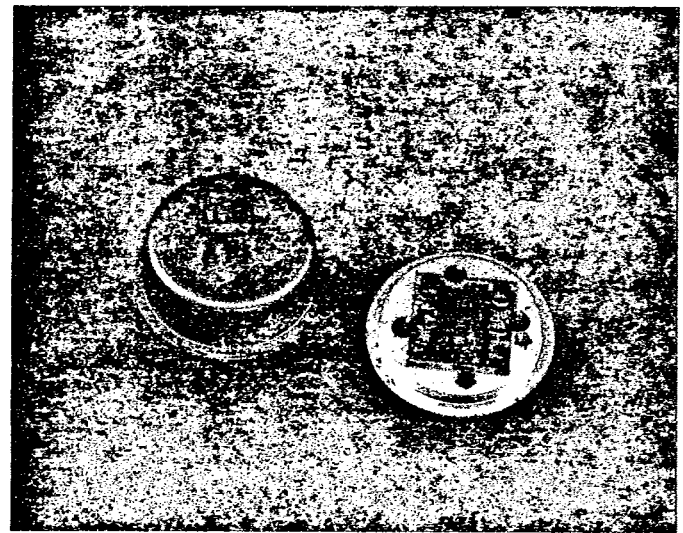


WJ-A11/A11-1

5 TO 1000 MHz TO-8 CASCADABLE AMPLIFIER

- LOW NOISE: 3.0 dB (TYP., A11-1)
- LOW VSWR: 1.3:1 (TYP.)
- FLAT BANDWIDTH: $< \pm 0.25$ dB



Specifications

Characteristic	Typical	Guaranteed*	
		0°-50°C	-54°C - +85°C
Frequency (Min.)	1-1100 MHz	5-1000 MHz	5-1000 MHz
Small Signal Gain (Min.)	14.7 dB	14 dB	13.5 dB
Gain Flatness (Max.)	± 0.25 dB	± 1.0 dB	± 1.2 dB
Noise Figure (Max.)			
A11	3.6 dB	4 dB	4.5 dB
A11-1	3.1 dB	3.5 dB	4 dB
Power Output at 1 dB Compression (Min.)	-2.0 dBm	-3.0 dBm	-4.0 dBm
VSWR (Max.) Input/Output	1.3:1	1.8:1	2.0:1
DC Current (Max.) at 15 Volts	9 mA	11 mA	12 mA

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

Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point	+15 dBm (Typ.)
Second Order Two Tone Intercept Point	+10 dBm (Typ.)
Third Order Two Tone Intercept Point	+10 dBm (Typ.)

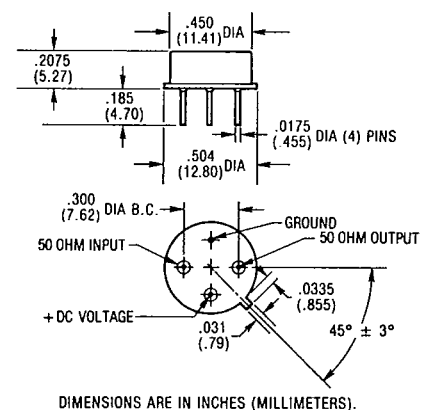
Absolute Maximum Ratings

Ambient Operating Temperature	-54°C to +100°C
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+20 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term RF Input Power	.50 Milliwatts (1 Minute Max.)
Maximum Peak Power	.5 Watt (3 μ sec Max.)
"S" Series Burn-In Temperature	125°C

