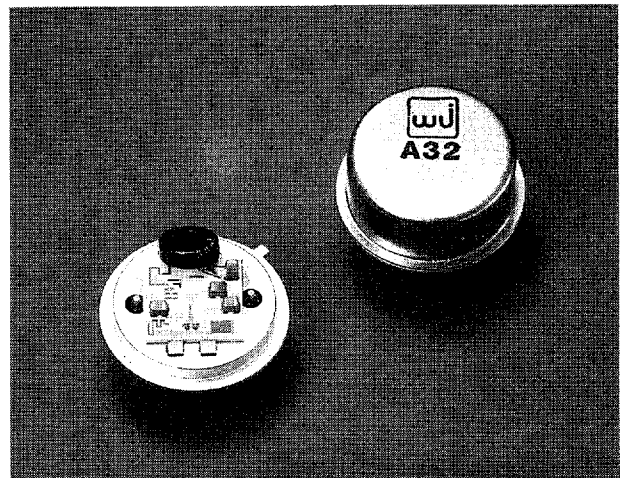


WJ-A32 / SMA32

100 to 2000 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE FIGURE: 3.5 dB (TYP.)
- ◆ HIGH THIRD ORDER IP: +32 dBm (TYP.)
- ◆ HIGH OUTPUT LEVEL: +21.0 dBm (TYP.)
- ◆ LOW VSWR : 1.8:1 (TYP.)



Specifications *

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	10 - 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 dB	±.7 dB	±1.0 dB
Noise Figure (Max.)	3.5 dB	4.0 dB	4.5 dB
Power Output at 1 dB Compression (Min.)	+21.0 dBm	+19.0 dBm	+18.0 dBm
VSWR (Max.) Input/Output	1.8:1	2.1:1	2.3:1
DC Current (Max.) at 15 Volt	94 mA	98 mA	100 mA

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

Notes:

1. WJ-CA32 is a standard WJ-A32 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

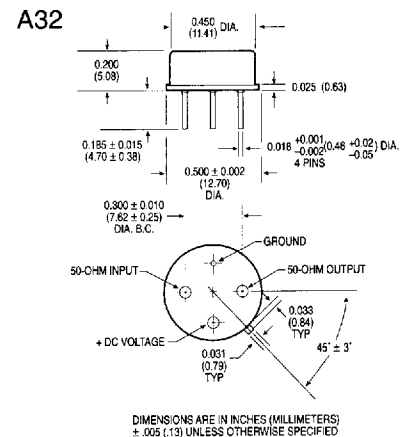
Second Order Harmonic Intercept Point.....	+40 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+38 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+32 dBm (Typ.)

Absolute Maximum Ratings

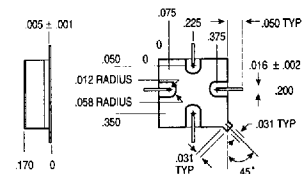
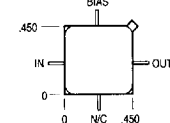
Storage Temperature	-62° C to +125° C
Maximum Case Temperature	125° C
Maximum DC Voltage.....	17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....	.50 Milliwatts
Maximum Peak Power	0.5 Watt (3µsec Max.)
"S" Series Burn-In Temperature (Case)	125° C

