

Monolithic Amplifier

GVA-ED11892B/4

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : DF782-1

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter	Min.	Typ.	Max.	Units
Frequency	100		8000	MHz
Gain		14		dB
Output Power @ 1dB Compression		22		dBm
Noise Figure		4		dB
IP3		37		dBm
VSWR	IN	2.20		(:1)
	OUT	1.35		(:1)
DC Power	Voltage	5.0		V
	Current		160	mA

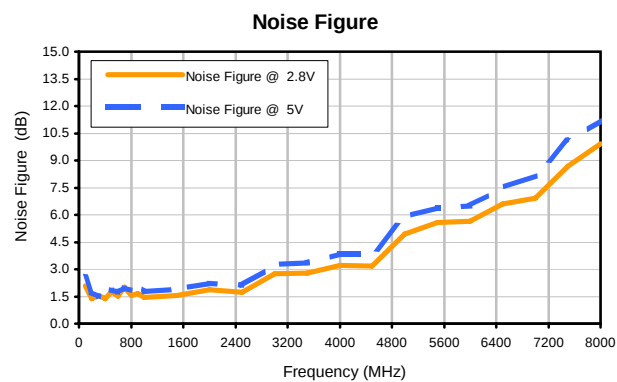
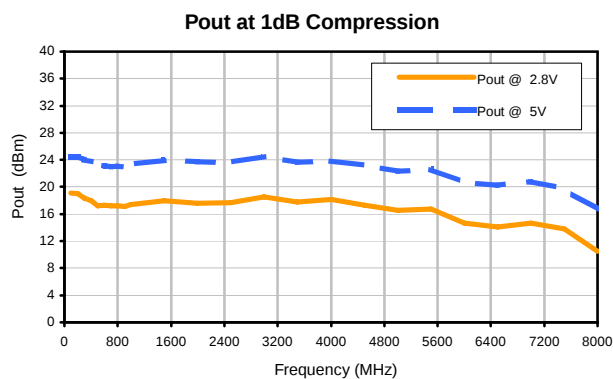
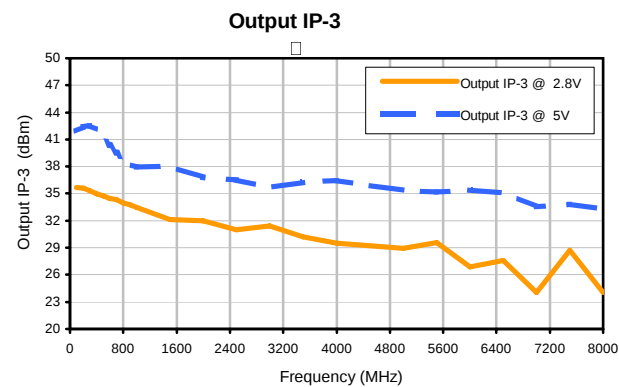
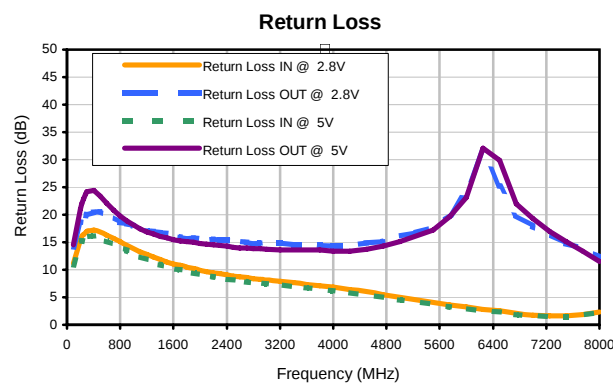
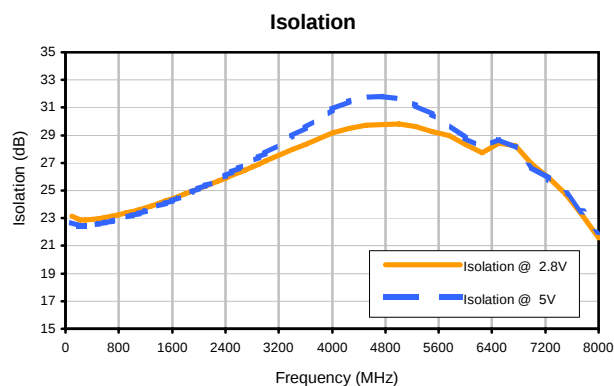
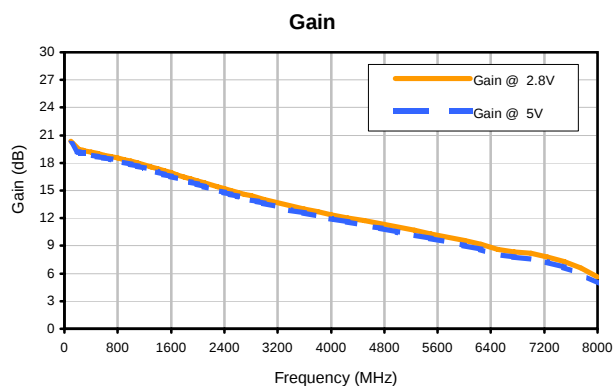
MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 150°C
Input Power	14 dBm

