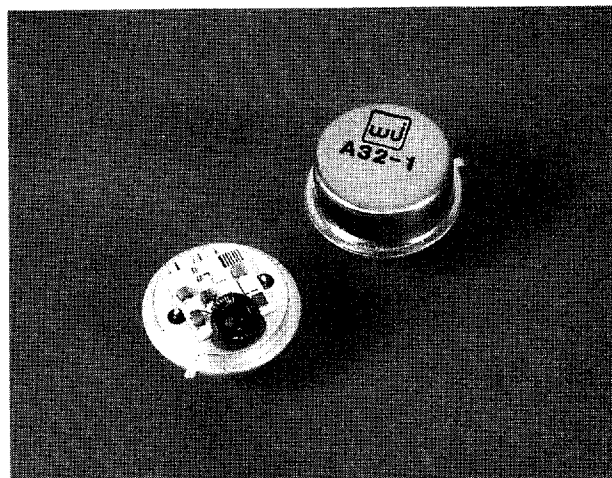


WJ-A32-1 / SMA32-1

100 to 2000 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE FIGURE: 3.0 dB (TYP.)
- ◆ HIGH OUTPUT LEVEL: 13.0 dBm (TYP.)
- ◆ MEDIUM THIRD ORDER I.P.: 25.0 dBm (TYP.)
- ◆ GaAs FET DESIGN



Specifications *

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	100 - 2000 MHz	100 - 2000 MHz	100 - 2000 MHz
Small Signal Gain (Min.)	10.0 dB	9.0 dB	8.5 dB
Gain Flatness (Max.)	±3.3 dB	±7.7 dB	±1.0 dB
Noise Figure (Max.)	3.0 dB	3.5 dB	4.0 dB
Power Output at 1 dB Compression (Min.)	+13 dBm	+11.5 dBm	+11.0 dBm
VSWR (Max.)			
Input	1.8:1	2.1:1	2.3:1
Output	1.8:1	2.1:1	2.3:1
DC Current (Max.) at 5 Volt	44 mA	50 mA	52 mA

*Measured in a 50-ohm system at +5 Vdc Nominal.

Notes:

1. WJ-CA32-1 is a standard WJ-A32-1 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.....	+37 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+30 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+25 dBm (Typ.)

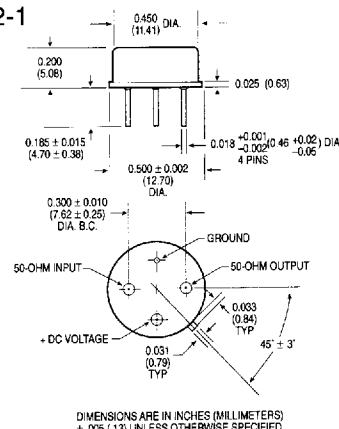
Absolute Maximum Ratings

Storage Temperature	-62° C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	8 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....	50 Milliwatts
Maximum Peak Power	0.5 Watt (3µsec Max.)
"S" Series Burn-In Temperature (Case)	125°C

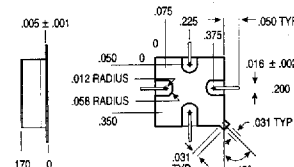
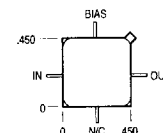
Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

