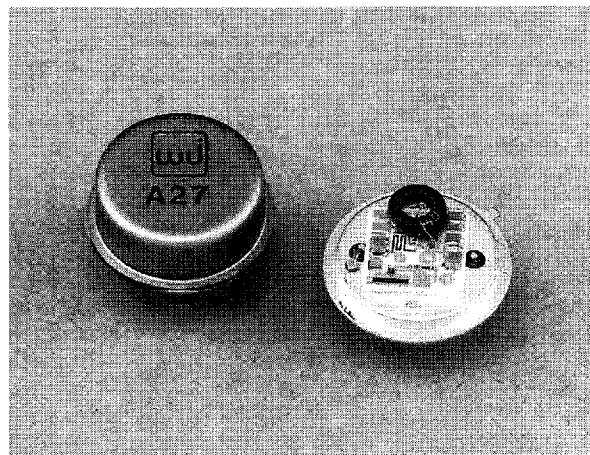


WJ-A27 / SMA27

**10 to 1500 MHz
TO-8 CASCADABLE AMPLIFIER**

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH OUTPUT LEVEL: +15.5 dBm (TYP.)
- ◆ HIGH THIRD ORDER I.P.: +28 dBm (TYP.)
- ◆ WIDE POWER SUPPLY RANGE:
+5 TO +15 VOLTS



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	5-1600 MHz	10-1500 MHz	10-1500 MHz
Small Signal Gain (Min.)	8.5 dB	7.5 dB	7.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.6 dB	±1.0 dB
Noise Figure (Max.)	7.5 dB	9.0 dB	9.5 dB
Power Output at 1 dB Compression (Min.)	+15.5 dBm	+14 dBm	+13.5 dBm
VSWR (Max.) Input/Output	< 1.5:1	1.9:1	2.0:1
DC Current (Max.) at 15 Volts	50 mA	54 mA	57 mA

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

Notes:

1. WJ-CA27 is a standard WJ-A27 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

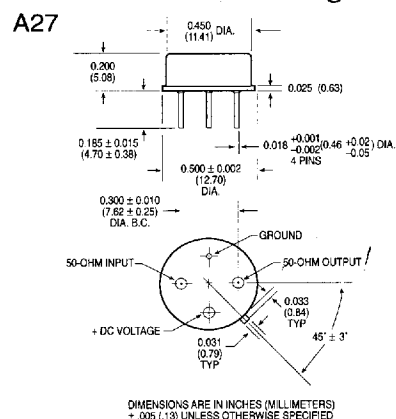
Second Order Harmonic Intercept Point.....	+50 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+46 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+28 dBm (Typ.)

Absolute Maximum Ratings

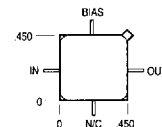
Storage Temperature.....	-62°C to +125°C
Maximum Case Temperature.....	125°C
Maximum DC Voltage.....	+17 Volts
Maximum Continuous RF Input Power.....	+13 dBm
Maximum Short Term RF Input Power.....	50 Milliwatts (1 Minute Max.)
Maximum Peak Power.....	0.5 Watt (3 μsec Max.)
"S" Series Burn-In Temperature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

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

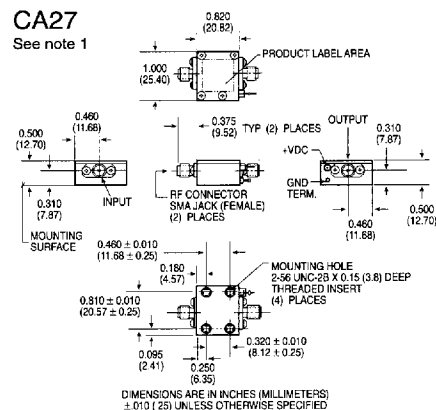


SMA27



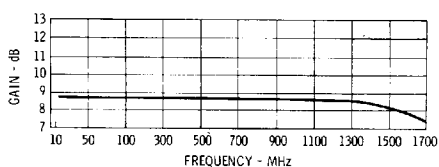
CA27

See note 1

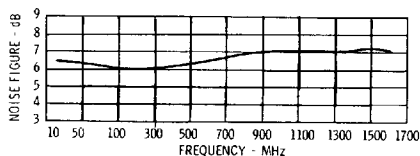


Typical Performance at 25°C

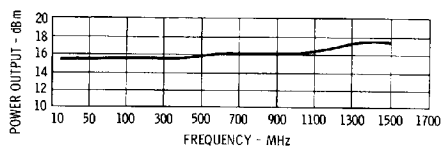
Gain



Noise Figure

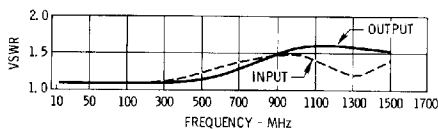


Power Output*



*at 1 dB Gain Compression

VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
2.0	1.6	1.7	8.2
5.0	1.2	1.2	8.2
10.0	1.1	1.1	8.2
50.0	1.0	1.0	8.3
100.0	1.0	1.0	8.2
200.0	1.1	1.0	8.1
300.0	1.1	1.1	8.1
400.0	1.1	1.1	8.2
500.0	1.1	1.2	8.3
600.0	1.1	1.2	8.4
700.0	1.1	1.3	8.4
800.0	1.2	1.4	8.5
900.0	1.1	1.4	8.4
1000.0	1.1	1.5	8.4
1100.0	1.1	1.5	8.3
1200.0	1.1	1.5	8.2
1300.0	1.1	1.5	8.1
1400.0	1.2	1.5	7.8
1500.0	1.3	1.5	7.7
1600.0	1.5	1.5	7.3
1700.0	1.7	1.4	7.0

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2.0	.238	-63	2.573	-154	.176	30	.259	125
5.0	.095	-65	2.570	-171	.190	11	.096	118
10.0	.055	-61	2.574	-176	.192	5	.057	120
50.0	.021	-23	2.591	174	.195	-1	.017	121
100.0	.023	-11	2.572	167	.195	-4	.007	119
200.0	.030	-34	2.548	154	.196	-9	.007	-74
300.0	.038	-60	2.532	142	.198	-13	.028	-84
400.0	.052	-68	2.579	130	.202	-19	.059	-105
500.0	.047	-97	2.592	117	.204	-24	.085	-122
600.0	.056	-102	2.627	103	.205	-29	.109	-136
700.0	.061	-111	2.638	90	.208	-35	.132	-150
800.0	.071	-125	2.651	76	.211	-41	.155	-166
900.0	.069	-138	2.639	63	.215	-46	.174	178
1000.0	.066	-147	2.634	49	.218	-52	.193	161
1100.0	.051	-151	2.606	35	.222	-59	.208	144
1200.0	.039	-128	2.569	22	.226	-66	.211	126
1300.0	.049	-111	2.532	7	.230	-73	.215	104
1400.0	.082	-99	2.467	-8	.235	-80	.212	83
1500.0	.137	-99	2.420	-22	.240	-89	.202	59
1600.0	.187	-116	2.323	-38	.244	-97	.189	33
1700.0	.264	-126	2.244	-53	.245	-107	.168	8

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.435 W
 Junction Temperature Rise Above Case T_{jc} ... 20°C