PIN CONNECTIONS	
RF IN	1
RF OUT AND DC-IN	3
GND	2,4

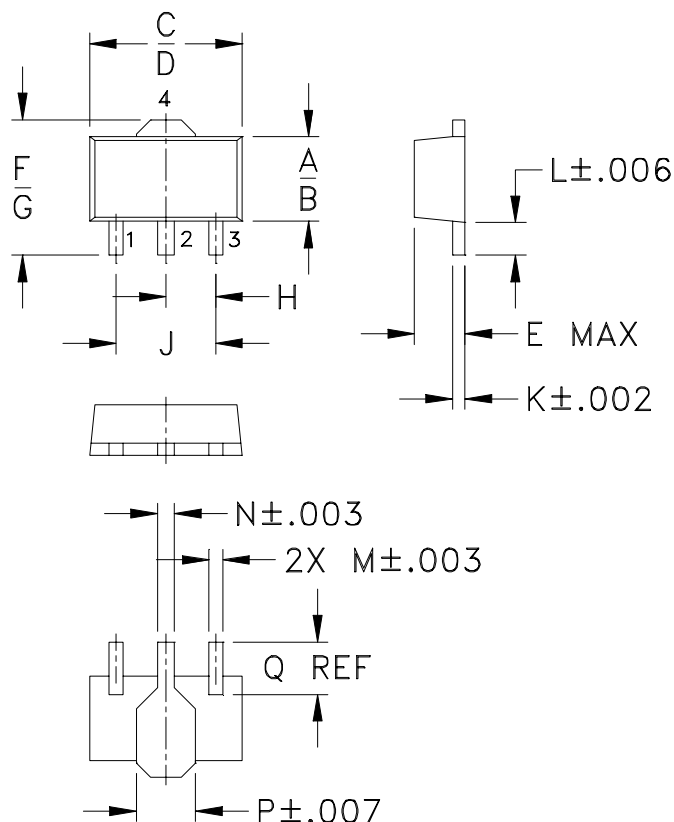
Typical Performance Data

FREQUENCY	Gain		Isolation		Input Return Loss		Output Return Loss		FREQUENCY	IP-3 Output		Pout at 1dB Comp.		Noise Figure	
(MHz)	(dB)		(dB)		(dB)		(dB)		(MHz)	(dBm)		(dBm)		(dB)	
	2.8V	5V	2.8V	5V	2.8V	5V	2.8V	5V		2.8V	5V	2.8V	5V	2.8V	5V
100.00	20.35	20.01	23.15	22.70	11.19	10.78	14.04	14.54	100.00	35.69	41.93	19.13	24.48	2.09	2.56
200.00	19.55	19.25	22.90	22.46	15.52	14.78	18.57	21.01	200.00	35.58	42.38	19.01	24.47	1.39	1.74
225.00	19.47	19.17	22.89	22.47	16.01	15.22	19.20	22.02	300.00	35.34	42.56	18.31	24.01	1.57	1.50
250.00	19.40	19.10	22.89	22.45	16.40	15.55	19.21	22.89	400.00	34.97	42.03	17.93	23.75	1.37	1.61
275.00	19.36	19.07	22.86	22.45	16.75	15.85	19.61	23.72	500.00	34.75	41.47	17.25	23.08	1.75	1.87
300.00	19.31	19.01	22.87	22.46	16.94	16.00	19.89	24.19	600.00	34.45	40.39	17.31	23.14	1.52	1.73
400.00	19.14	18.84	22.92	22.52	17.16	16.12	20.50	24.46	700.00	34.32	39.48	17.18	22.98	2.00	1.97
500.00	19.00	18.70	22.97	22.58	16.90	15.83	20.55	23.36	800.00	33.98	38.60	17.25	23.11	1.54	1.79
600.00	18.84	18.55	23.06	22.68	16.33	15.28	19.74	22.06	900.00	33.74	38.22	17.08	22.94	1.66	2.08
700.00	18.69	18.39	23.14	22.78	15.73	14.69	19.51	20.82	1000.00	33.45	37.93	17.37	23.32	1.43	1.76
800.00	18.52	18.22	23.24	22.90	15.09	14.07	18.63	19.76	1500.00	32.12	37.99	17.98	23.93	1.56	1.89
900.00	18.35	18.04	23.36	23.04	14.47	13.48	18.39	18.88	2000.00	31.97	36.78	17.63	23.70	1.86	2.24
1000.00	18.16	17.84	23.49	23.19	13.85	12.88	17.97	18.11	2500.00	30.98	36.53	17.69	23.65	1.73	2.12
1100.00	17.96	17.64	23.63	23.34	13.28	12.34	17.49	17.45	3000.00	31.39	35.67	18.56	24.45	2.75	3.25
1200.00	17.76	17.43	23.77	23.51	12.76	11.84	17.09	16.91	3500.00	30.23	36.27	17.82	23.69	2.78	3.34
1300.00	17.55	17.21	23.91	23.69	12.30	11.40	17.01	16.47	4000.00	29.50	36.42	18.11	23.85	3.20	3.83
1400.00	17.34	17.00	24.07	23.87	11.84	10.95	16.71	16.08	4500.00	29.21	35.92	17.34	23.27	3.16	3.83
1500.00	17.13	16.77	24.24	24.06	11.45	10.59	16.60	15.77	5000.00	28.94	35.36	16.55	22.33	4.95	5.88
1600.00	16.91	16.55	24.40	24.26	11.09	10.24	16.27	15.49	5500.00	29.58	35.16	16.75	22.57	5.57	6.39
1700.00	16.69	16.32	24.59	24.47	10.79	9.95	15.96	15.29	6000.00	26.86	35.40	14.64	20.57	5.64	6.50
