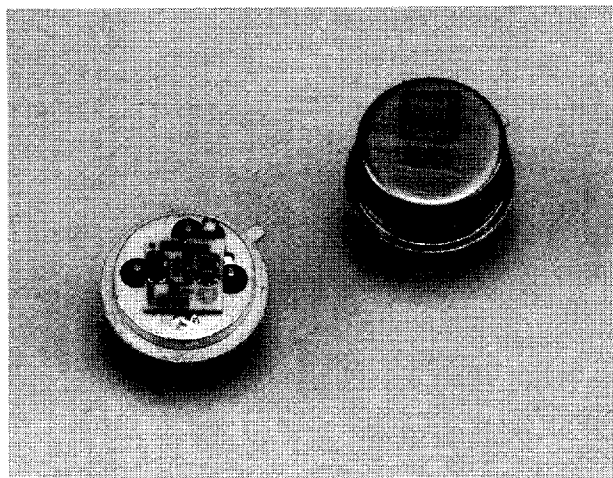


WJ-EA1 / EA4

5 to 400 MHz TO-5 CASCADABLE AMPLIFIER

- ◆ LOW COST
- ◆ VERY SMALL SIZE TO-5 PACKAGE
- ◆ MEDIUM GAIN: 14.0 dB (TYP.)

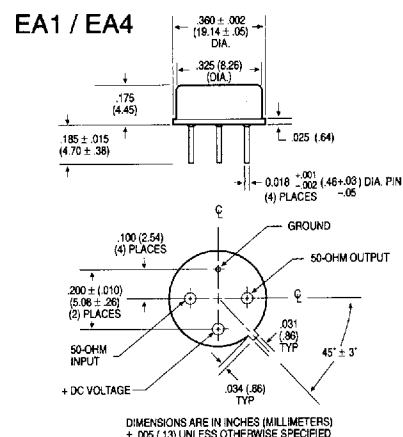


Specifications *

Characteristics	Guaranteed	
	0° to 50°C	-54°C to +85°C
Frequency (Min.)	5-400 MHz	5-400 MHz
Small Signal Gain (Min.)	14.0 dB	13.0 dB
Gain Flatness (Typ.)	±0.5 dB	
Noise Figure (Typ.)	4.3 dB	
Power Output at 1 dB Compression (Min.)	-4.5 dBm	-7.5 dBm
VSWR (Typ.)		
Input	2.0:1	
Output	1.9:1	
DC Current at +15 Volts	10 mA	

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

Outline Drawings



WJ-CA package is not available for TO-5's.

Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point.....	+19 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+15 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+13 dBm (Typ.)

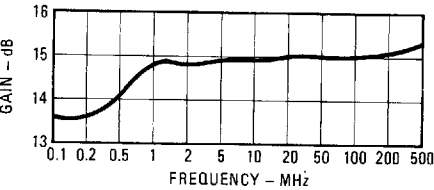
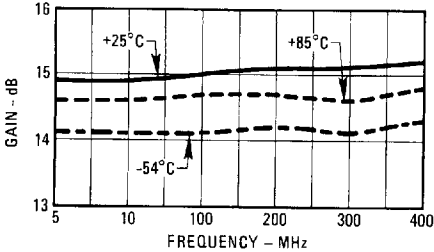
Absolute Maximum Ratings

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 (1 Minute Max.).....	50 Milliwatts
Maximum Peak Power	0.5 Watt (3 µsec Max.)
"S" Series Burn-In Temperature (Case)	125°C

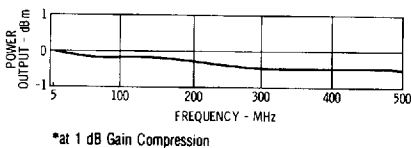
Weight approximatey 1.0 grams (0.04 oz.)

Typical Performance at 25°C

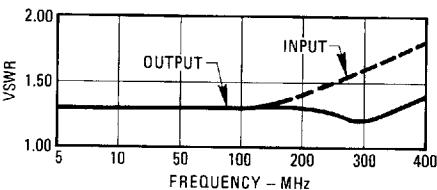
Gain



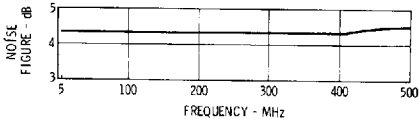
Power Output*



VSWR



Noise Figure



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.5	1.3	15.0
2.0	1.5	1.2	15.2
5.0	1.4	1.2	15.3
10.0	1.4	1.2	15.3
50.0	1.4	1.2	15.3
100.0	1.5	1.2	15.3
150.0	1.6	1.1	15.2
200.0	1.8	1.1	15.2
250.0	2.0	1.1	15.1
300.0	2.3	1.2	15.0
350.0	2.6	1.4	14.8
400.0	3.0	1.6	14.5

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.212	-132	5.617	-159	.081	21	.111	-39
2.0	.186	-155	5.728	-170	.083	11	.104	-18
5.0	.179	-169	5.794	-177	.084	5	.103	-7
10.0	.178	-173	5.818	-180	.084	2	.104	-4
50.0	.181	-171	5.822	170	.085	1	.101	-6
100.0	.195	-166	5.791	159	.087	1	.087	-10
150.0	.219	-160	5.783	148	.088	1	.066	-8
200.0	.278	-160	5.772	136	.093	1	.048	13
250.0	.329	-162	5.702	125	.096	-1	.057	54
300.0	.389	-166	5.642	113	.101	-2	.102	67
350.0	.446	-172	5.504	101	.103	-6	.160	64
400.0	.506	-179	5.328	88	.108	-8	.222	56

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
Transistor Power Dissipation P_d 0.001 W
Junction Temperature Rise Above Case T_{jc} ... 0°C

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