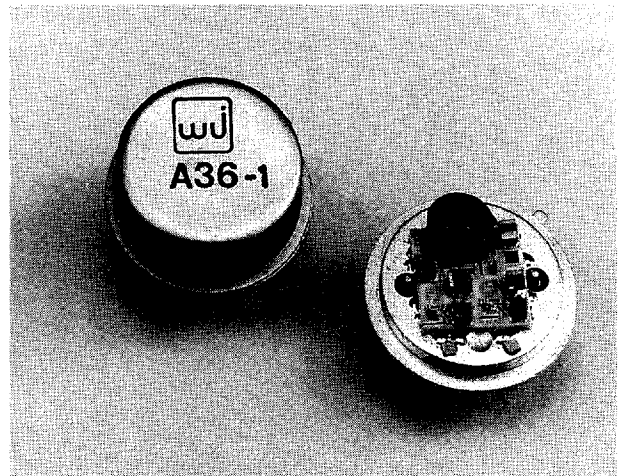


WJ-A36-1 / SMA36-1

100 to 2300 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH GAIN - TWO STAGES: 16.2 dB (TYP.)
- ◆ LOW VSWR: < 1.6:1 (TYP.)
- ◆ MEDIUM OUTPUT LEVEL: +12.0 dBm (TYP.)



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	80-2400 MHz	100-2300 MHz	100-2300 MHz
Small Signal Gain (Min.)	16.2 dB	15.0 dB	14.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	6.0 dB	7.0 dB	7.5 dB
Power Output at 1 dB Compression (Min.)	+12.0 dBm	+11.0 dBm	+11.0 dBm
VSWR (Max.) Input/Output	< 1.6:1	2.0:1	2.0:1
DC Current (Max) at 15 Volts	63 mA	64 mA	67 mA

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

Notes:

1. WJ-CA36-1 is a standard WJ-A36-1 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

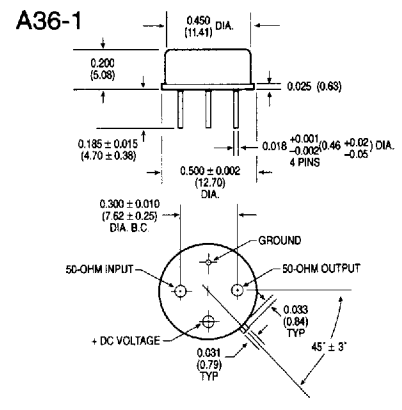
Second Order Harmonic Intercept Point.....	+38 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+33 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+23 dBm (Typ.)

Absolute Maximum Ratings

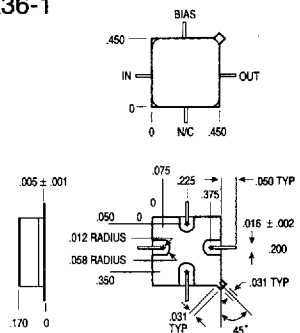
Storage Temperature	-62° C to + 125°C
Maximum Case Temperature	125°C
Maximum DC Voltage.....	+17 Volts
Maximum Continuous RF Input Power.....	+10 dBm
Maximum Short Term RF Input Power.....	50 Milliwatts (1 Minute Max.)
Maximum Peak Power	0.5 Watt (3 μsec Max.)
"S" Series Burn-In Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

