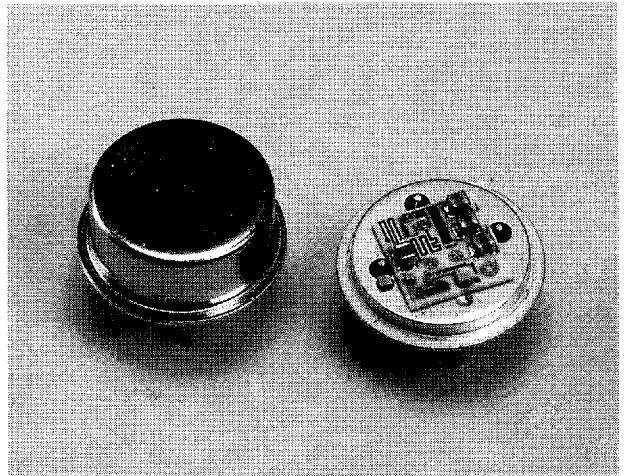


WJ-A25-1 / SMA25-1

2 to 1500 MHz

TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE: < 3.4 dB (TYP.)
- ◆ MEDIUM POWER OUT: +9.0 dBm (TYP.)
- ◆ LOW VSWR: < 1.7:1 VSWR (TYP.)
- ◆ WIDE POWER SUPPLY RANGE:
+5 to +15 VOLTS



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	1-1600 MHz	2-1500 MHz	2-1500 MHz
Small Signal Gain (Min.)	13.5 dB	13.0 dB	12.5 dB
Gain Flatness (Max.)	±0.4 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)			
10-600	< 3.0 dB	3.5 dB	4.0 dB
2-1500	< 3.8 dB	4.5 dB	5.0 dB
Power Output			
at 1 dB Compression (Min.)	+9.0 dBm	+8.0 dBm	+7.5 dBm
VSWR (Max.) Input/Output	< 1.7:1/1.2:1	2.0:1	2.0:1
DC Current (Max.) at 15 Volts	24 mA	27 mA	28 mA

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

Notes:

1. WJ-CA25-1 is a standard WJ-A25-1 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

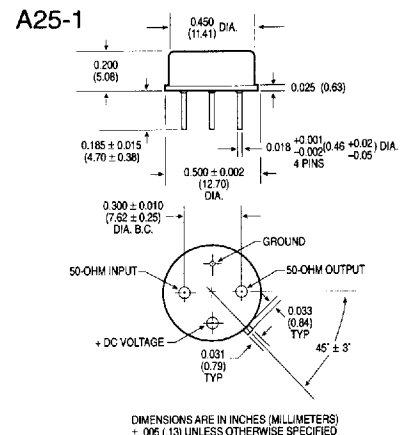
Second Order Harmonic Intercept Point.....	+36 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+30 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+22 dBm (Typ.)

Absolute Maximum Ratings

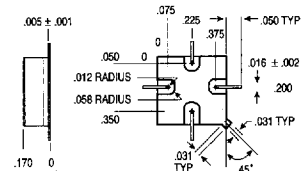
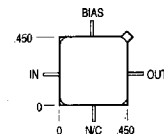
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+ 18 volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term R F Input Power	.50 Milliwatts (1 Minute Max.)
Maximum Peak Power	0.5 Watt (3 μsec Max.)
"S" Series Burn-in Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings



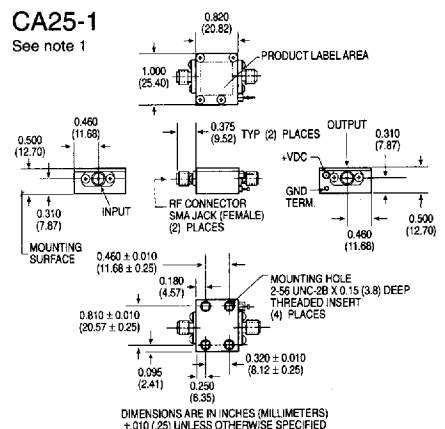
SMA25-1



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

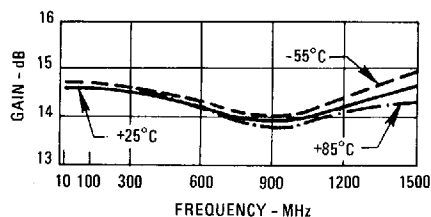
CA25-1

See note 1

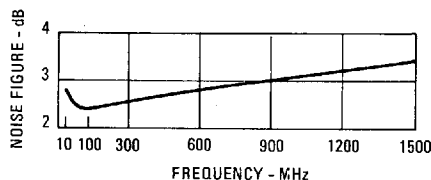


Typical Performance at 25°C

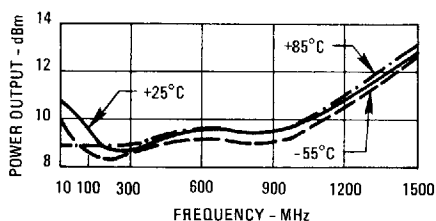
Gain



Noise Figure

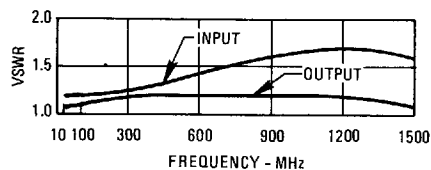


Power Output*

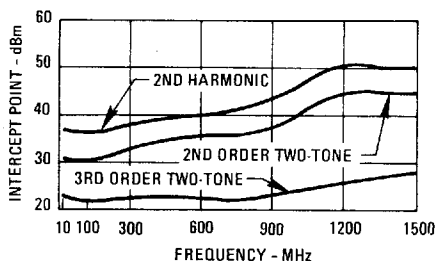


* at 1 dB Gain Compression

VSWR



Intercept Point



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.2	1.5	14.5
2.0	1.1	1.3	14.7
5.0	1.0	1.3	14.6
10.0	1.0	1.3	14.6
50.0	1.0	1.3	14.5
100.0	1.0	1.3	14.4
200.0	1.0	1.2	14.3
300.0	1.1	1.2	14.1
400.0	1.1	1.1	14.2
500.0	1.1	1.1	14.3
600.0	1.1	1.0	14.3
700.0	1.2	1.1	14.3
800.0	1.2	1.1	14.3
900.0	1.2	1.2	14.3
1000.0	1.2	1.2	14.3
1100.0	1.2	1.3	14.4
1200.0	1.2	1.3	14.5
1300.0	1.2	1.3	14.6
1400.0	1.2	1.3	14.6
1500.0	1.4	1.3	14.4
1600.0	1.8	1.2	13.6
1700.0	2.4	1.2	12.3

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.090	-122	5.326	-157	.104	20	.197	-148
2.0	.029	-137	5.440	-169	.101	9	.135	-163
5.0	.022	-136	5.401	-177	.101	4	.124	-173
10.0	.020	-165	5.372	180	.102	2	.123	-179
50.0	.021	143	5.303	173	.102	-2	.119	165
100.0	.022	111	5.233	165	.103	-5	.111	150
200.0	.017	19	5.162	151	.104	-11	.094	123
300.0	.024	-13	5.083	138	.105	-18	.071	100
400.0	.046	-56	5.131	124	.106	-24	.044	80
500.0	.054	-83	5.194	111	.105	-31	.027	53
600.0	.062	-98	5.179	96	.104	-38	.023	-20
700.0	.080	-105	5.173	82	.104	-45	.039	-79
800.0	.092	-126	5.172	67	.102	-52	.061	-113
900.0	.104	-142	5.182	53	.103	-58	.081	-139
1000.0	.111	-165	5.210	38	.102	-66	.102	-164
1100.0	.109	178	5.263	23	.101	-73	.120	175
1200.0	.095	144	5.317	7	.100	-80	.127	154
1300.0	.083	104	5.385	-11	.098	-88	.129	128
1400.0	.090	38	5.383	-31	.099	-94	.127	103
1500.0	.172	-26	5.245	-52	.100	-102	.115	76
1600.0	.280	-65	4.787	-75	.102	-112	.101	53
1700.0	.409	-97	4.130	-98	.104	-121	.089	43

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{JC} 45°C/W
 Transistor Power Dissipation P_d 0.183 W
 Junction Temperature Rise Above Case T_{JC} ... 8°C