A32-1



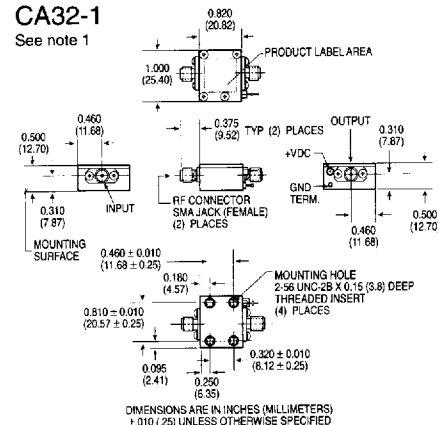
SMA32-1



DIMENSIONS ARE IN INCHES (MILLIMETERS)
± 0.01 (0.25) UNLESS OTHERWISE SPECIFIED

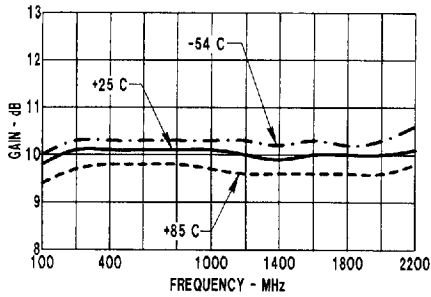
CA32-1

See note 1

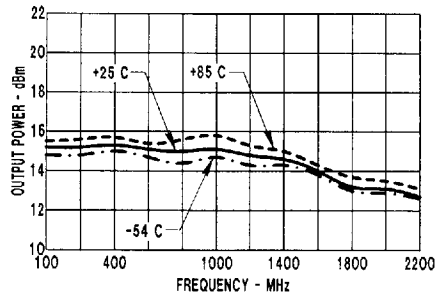


Typical Performance at 25°C

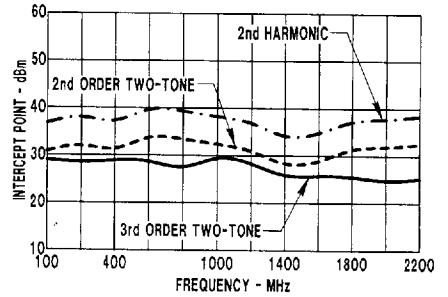
Gain



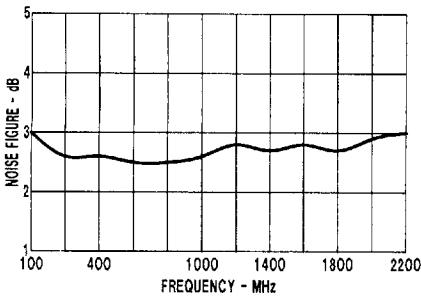
Output Power*



Intercept Point

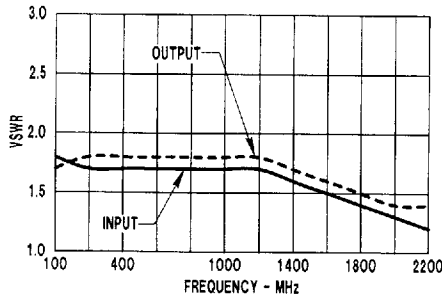


Noise Figure



* at 1 dB Gain Compression

VSWR



Typical Automatic Test Data

V_{CC} = 5.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
5.0	3.0	1.4	3.8
10.0	3.0	1.5	4.6
50.0	2.1	1.7	9.5
100.0	1.8	1.8	10.6
200.0	1.7	1.7	10.9
300.0	1.7	1.7	11.0
400.0	1.7	1.7	11.0
500.0	1.6	1.7	11.2
600.0	1.6	1.7	11.3
700.0	1.6	1.7	11.2
800.0	1.6	1.7	11.2
900.0	1.5	1.7	11.2
1000.0	1.5	1.7	11.2
1100.0	1.5	1.6	11.1
1200.0	1.5	1.6	11.1
1300.0	1.4	1.6	11.1
1400.0	1.3	1.6	11.0
1500.0	1.3	1.6	11.0
1600.0	1.2	1.6	10.9
1700.0	1.2	1.6	11.1
1800.0	1.2	1.6	11.2
1900.0	1.3	1.5	11.2
2000.0	1.5	1.4	11.3
2100.0	1.8	1.4	11.2
2200.0	2.2	1.4	11.0

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.0	.502	-10	1.555	-152	.143	19	.166	2
10.0	.496	-11	1.701	-154	.142	6	.205	-21
50.0	.364	-26	2.975	-162	.114	-14	.262	-112
100.0	.284	-25	3.387	-176	.096	-14	.273	-152
200.0	.253	-27	3.526	169	.089	-11	.268	175
300.0	.251	-31	3.529	158	.090	-11	.256	158
400.0	.245	-38	3.554	150	.092	-14	.249	152
500.0	.232	-46	3.648	140	.093	-17	.269	137
600.0	.232	-51	3.653	130	.094	-20	.265	123
700.0	.228	-58	3.637	119	.096	-22	.261	109
800.0	.223	-68	3.636	110	.098	-25	.255	97
900.0	.215	-74	3.642	100	.101	-28	.251	83
1000.0	.205	-85	3.611	91	.103	-32	.249	71
1100.0	.190	-95	3.582	82	.108	-37	.243	58
1200.0	.185	-105	3.596	73	.111	-42	.239	44
1300.0	.159	-117	3.585	64	.115	-47	.242	30
1400.0	.143	-129	3.542	54	.119	-53	.240	16
1500.0	.120	-147	3.561	45	.123	-59	.242	1
1600.0	.097	-168	3.518	35	.128	-66	.244	-14
1700.0	.075	150	3.572	25	.130	-73	.235	-30
1800.0	.079	105	3.628	14	.134	-80	.218	-48
1900.0	.125	52	3.645	2	.137	-88	.199	-70
2000.0	.194	28	3.657	-8	.142	-97	.180	-96
2100.0	.292	0	3.636	-20	.142	-107	.169	-128
2200.0	.370	-21	3.538	-32	.141	-118	.172	-160

Thermal Data: V_{CC} = 5 Vdc

Thermal Resistance θ_{JC} 165°C/W
 Transistor Power Dissipation P_D 0.111 W
 Junction Temperature Rise Above Case T_{JC} ... 16.2°C