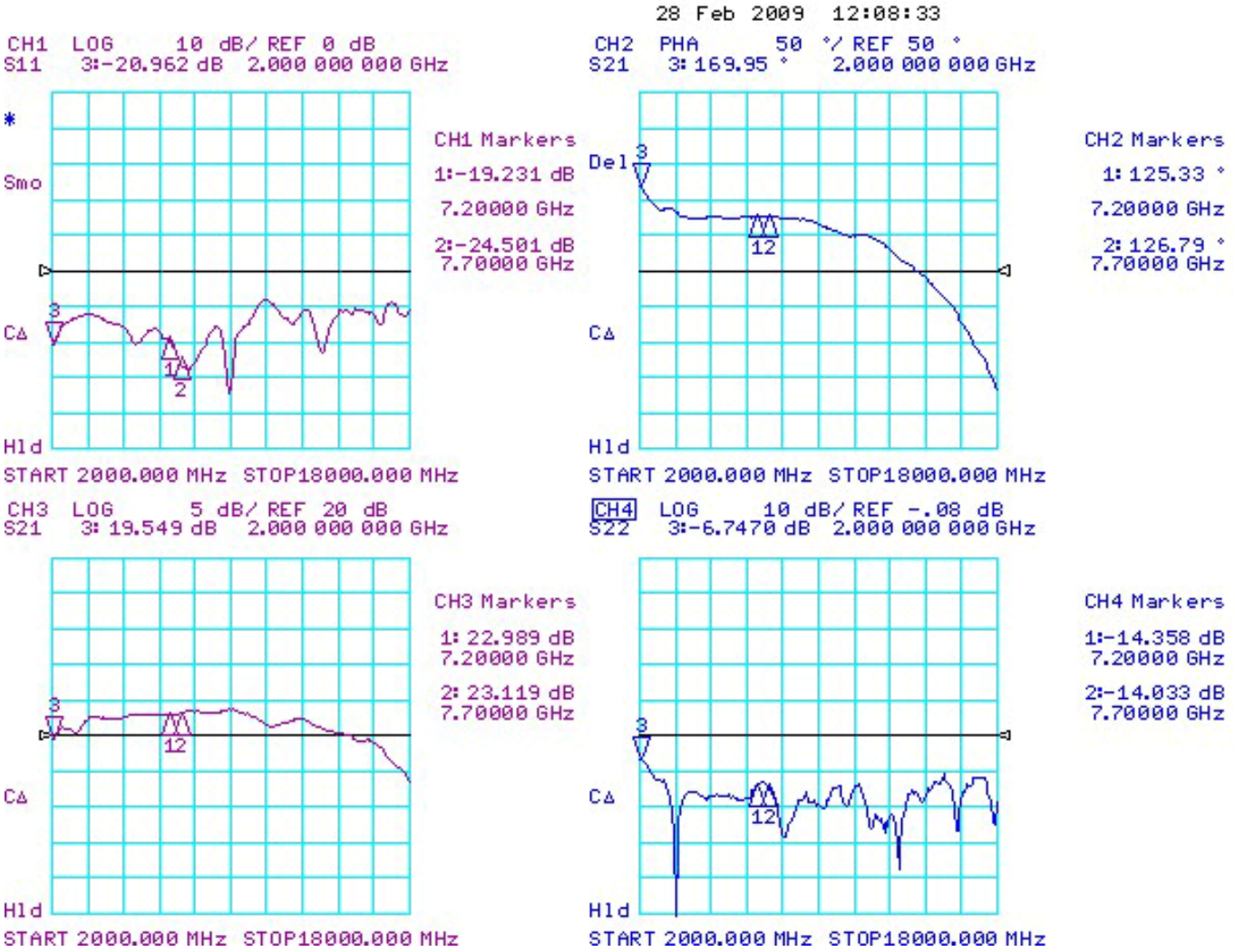
PARAMETER	CONDITIONS	MIN	MAX	UNITS
Temperature, T_C – Case	Full Range	-40	+55	°C
Positive Supply Voltage, V_{PS}		+27	+30	V

