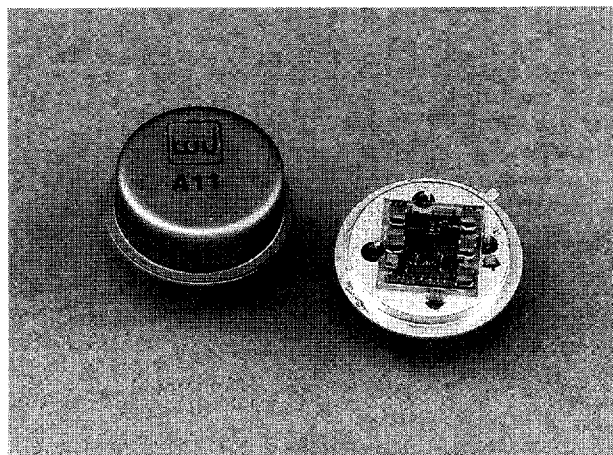


WJ-A11 / SMA11

5 to 1000 MHz TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE: 3.1 dB (TYP.)
- ◆ LOW VSWR: 1.3:1 (TYP.)
- ◆ FLAT BANDWIDTH: $< \pm 0.25$ dB (TYP.)



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +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.)	3.1 dB	3.5 dB	4.0 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.

Notes:

1. WJ-CA11 is a standard WJ-A11 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.....	+15 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+10 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+10 dBm (Typ.)

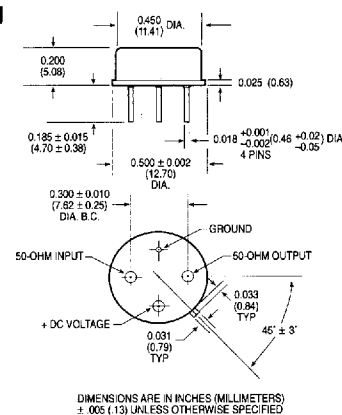
Absolute Maximum Ratings

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	0.5 Watt (3 µsec Max.)
"S" Series Burn-in Temperature (Case)	125°C

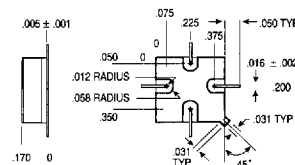
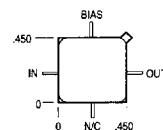
Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

A11



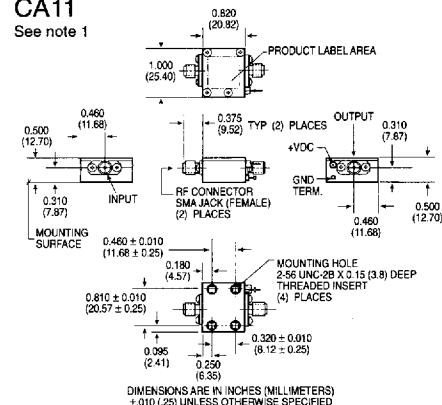
SMA11



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

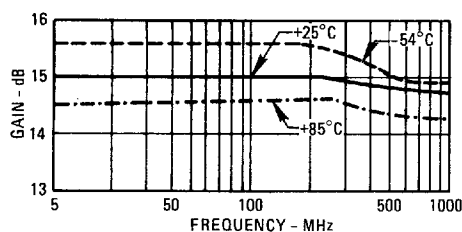
CA11

See note 1

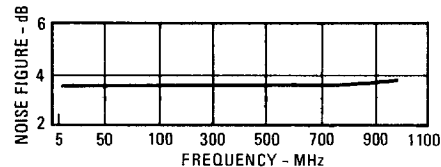


Typical Performance at 25°C

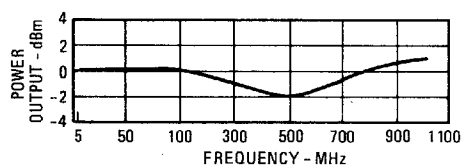
Gain



Noise Figure

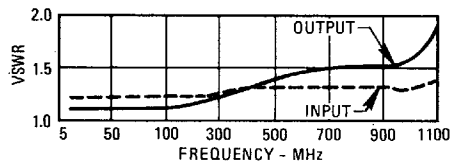


Power Output*



*at 1 dB Gain Compression

VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.0	1.1	15.2
2.0	1.0	1.1	15.2
5.0	1.0	1.1	15.2
10.0	1.0	1.1	15.1
50.0	1.0	1.1	15.1
100.0	1.0	1.1	14.9
200.0	1.1	1.1	14.9
300.0	1.1	1.1	14.9
400.0	1.2	1.2	15.0
500.0	1.2	1.2	15.2
600.0	1.3	1.3	15.3
700.0	1.2	1.3	15.4
800.0	1.2	1.3	15.4
900.0	1.1	1.3	15.4
1000.0	1.3	1.4	15.1
1100.0	1.7	1.5	14.2

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.010	-124	5.779	-179	.105	3	.039	-168
2.0	.010	-143	5.751	-179	.105	2	.039	-171
5.0	.007	-153	5.749	178	.105	0	.036	175
10.0	.005	-169	5.688	172	.105	-3	.034	151
50.0	.011	46	5.670	164	.105	-7	.033	121
100.0	.013	23	5.582	155	.105	-11	.033	89
200.0	.030	-28	5.556	141	.105	-18	.036	40
300.0	.057	-60	5.540	124	.104	-27	.053	-19
400.0	.087	-87	5.650	105	.103	-36	.076	-68
500.0	.111	-117	5.737	85	.101	-45	.096	-104
600.0	.114	-136	5.833	64	.099	-54	.113	-131
700.0	.109	-159	5.863	42	.097	-63	.126	-161
800.0	.089	166	5.921	19	.096	-72	.133	162
900.0	.057	89	5.890	-6	.098	-80	.141	115
1000.0	.119	-2	5.699	-33	.099	-90	.165	62
1100.0	.267	-50	5.148	-63	.102	-103	.212	7

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{JC} 45°C/W
 Transistor Power Dissipation P_D 0.048 W
 Junction Temperature Rise Above Case T_{JC} ... 2°C