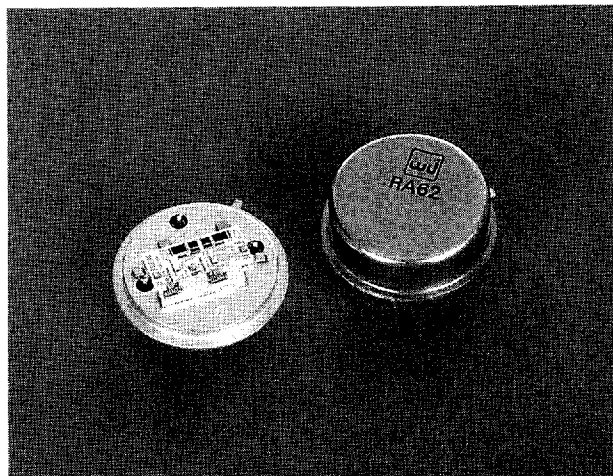


WJ-RA62/SMRA62

2000 to 6000 MHz
TO-8B¹ CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ ULTRAWIDE BANDWIDTH: 1.5-6.2 GHz (TYP.)
- ◆ MEDIUM GAIN: 16.0 dB (TYP.)
- ◆ MEDIUM OUTPUT POWER: +13.0 dBm (TYP.)
- ◆ LOW NOISE FIGURE: 4.0 dB (TYP.)



Specifications *

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54°C to +85°C
Frequency (Min.)	1.5-6.2 GHz	2-6 GHz	2-6 GHz
Small Signal Gain (Min.)	16.0 dB	14.0 dB	13.5 dB
Gain Flatness (Max.)	±0.4 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	4.0 dB	5.0 dB	5.5 dB
Power Output at 1 dB Compression (Min.)	+13.0 dBm	+12.0 dBm	+11.5 dBm
VSWR (Max.)			
Input	1.5:1	2.0:1	2.0:1
Output	1.3:1	2.0:1	2.0:1
DC Current (Max.) at +5 Volts	65 mA	72 mA	74 mA

* Measured in a 50-ohm system at +5 Vdc Nominal.

Notes:

1. WJ-RA62 amplifier is in a TO-8B package which is slightly larger than the standard TO-8 package.
2. WJ-CRA62 is a standard WJ-RA62 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.....	+45 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+40 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+28 dBm (Typ.)

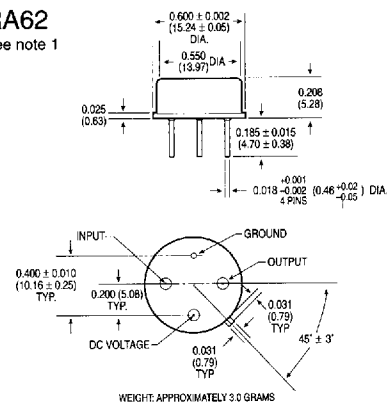
Absolute Maximum Ratings

Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage.....	+6 Volts
Maximum Continuous RF Input Power.....	+7 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....	100 Milliwatts
Maximum Peak Power	0.25 Watt (3 μ sec Max.)
"S" Series Burn-in Temperature (Case).....	125°C

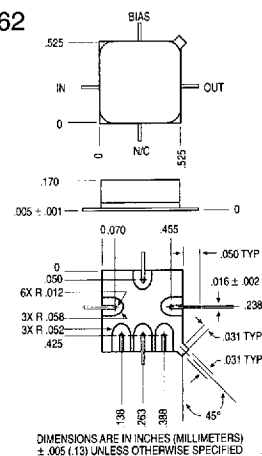
Weight approximately 3.0 grams (0.11 oz.)