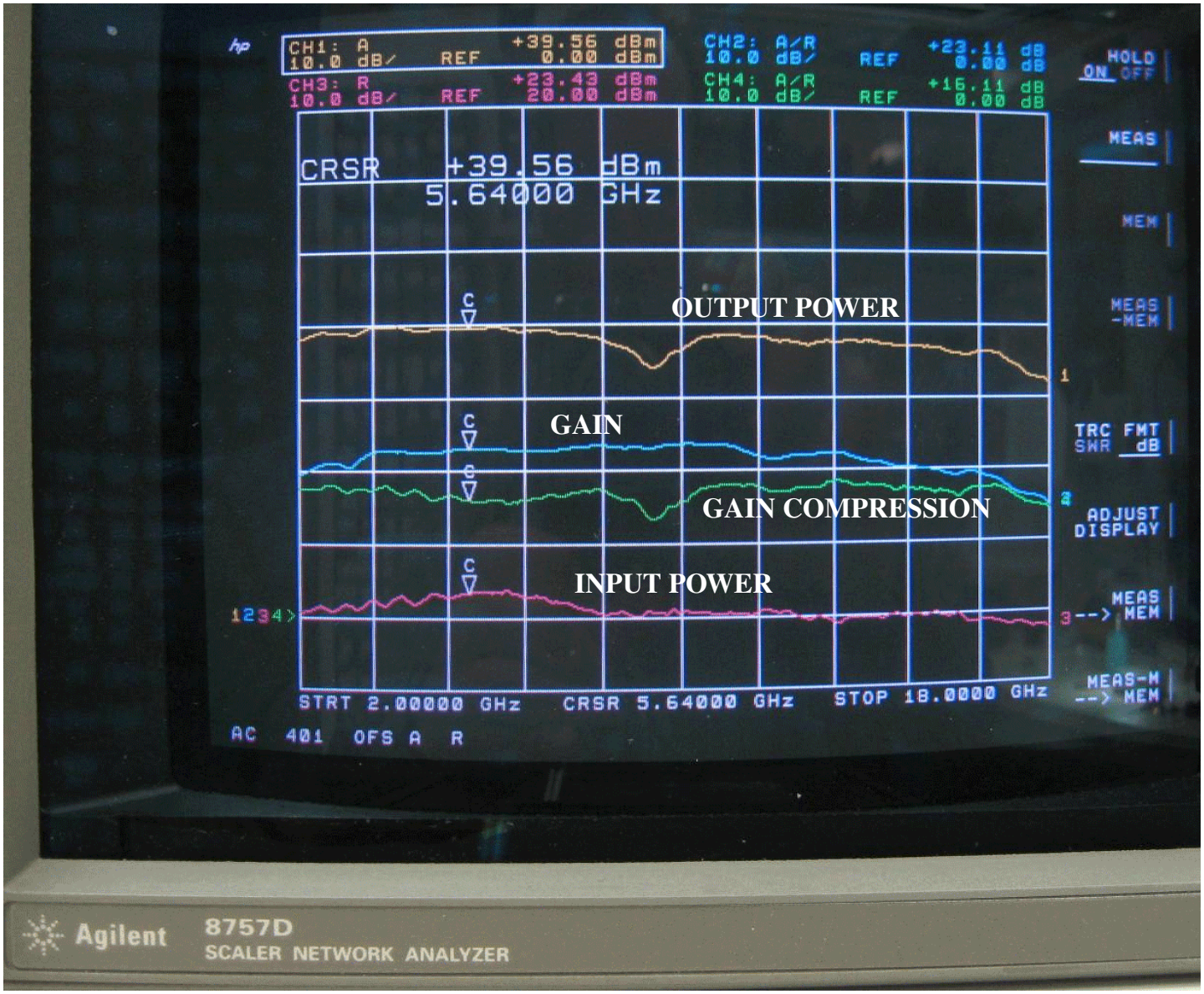
SPECIFICATIONS

ELECTRICAL CHARACTERISTICS @ +25°C

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Frequency Range		2.0	-	18	GHz
Power Output	3dB Compression Point	-	+38	-	dBm
Power Output Saturated	Saturated Power	-	+39	-	dBm
Gain		-	22	-	dB
Gain Flatness		-3.5	-	+3.5	dB
IP3	@ 7GHz	46	48	-	dBm
RF Input Return Loss	2- 18GHz, Reference to 50 ohms	-	10	-	dB
RF Output Return Loss	4 - 18GHz, Reference to 50 ohms	-	12	-	dB
Positive Supply Voltage		+27	+28	+30	V
Positive Supply Current, 28V		-	1.2	-	Amps

