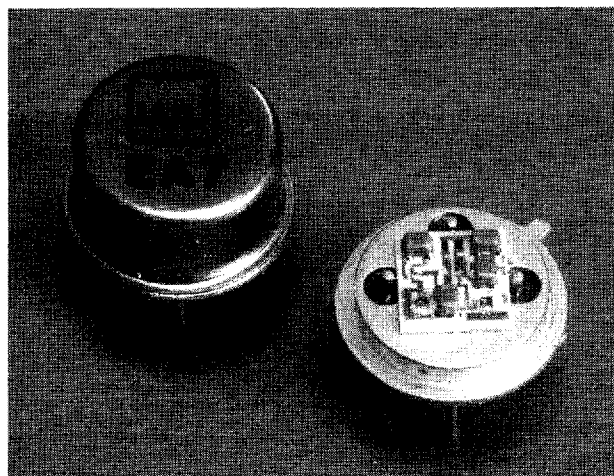


WJ-EA7

5 to 250 MHz TO-5 CASCADABLE AMPLIFIER

- ◆ HIGH OUTPUT LEVEL: +16 dBm (TYP)
- ◆ LOW OUTPUT VSWR: 1.5:1 (TYP)
- ◆ WIDE SUPPLY RANGE: 12 TO 15 VOLTS



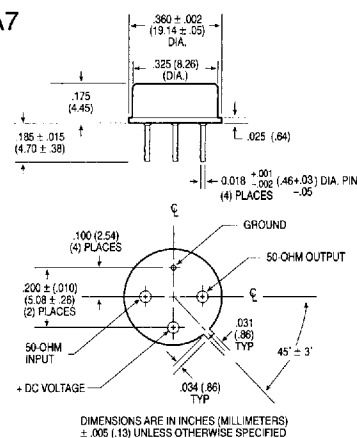
Specifications*

Characteristics	Typical	Guaranteed	
		0° to +50°C	-54° to +85°C
Frequency (Min.)	1-250 MHz	5-250 MHz	5-250 MHz
Small Signal Gain (Min.)	9.5 dB	8.5 dB	8.0 dB
Gain Flatness (Max.)	±.5 dB	±.8 dB	±1.0 dB
Noise Figure (Max.)	6.0 dB	6.5 dB	7.0 dB
Power Output at 1 dB Compression (Min.)	+16.0 dBm	+15.0 dBm	+14.0 dBm
VSWR (Max.) Input	1.4:1	1.8:1	2.1:1
VSWR (Max.) Output	1.5:1	2.0:1	2.1:1
DC Current (Max.) at 15 Volts	60 mA	64 mA	67 mA

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

Outline Drawings

EA7



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

Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point.....+38 dBm (Typ.)
 Second Order Two Tone Intercept Point.....+33 dBm (Typ.)
 Third Order Two Tone Intercept Point.....+28 dBm (Typ.)

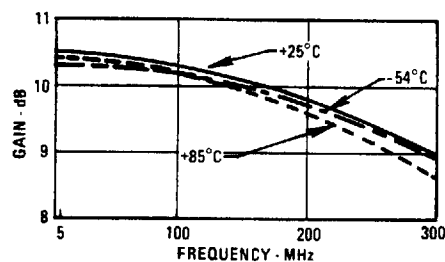
Absolute Maximum Ratings

Storage Temperature-62° C to +125°C
 Maximum Case Temperature125°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 Power0.5 Watt (3 µsec Max.)
 "S" Series Burn-in Temperature (Case).....125°C

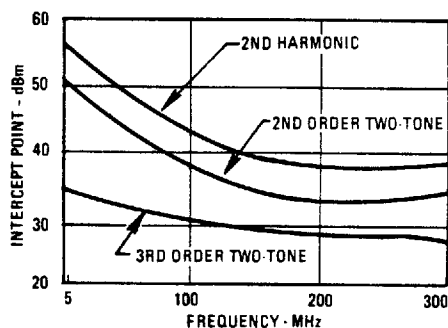
Weight approximately 1.0 grams (0.04 oz.)

Typical Performance at 25°C

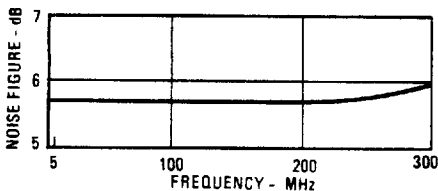
Gain



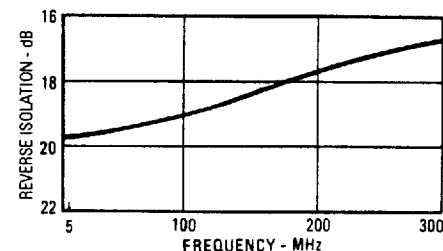
Intercept Point



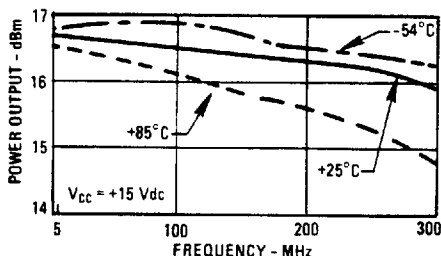
Noise Figure



Reverse Isolation



Power Output*



Typical Automatic Test Data

V_{CC} = 15.0 V

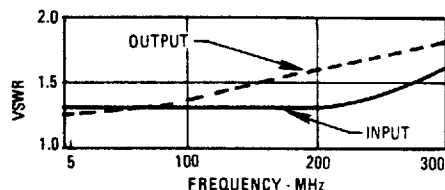
Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.3	1.3	10.4
2.0	1.2	1.2	10.5
5.0	1.2	1.2	10.6
10.0	1.2	1.2	10.6
50.0	1.1	1.2	10.5
100.0	1.1	1.3	10.4
150.0	1.2	1.4	10.1
200.0	1.3	1.5	9.9
250.0	1.4	1.6	9.6
300.0	1.6	1.8	9.2
350.0	1.8	1.9	8.7
400.0	2.0	2.0	8.3

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.123	-47	3.327	-162	.092	18	.136	-44
2.0	.084	-34	3.361	-171	.093	9	.108	-26
5.0	.073	-20	3.378	-178	.093	4	.100	-14
10.0	.070	-17	3.380	-180	.093	2	.099	-13
50.0	.067	-43	3.364	169	.095	3	.109	-38
100.0	.067	-83	3.294	157	.100	5	.135	-66
150.0	.081	-128	3.217	146	.106	6	.170	-88
200.0	.123	-163	3.131	135	.114	6	.205	-106
250.0	.166	169	3.007	124	.122	3	.241	-122
300.0	.217	147	2.873	115	.130	0	.273	-135
350.0	.279	128	2.732	103	.135	-4	.302	-148
400.0	.326	111	2.589	94	.142	-8	.330	-159

* at 1 dB Gain Compression

VSWR



Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{JC} 45°C/W
 Transistor Power Dissipation P_d 0.156 W
 Junction Temperature Rise Above Case T_{JC} ... 7°C