1800.00	16.48	16.10	24.77	24.69	10.48	9.66	15.63	15.11	6500.00	27.60	35.10	14.06	20.21	6.59	7.47
1900.00	16.26	15.88	24.95	24.89	10.19	9.39	15.80	14.96	7000.00	24.03	33.58	14.66	20.76	6.93	8.14
2000.00	16.04	15.66	25.14	25.13	9.93	9.13	15.54	14.79	7500.00	28.72	33.80	13.80	19.78	8.70	10.05
2100.00	15.83	15.44	25.31	25.35	9.69	8.90	15.34	14.65	8000.00	24.05	33.23	10.54	16.77	9.93	11.24
2200.00	15.62	15.22	25.49	25.57	9.47	8.69	15.61	14.54							
2300.00	15.42	15.01	25.69	25.83	9.28	8.51	15.37	14.41							
2400.00	15.21	14.80	25.88	26.07	9.07	8.31	15.32	14.26							
2500.00	15.01	14.59	26.09	26.34	8.89	8.13	15.15	14.11							
2600.00	14.81	14.39	26.31	26.60	8.72	7.97	15.22	13.96							
2700.00	14.61	14.19	26.50	26.87	8.56	7.82	14.98	13.91							
2800.00	14.42	13.99	26.71	27.14	8.42	7.68	14.64	13.83							
2900.00	14.23	13.80	26.91	27.43	8.27	7.55	14.83	13.80							
3000.00	14.05	13.61	27.11	27.70	8.13	7.42	14.78	13.70							
3200.00	13.68	13.23	27.55	28.32	7.90	7.21	14.86	13.58							
3400.00	13.33	12.88	27.96	28.93	7.64	6.96	14.53	13.57							
3600.00	13.01	12.55	28.33	29.53	7.38	6.72	14.52	13.57							
3800.00	12.68	12.22	28.74	30.19	7.10	6.46	14.45	13.59							
4000.00	12.38	11.91	29.17	30.88	6.83	6.21	14.27	13.38							
4250.00	12.04	11.57	29.50	31.42	6.45	5.85	14.31	13.37							
4500.00	11.71	11.23	29.70	31.77	6.00	5.45	14.87	13.68							
4750.00	11.37	10.88	29.76	31.81	5.51	5.01	15.14	14.30							
5000.00	11.02	10.52	29.81	31.64	5.04	4.58	16.07	15.16							
5250.00	10.67	10.17	29.62	31.18	4.55	4.14	16.80	16.18							
5500.00	10.31	9.80	29.25	30.49	4.06	3.68	17.83	17.24							
5750.00	9.93	9.40	28.97	29.80	3.63	3.28	20.03	19.67							
6000.00	9.55	9.02	28.32	28.81	3.21	2.90	23.91	23.16							
6250.00	9.17	8.62	27.73	28.15	2.77	2.51	31.58	32.04							
6500.00	8.62	8.09	28.44	28.70	2.51	2.28	25.11	29.92							
6750.00	8.31	7.77	28.22	28.12	2.09	1.90	19.91	22.00							
7000.00	8.17	7.59	26.90	26.73	1.72	1.60	17.85	19.28							
7250.00	7.81	7.20	25.92	25.88	1.59	1.48	16.47	16.99							
7500.00	7.29	6.65	24.75	24.76	1.58	1.52	14.76	15.06							
7750.00	6.60	5.93	23.23	23.45	1.81	1.77	13.81	13.35							
8000.00	5.65	4.95	21.56	22.01	2.32	2.24	12.36	11.52							

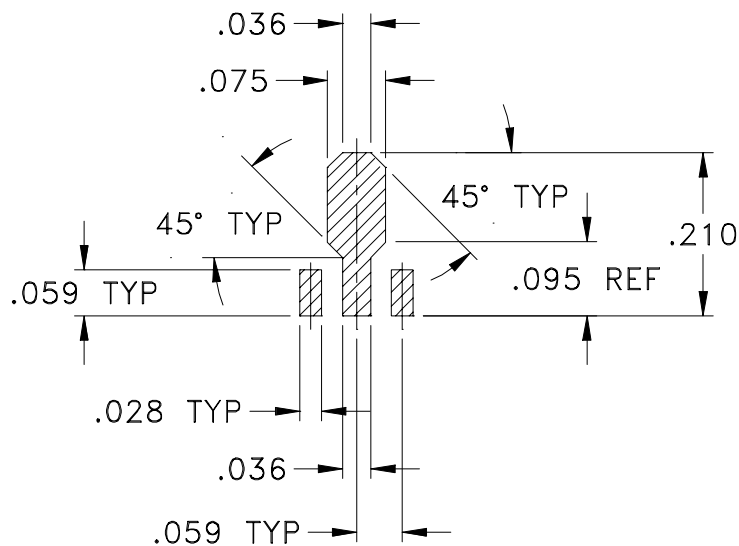
Typical Performance Curves



Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE #	A	B	C	D	E	F	G	H	J	K	L	M
DF782-1	.102 (2.59)	.090 (2.29)	.181 (4.60)	.173 (4.39)	.063 (1.60)	.167 (4.24)	.155 (3.94)	.059 (1.50)	.118 (3.00)	.015 (0.38)	.041 (1.04)	.016 (0.41)

CASE #	N	P	Q	WT. GRAM
DF782-1	.019 (0.48)	.065 (1.65)	.062 (1.57)	.2

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .01$; 3Pl. $\pm .005$

Notes:

- Case material: Plastic.
- Termination finish:
For RoHS Case Styles: Nickel-Palladium-Gold plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M108433	NEW RELEASE	11/14/06	PW	IG
A	M124803	"04AM03" WAS "mz", MODIFIED TB IN TITLE	10/23/09	MMG	DJ

8X $\phi .020$ PTH FOR GROUND

.240

.200

.100

.075

.036

.096 TYP

45° TYP

.124

.139

.074

.024

.020 TYP

.059 TYP

WIDTH, 2 PL. (SEE BELOW)

PIN 1

.020

.040

.036

.072

.028 TYP

.027 TYP

PACKAGE OUTLINE

NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" $\pm$.002"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

Page 10

DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE _____

DIMENSIONS ARE IN INCHES

DRAWN

PW

11/14/06

TOLERANCES ON:

QUEKED

II

11/14/08

2 PL DECIMALS $\pm$
3 PL DECIMALS $\pm$.005

APPROVED

IG

11/14/08

ANGLES $\pm$
FRACTIONS $\pm$

 Mini-Circuits®

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE , MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

ASHEETA1.DWG REV:A DATE:01/12/95

11

Mini-Circuits®

13 Neptune Avenue
Brooklyn NY 11235

PL, 04AM03, DF782, GVA, TB-410-XX+

SIZE
A

CODE IDENT
15542

DRAWING NO:
98-PL-255

REV: A

FILE: 98PL255

SCALE: 10:1

SHEET:	1 OF 1
--------	--------



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C or -45° to 85° C or -55° to 105° C or -40° to 105° C or -40° to 95° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C or -65° to 150° Ambient Environment	Individual Model Data Sheet
HTOL	1000 hours at 125°C	MIL-STD-883, Method 1005, Condition B
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Mechanical Shock	1.5Kg, 0.5 ms, 5 shock pulses, Y1 direction only	MIL-STD-883, Method 2002, Condition B, except Y1 direction only
Vibration (Variable Frequency)	50g peak	MIL-STD-883, Method 2007, Condition B
Autoclave	15 psig, 100% RH, 121°C, 96 hours	JESD22-A102, Condition C
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Solder Reflow Heat	Sn-Pb Eutetic Process: 240°C peak Pb-Free Process: 260°C peak	J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1
Moisture Sensitivity: Level 1	Bake at 125°C for 24 hours Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 260°C peak	J-STD-020



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215