Outline Drawings

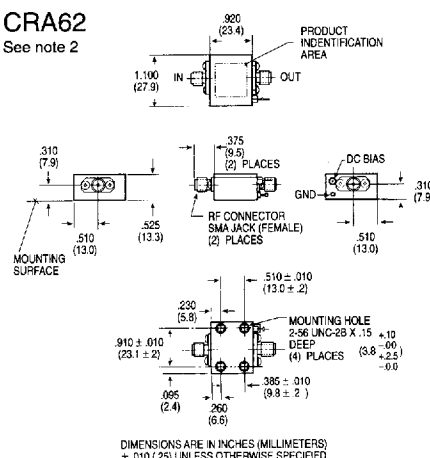
RA62
See note 1



SMRA62

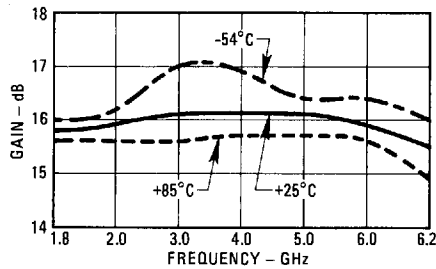


CRA62
See note 2

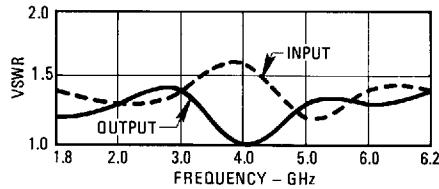


Typical Performance at 25°C

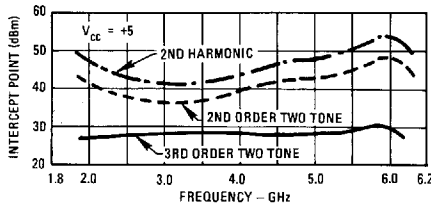
Gain



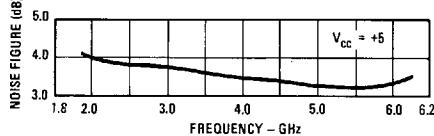
VSWR



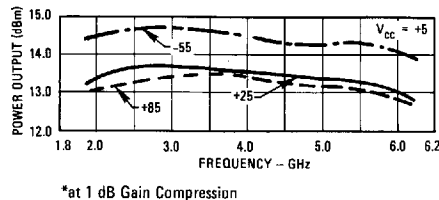
Intercept Point



Noise Figure



Power Output*



Thermal Data: $V_{cc} = 5$ Vdc

Thermal Resistance θ_{jc} 92.2°C/W
 Transistor Power Dissipation P_d 0.171 W
 Junction Temperature Rise Above Case T_{jc} ... 16°C

Typical Automatic Test Data

$V_{cc} = 5.0$ V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
600.0	3.1	1.5	14.6
800.0	2.5	1.5	15.0
1000.0	2.1	1.4	15.4
1200.0	1.8	1.4	15.8
1400.0	1.6	1.4	16.0
1600.0	1.4	1.4	16.2
1800.0	1.4	1.5	16.2
2000.0	1.3	1.6	16.2
2200.0	1.3	1.6	16.3
2400.0	1.4	1.7	16.3
2600.0	1.4	1.8	16.3
2800.0	1.4	1.7	16.3
3000.0	1.4	1.7	16.3
3200.0	1.5	1.6	16.3
3400.0	1.6	1.5	16.3
3600.0	1.7	1.4	16.4
3800.0	1.7	1.3	16.5
4000.0	1.7	1.3	16.7
4200.0	1.6	1.2	16.7
4400.0	1.6	1.2	16.7
4600.0	1.5	1.2	16.6
4800.0	1.4	1.1	16.6
5000.0	1.3	1.1	16.5
5200.0	1.3	1.1	16.4
5400.0	1.2	1.1	16.2
5600.0	1.1	1.2	16.0
5800.0	1.1	1.2	15.9
6000.0	1.1	1.3	15.9
6200.0	1.2	1.3	16.2
6400.0	1.7	1.3	16.3

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
600.0	.514	31	5.397	-54	.021	-16	.213	56
800.0	.434	-20	5.594	-133	.021	-89	.206	-14
1000.0	.356	-72	5.894	157	.022	-153	.176	-64
1200.0	.279	-126	6.172	92	.023	148	.163	-104
1400.0	.225	-180	6.331	30	.021	97	.169	-147
1600.0	.184	126	6.420	-31	.022	47	.179	166
1800.0	.160	71	6.453	-90	.021	-6	.197	117
2000.0	.146	18	6.484	-148	.020	-57	.224	66
2200.0	.138	-38	6.532	154	.020	-100	.238	17
2400.0	.152	-86	6.555	97	.020	-149	.263	-30
2600.0	.160	-133	6.539	40	.019	157	.280	-79
2800.0	.163	-173	6.508	-17	.018	115	.273	-125
3000.0	.173	147	6.499	-73	.020	70	.257	-168
3200.0	.193	112	6.512	-129	.021	23	.235	149
3400.0	.235	79	6.560	174	.019	-22	.198	105
3600.0	.252	43	6.621	117	.021	-72	.167	62
3800.0	.267	6	6.700	61	.020	-119	.145	12
4000.0	.260	-27	6.801	4	.021	-165	.121	-43
4200.0	.242	-57	6.845	-53	.020	147	.102	-95
4400.0	.224	-87	6.809	-112	.021	98	.097	-149
4600.0	.195	-114	6.784	-170	.022	52	.081	156
4800.0	.166	-142	6.752	132	.021	5	.052	117
5000.0	.135	-170	6.715	73	.023	-38	.044	102
5200.0	.113	160	6.585	14	.024	-90	.045	75
5400.0	.091	127	6.461	-46	.023	-139	.063	47
5600.0	.064	87	6.296	-105	.026	176	.091	-9
5800.0	.056	23	6.241	-165	.028	118	.106	-80
6000.0	.038	-78	6.251	134	.030	65	.113	-153
6200.0	.099	-141	6.442	69	.031	8	.124	136
6400.0	.250	162	6.497	-2	.030	-57	.132	42