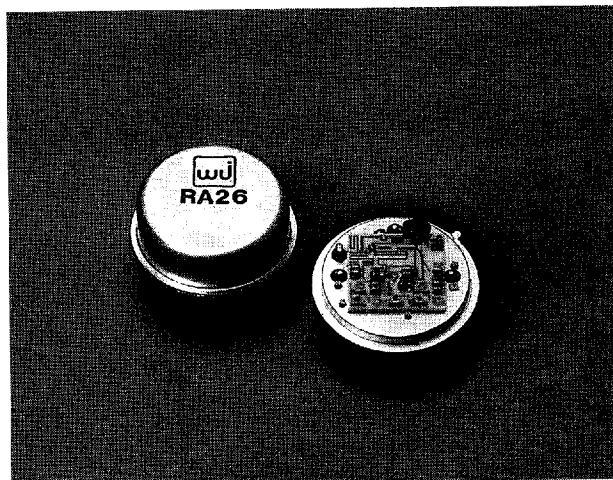


WJ-RA26/SMRA26

10 to 1500 MHz

TO-8B¹ CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH GAIN -THREE STAGES:27.5 dB (TYP.)
- ◆ MEDIUM OUTPUT LEVEL: +14.5 dBm (TYP.)
- ◆ HIGH THIRD-ORDER I.P.: +27 dBm (TYP.)
- ◆ HIGH REVERSE ISOLATION: >40 dB (TYP.)



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	5-1550 MHz	10-1500 MHz	10-1500 MHz
Small Signal Gain (Min.)	27.5 dB	26.0 dB	25.0 dB
Gain Flatness (Max.)	±0.4 dB	±0.8 dB	±1.2 dB
Noise Figure (Max.)			
10-1000 MHz	4.5 dB	5.0 dB	5.5 dB
1000-1500 MHz	5.5 dB	6.0 dB	6.5 dB
Power Output			
at 1 dB Compression (Min.)	+14.5 dBm	+13.5 dBm	+12.5 dBm
VSWR (Max.) Input/Output	1.6:1	2.0:1	2.0:1
DC Current (Max.) at +15 Volts	82 mA	85 mA	87 mA

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

Notes:

Notes:

1. WJBA26 amplifier is in a TO-8B package which is slightly larger than the standard TO-8 package.

2. WJ-CRA26 is a standard WJ-RA26 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.....	+41 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+37 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+27 dBm (Typ.)

Absolute Maximum Ratings

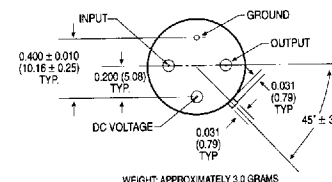
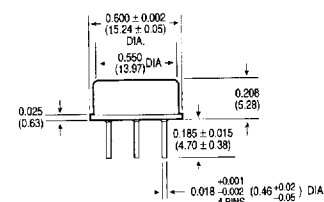
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+6 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power	0.5 Watt (3 msec Max.)
"S" Series Burn-In Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz)

Outline Drawings

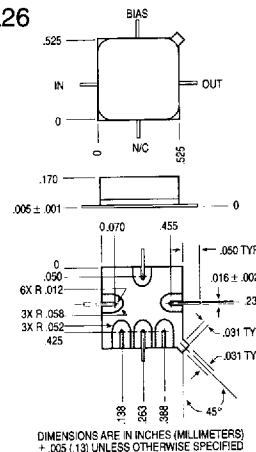
RA26

See note 1



WEIGHT: APPROXIMATELY 3.0 GRAMS

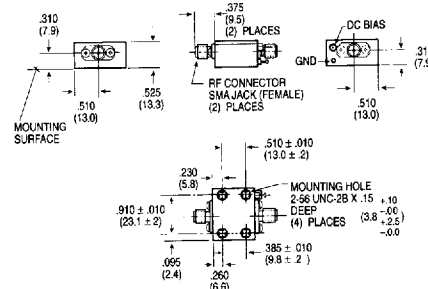
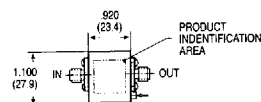
SMRA26