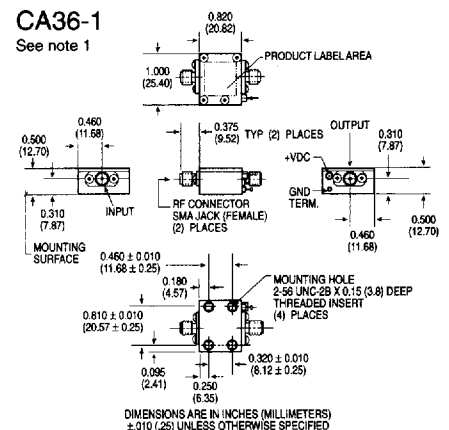


SMA36-1



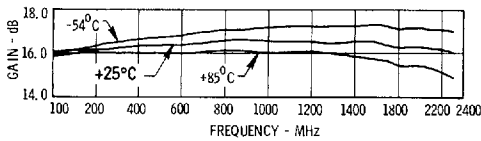
CA36-1

See note 1

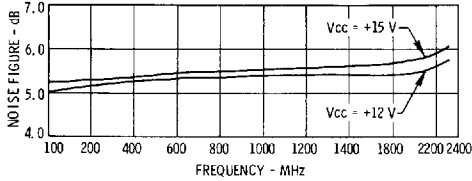


Typical Performance at 25°C

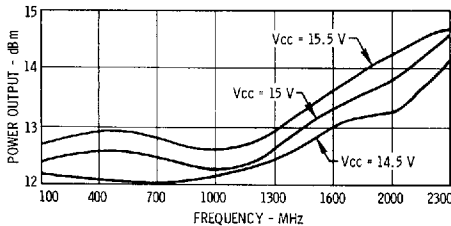
Gain



Noise Figure

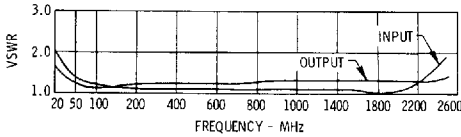


Power Output*

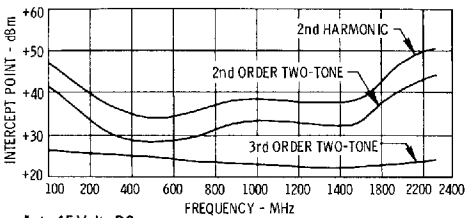


* @1 dB GAIN COMPRESSION

VSWR

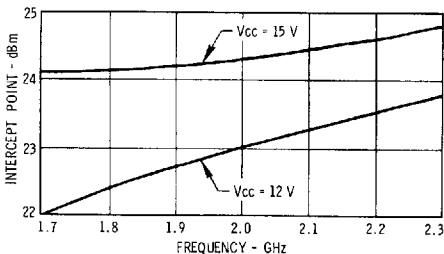


Intercept Point*



* at +15 Volts DC

Two Tone Third Order Intercept Point



Typical Automatic Test Data

Vcc = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
10.0	3.6	2.3	10.8
50.0	1.2	1.2	15.8
100.0	1.1	1.1	16.0
200.0	1.1	1.1	16.2
300.0	1.1	1.2	16.3
400.0	1.1	1.2	16.4
500.0	1.1	1.2	16.4
600.0	1.0	1.3	16.4
700.0	1.0	1.3	16.4
800.0	1.0	1.4	16.4
900.0	1.1	1.4	16.5
1000.0	1.1	1.4	16.5
1100.0	1.1	1.5	16.6
1200.0	1.1	1.5	16.7
1300.0	1.1	1.5	16.8
1400.0	1.1	1.5	16.8
1500.0	1.1	1.5	16.8
1600.0	1.2	1.4	16.7
1700.0	1.2	1.4	16.8
1800.0	1.2	1.3	16.7
1900.0	1.2	1.3	16.6
2000.0	1.2	1.3	16.6
2100.0	1.3	1.3	16.4
2200.0	1.4	1.3	16.3
2300.0	1.5	1.3	16.1
2400.0	1.7	1.3	15.9
2500.0	1.9	1.3	15.7

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10.0	.563	-59	3.458	84	.017	56	.395	-94
50.0	.094	-85	6.168	14	.028	26	.073	-167
100.0	.053	-82	6.328	-4	.030	11	.059	162
200.0	.034	-95	6.468	-24	.031	-1	.065	126
300.0	.027	-112	6.534	-41	.031	-8	.079	104
400.0	.026	-117	6.593	-57	.031	-13	.093	87
500.0	.026	-142	6.589	-73	.032	-19	.107	71
600.0	.023	-167	6.606	-88	.032	-25	.123	54
700.0	.019	159	6.603	-104	.032	-29	.138	39
800.0	.020	160	6.643	-120	.032	-35	.154	23
900.0	.025	114	6.669	-135	.032	-40	.170	8
1000.0	.031	108	6.719	-150	.033	-46	.180	-5
1100.0	.039	91	6.779	-165	.032	-52	.188	-21
1200.0	.038	70	6.841	-179	.032	-58	.196	-36
1300.0	.047	60	6.881	163	.032	-63	.200	-50
1400.0	.046	36	6.885	147	.031	-69	.194	-66
1500.0	.056	25	6.948	131	.032	-74	.189	-82
1600.0	.076	11	6.867	115	.031	-80	.177	-97
1700.0	.084	-5	6.929	99	.031	-86	.156	-116
1800.0	.078	-16	6.828	82	.031	-93	.139	-141
1900.0	.096	-24	6.763	64	.031	-99	.129	-166
2000.0	.107	-33	6.730	48	.031	-106	.125	165
2100.0	.133	-52	6.605	32	.030	-113	.131	138
2200.0	.154	-65	6.533	15	.030	-120	.134	114
2300.0	.200	-81	6.402	-2	.029	-128	.140	90
2400.0	.246	-99	6.260	-19	.030	-134	.147	65
2500.0	.320	-116	6.129	-37	.028	-141	.148	39

Thermal Data: Vcc = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.394 W
 Junction Temperature Rise Above Case T_{jc} ... 18°C