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings



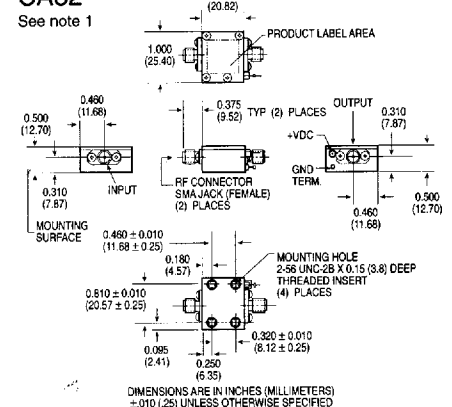
SMA32



DIMENSIONS ARE IN INCHES (MILLIMETERS)
± .010 (.25) UNLESS OTHERWISE SPECIFIED

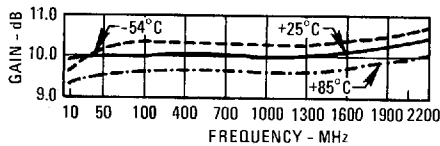
CA32

See note 1

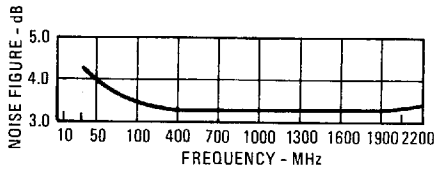


Typical Performance at 25°C

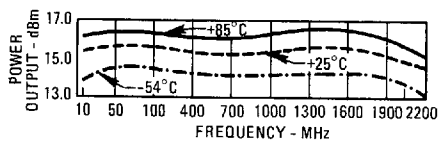
Gain



Noise Figure

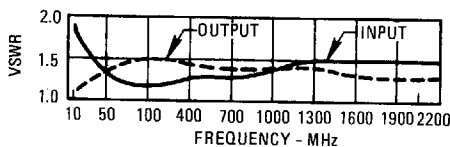


Power Output*

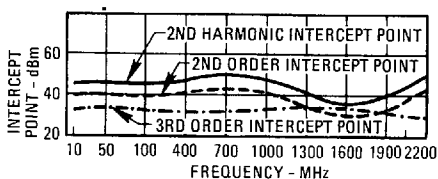


* at 1 dB Gain Compression

VSWR



Intercept Point



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
5.0	2.6	1.1	7.4
10.0	2.6	1.2	7.6
50.0	2.2	1.5	10.2
100.0	1.8	1.7	11.7
200.0	1.6	1.7	12.3
300.0	1.6	1.7	12.3
400.0	1.6	1.7	12.3
500.0	1.6	1.7	12.6
600.0	1.5	1.8	12.5
700.0	1.5	1.8	12.4
800.0	1.5	1.8	12.4
900.0	1.5	1.8	12.4
1000.0	1.4	1.8	12.3
1100.0	1.4	1.8	12.2
1200.0	1.4	1.8	12.2
1300.0	1.3	1.8	12.1
1400.0	1.3	1.9	11.9
1500.0	1.3	1.9	11.9
1600.0	1.2	1.9	11.7
1700.0	1.2	2.0	11.7
1800.0	1.2	1.9	11.8
1900.0	1.2	1.9	11.8
2000.0	1.3	1.9	12.0
2100.0	1.4	1.9	12.1
2200.0	1.5	1.9	12.1

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.0	.443	-11	2.337	-156	.119	22	.049	12
10.0	.440	-9	2.409	-164	.120	8	.102	-19
50.0	.366	-22	3.254	-166	.107	-11	.203	-106
100.0	.288	-28	3.837	-176	.090	-15	.253	-150
200.0	.243	-32	4.109	167	.080	-13	.267	170
300.0	.231	-37	4.126	156	.080	-13	.261	148
400.0	.237	-45	4.143	145	.082	-15	.249	133
500.0	.223	-54	4.242	136	.083	-19	.271	118
600.0	.209	-63	4.230	124	.083	-21	.276	101
700.0	.206	-70	4.191	113	.084	-24	.276	84
800.0	.201	-83	4.172	102	.086	-27	.277	70
900.0	.191	-91	4.148	92	.088	-30	.278	55
1000.0	.177	-101	4.102	82	.089	-34	.280	42
1100.0	.168	-111	4.052	72	.093	-38	.280	29
1200.0	.152	-122	4.064	62	.094	-43	.284	15
1300.0	.140	-136	4.038	52	.097	-49	.293	4
1400.0	.131	-150	3.956	42	.098	-54	.299	-7
1500.0	.124	-164	3.932	32	.100	-60	.307	-18
1600.0	.110	177	3.832	21	.103	-65	.318	-28
1700.0	.102	150	3.849	11	.104	-72	.322	-38
1800.0	.096	121	3.894	0	.105	-77	.321	-49
1900.0	.108	81	3.905	-12	.107	-83	.320	-61
2000.0	.127	55	3.968	-21	.111	-89	.316	-74
2100.0	.161	20	4.030	-33	.114	-96	.307	-88
2200.0	.186	-1	4.017	-45	.116	-103	.299	-103

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 160.5°C/W

Transistor Power Dissipation P_d 0.180 W

Junction Temperature Rise Above Case T_{jc} ... 29°C