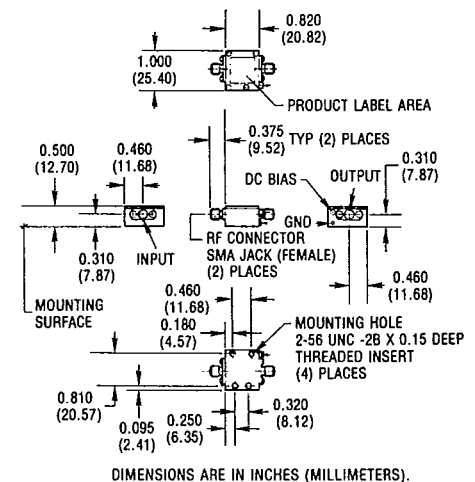
Weight 2.27 grams (0.08 oz.) maximum

Outline Drawings

A11/A11-1



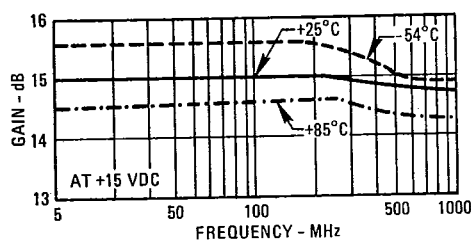
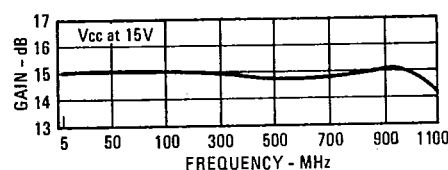
CA11/CA11-1



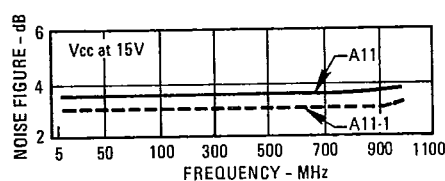
*WJ-CA11/CA11-1 is standard WJ-A11/A11-1 installed in miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range. See Cascaded Thin Film Amplifiers.

Typical Performance at 25°C

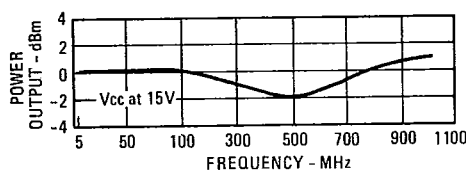
Gain



Noise Figure

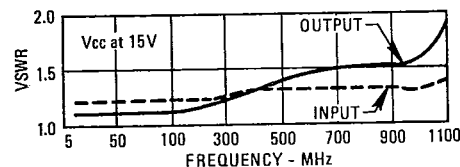


Power Output*



* at 1 dB Gain Compression

VSWR



Typical Automatic Test Data

Vcc = 15 V

FREQ MHz	VSWR IN	VSWR OUT	GAIN dB
100.	1.2	1.1	15.2
200.	1.2	1.1	15.2
300.	1.1	1.1	15.1
400.	1.0	1.1	15.0
500.	1.1	1.2	14.9
600.	1.1	1.2	14.8
700.	1.2	1.1	14.9
800.	1.3	1.1	14.9
900.	1.4	1.0	15.2
1000.	1.4	1.2	15.3
1100.	1.6	1.4	14.9

Linear S-Parameters

FREQ MHz	S11 MAG	S11 ANG	S21 MAG	S21 ANG	S12 MAG	S12 ANG	S22 MAG	S22 ANG
100.	.11	166.1	5.76	156.7	.10	-6.0	.06	160.1
200.	.08	146.5	5.75	136.4	.09	-14.8	.05	113.9
300.	.05	121.8	5.69	118.1	.09	-23.4	.05	62.8
400.	.01	55.0	5.62	99.4	.10	-30.0	.06	28.8
500.	.03	-52.8	5.55	80.9	.09	-37.8	.08	9.8
600.	.07	-75.7	5.48	60.0	.09	-43.8	.08	-12.0
700.	.10	-97.7	5.55	39.5	.09	-50.7	.06	-35.7
800.	.13	-120.7	5.59	18.1	.09	-57.1	.04	-71.7
900.	.15	-153.1	5.73	-5.6	.09	-63.5	.02	-172.1
1000.	.17	163.9	5.79	-30.4	.10	-72.6	.07	103.6
1100.	.23	111.6	5.56	-57.9	.11	-83.0	.17	65.6
1200.	.31	63.5	4.98	-88.6	.11	-100.3	.27	30.4

Deviation From Linear Phase, Gain and Group Delay

FREQ MHz	DEV LIN DEG	REL DEG	GAIN DEV dB	ABS GAIN dB	GROUP DELAY N-SEC
100.	-3.37	.00	.20	15.14	.53
200.	-2.42	-18.98	.15	15.10	.51
300.	-.43	-36.92	.15	15.09	.50
400.	1.77	-54.65	.05	14.99	.50
500.	3.42	-72.93	-.11	14.84	.53
600.	3.37	-92.91	-.20	14.74	.56
700.	2.91	-113.29	-.10	14.85	.57
800.	2.14	-133.99	-.01	14.93	.61
900.	-1.45	-157.51	.15	15.09	.67
1000.	-5.92	-181.91	.20	15.15	.68