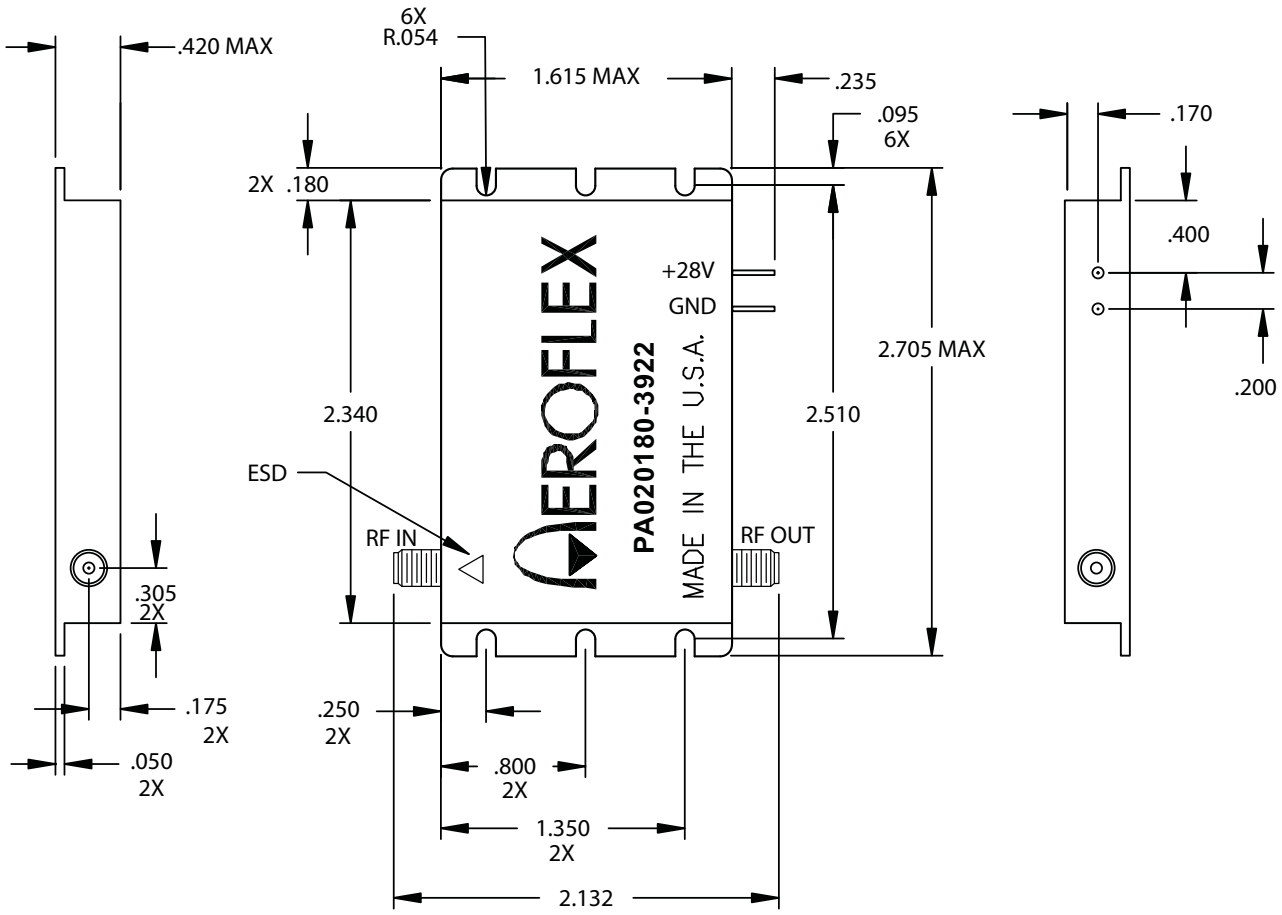
TYPICAL S-PARAMETERS





Measured Data Broadband GaN Amplifier 2 to 18 GHZ PA020180-3922

OUTLINE DRAWING



ORDERING INFORMATION

MODEL NUMBER	HERMETICITY	PACKAGE
PA020180-3922	Non-Hermetic	2.70L x 1.615W x .42Ht

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
Fax: 949-362-2266

CENTRAL
Tel: 719-594-8017
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AEROFLEX
A passion for performance.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused