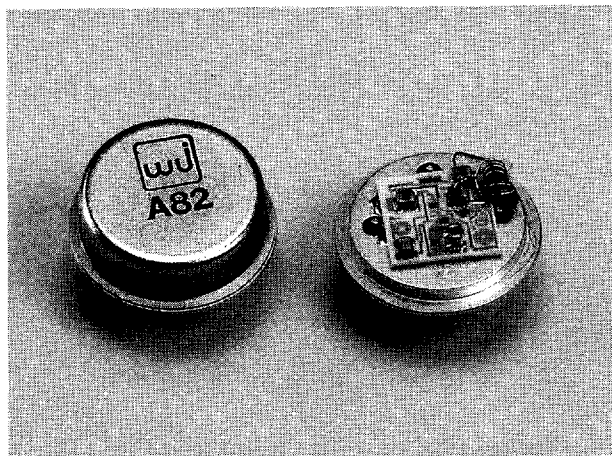


WJ-A82 / SMA82

20 to 250 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH REVERSE ISOLATION: > 28.5 dB (TYP.)
- ◆ HIGH LEVEL OUTPUT: +20 dBm (TYP.)
- ◆ HIGH GAIN: 22.5 dB (TYP.)



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	20-300 MHz	20-250 MHz	20-250 MHz
Small Signal Gain (Min.)	22.5 dB	21.5 dB	21.0 dB
Gain Flatness (Max.)	±0.4 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	4.0 dB	4.5 dB	5.0 dB
Power Output at 1 dB Compression (Min.)	+20.0 dBm	+19.0 dBm	+18.0 dBm
VSWR (Max.)			
Input	1.6:1	2.0:1	2.0:1
Output	1.5:1	2.0:1	2.0:1
DC Current (Max.) at +15 Volts	50 mA	52 mA	54 mA

*Measured in a 50-ohm system at +15 Vdc Nominal.

Notes:

1. WJ-CA82 is a standard WJ-A82 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

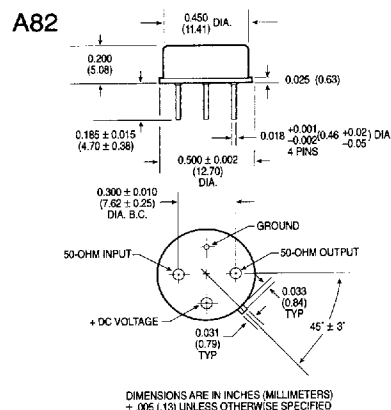
Second Order Harmonic Intercept Point.....	+40 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+35 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+32 dBm (Typ.)

Absolute Maximum Ratings

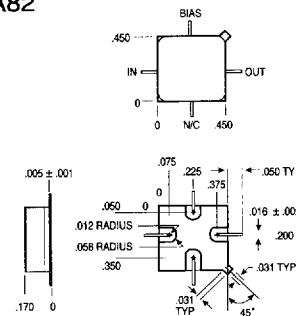
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage.....	+17 Volts
Maximum Continuous RF Input Power	+10 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....	50 Milliwatts
Maximum Peak Power	0.5 Watt (3 µsec Max.)
"S" Series Burn-In Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07oz.)

Outline Drawings

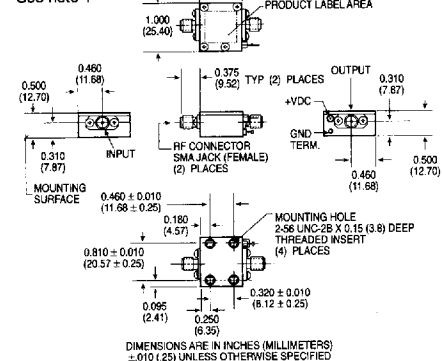


SMA82



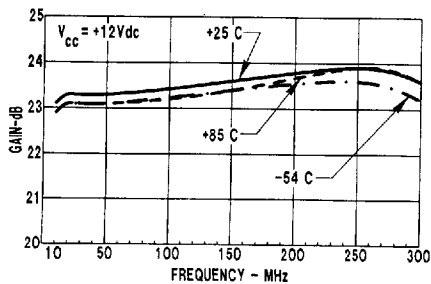
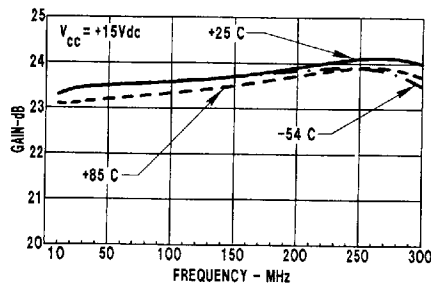
CA82

See note 1

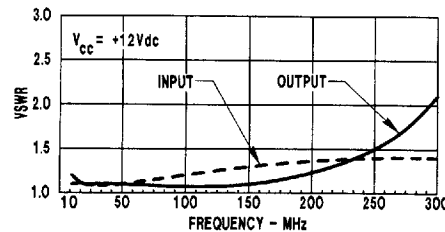
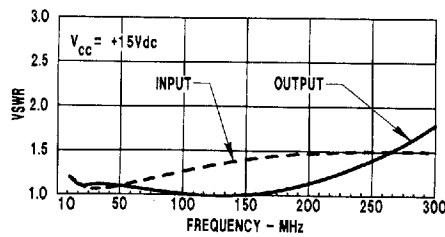


Typical Performance at 25°C

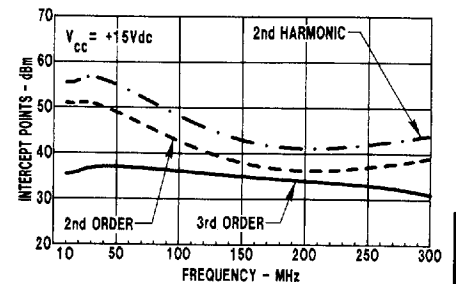
Gain vs. Temperature



Input/Output VSWR



Intercept Points



Typical Automatic Test Data

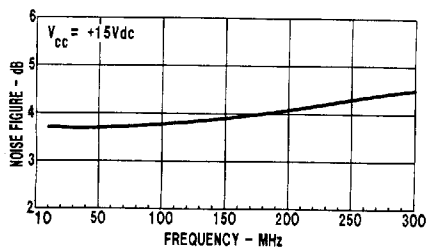
$V_{cc} = 15.0 V$

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
2.0	2.2	2.6	22.0
5.0	1.4	1.5	23.2
10.0	1.2	1.2	23.3
20.0	1.1	1.1	23.4
50.0	1.1	1.1	23.4
100.0	1.1	1.1	23.6
150.0	1.2	1.2	23.8
200.0	1.2	1.3	24.1
250.0	1.2	1.5	24.3
300.0	1.2	2.0	24.3
350.0	1.2	2.6	23.7
400.0	1.3	3.5	22.8

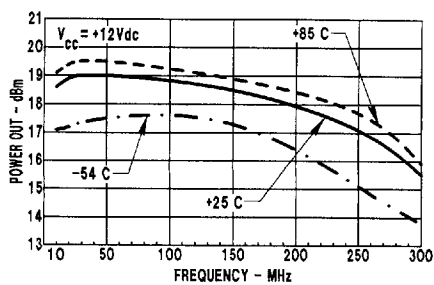
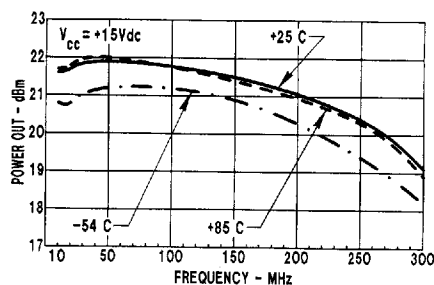
Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2.0	.368	-68	12.610	-137	.032	41	.440	145
5.0	.151	-101	14.459	-165	.038	16	.189	105
10.0	.086	-125	14.586	-174	.039	7	.103	86
20.0	.056	-156	14.714	-179	.040	2	.064	62
50.0	.055	152	14.868	-168	.040	-4	.046	19
100.0	.068	100	15.065	-153	.039	-12	.054	-26
150.0	.079	61	15.462	-138	.037	-17	.079	-66
200.0	.083	29	15.974	-122	.035	-23	.129	-100
250.0	.090	-12	16.356	-104	.032	-25	.212	-132
300.0	.089	-56	16.369	-84	.030	-24	.323	-163
350.0	.103	-112	15.274	-61	.030	-22	.449	-168

Noise Figure



Output Power vs. Temperature*



*at 1 dB Gain Compression

Thermal Data: $V_{cc} = 15 Vdc$

Thermal Resistance θ_{JC} 45°C/W
 Transistor Power Dissipation P_D 0.240 W
 Junction Temperature Rise Above Case T_{JC} ... 11°C