DIMENSIONS ARE IN INCHES (MILLIMETERS
± .005 / .13) UNLESS OTHERWISE SPECIFIED

CRA26

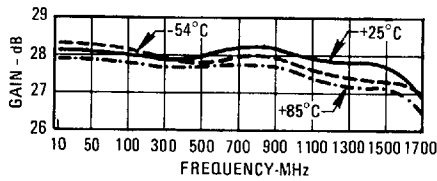
See note 2



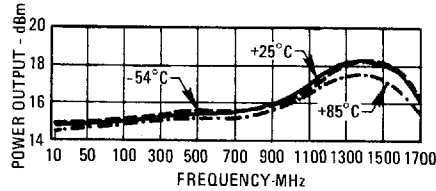
DIMENSIONS ARE IN INCHES (MILLIMETERS)
+ .010 (.25) UNLESS OTHERWISE SPECIFIED

Typical Performance at 25°C

Gain

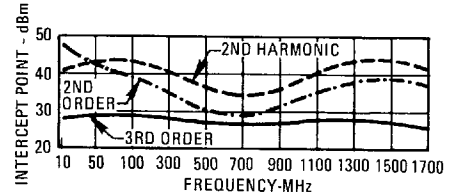


Power Output*

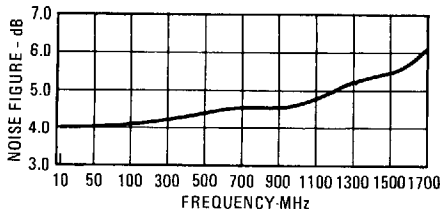


*at 1 dB Gain Compression

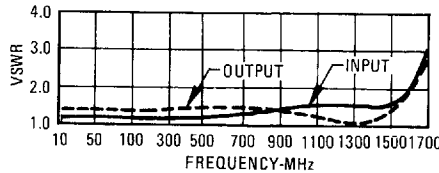
Intercept Point



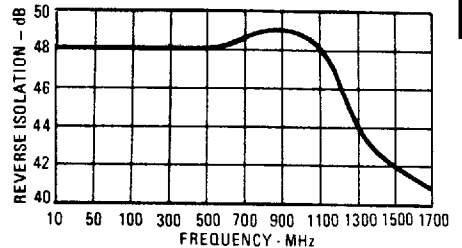
Noise Figure



VSWR



Reverse Isolation



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.2	2.4	23.5
2.0	1.2	1.8	26.3
5.0	1.1	1.2	27.6
10.0	1.1	1.1	27.7
50.0	1.1	1.2	27.8
100.0	1.1	1.2	27.7
200.0	1.1	1.2	27.6
300.0	1.2	1.2	27.6
400.0	1.2	1.3	27.9
500.0	1.3	1.4	28.0
600.0	1.3	1.4	28.4
700.0	1.2	1.5	28.6
800.0	1.2	1.4	28.8
900.0	1.3	1.3	28.8
1000.0	1.4	1.3	28.8
1100.0	1.5	1.2	28.7
1200.0	1.5	1.1	28.5
1300.0	1.6	1.0	28.5
1400.0	1.5	1.1	28.5
1500.0	1.3	1.4	28.8
1600.0	1.3	2.0	28.8

V_{CC} = 12.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.2	2.4	23.0
2.0	1.3	1.8	25.8
5.0	1.1	1.2	27.2
10.0	1.1	1.1	27.3
50.0	1.1	1.2	27.3
100.0	1.1	1.2	27.2
200.0	1.2	1.2	27.1
300.0	1.2	1.2	27.2
400.0	1.2	1.3	27.4
500.0	1.3	1.4	27.5
600.0	1.3	1.4	27.8
700.0	1.3	1.5	28.1
800.0	1.3	1.4	28.2
900.0	1.3	1.3	28.3
1000.0	1.3	1.3	28.2
1100.0	1.4	1.2	28.1
1200.0	1.5	1.1	28.0
1300.0	1.5	1.0	28.0
1400.0	1.4	1.2	28.1
1500.0	1.3	1.5	28.3
1600.0	1.6	2.3	28.0

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.090	-64	15.004	-155	.004	20	.414	-117
2.0	.104	-41	20.569	-143	.003	42	.291	143
5.0	.049	-45	24.121	-169	.005	17	.092	77
10.0	.037	-30	24.391	-177	.005	8	.067	47
50.0	.036	-2	24.539	165	.005	-2	.071	1
100.0	.042	-9	24.276	148	.005	-5	.075	-18
200.0	.063	-45	24.012	115	.005	-10	.085	-46
300.0	.078	-69	24.089	84	.005	-17	.103	-70
400.0	.095	-88	24.746	52	.005	-19	.131	-95
500.0	.111	-112	25.243	20	.005	-23	.157	-118
600.0	.111	-127	26.205	-14	.005	-26	.178	-142
700.0	.106	-136	27.047	-48	.005	-36	.184	-163
800.0	.110	-143	27.516	-83	.004	-47	.171	177
900.0	.120	-145	27.630	-117	.005	-53	.143	156
1000.0	.155	-151	27.505	-152	.004	-67	.114	142
1100.0	.184	-165	27.116	173	.004	-83	.077	136
1200.0	.209	178	26.724	138	.004	-99	.043	140
1300.0	.228	156	26.518	103	.005	-119	.015	179
1400.0	.196	128	26.678	66	.006	-133	.052	-95
1500.0	.118	75	27.449	27	.007	-155	.161	-103
1600.0	.143	-43	27.561	-18	.009	-177	.339	-129

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.083	-50	14.181	-156	.004	11	.414	-116
2.0	.113	-36	19.438	-143	.003	37	.293	142
5.0	.061	-37	22.813	-169	.005	12	.093	75
10.0	.045	-23	23.079	-177	.005	6	.069	45
50.0	.048	-8	23.262	164	.005	2	.073	0
100.0	.054	-14	22.945	147	.006	-4	.077	-20
200.0	.073	-47	22.720	115	.005	-7	.086	-50
300.0	.085	-68	22.792	83	.005	-15	.104	-74
400.0	.101	-93	23.395	51	.005	-18	.133	-99
500.0	.118	-115	23.792	18	.005	-27	.160	-122
600.0	.119	-132	24.683	-16	.005	-33	.179	-146
700.0	.114	-139	25.418	-50	.005	-37	.186	-167
800.0	.117	-152	25.806	-86	.005	-47	.174	172
900.0	.119	-152	25.935	-120	.005	-50	.148	151
1000.0	.141	-161	25.808	-156	.005	-67	.116	133
1100.0	.180	-171	25.489	169	.005	-77	.077	119
1200.0	.199	171	25.221	134	.005	-98	.035	104
1300.0	.203	148	25.129	98	.005	-116	.020	-19
1400.0	.175	114	25.378	60	.006	-135	.085	-71
1500.0	.121	41	26.074	20	.007	-153	.212	-98
1600.0	.226	-59	25.240	-27	.010	-180	.399	-130

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.292 W
 Junction Temperature Rise Above Case T_{jc} ... 13°C