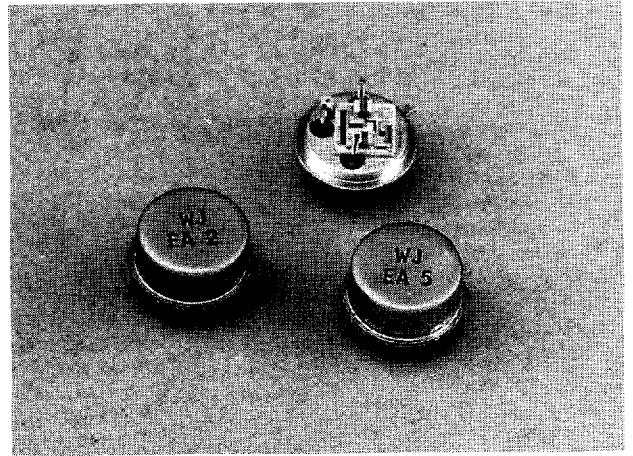


WJ-EA2 / EA5

5 to 400 MHz TO-5 CASCADABLE AMPLIFIER

- ◆ LOW COST
- ◆ MEDIUM OUTPUT LEVEL: +9 dBm (TYP.)
- ◆ VERY SMALL SIZE—TO-5 PACKAGE



Specifications*

Characteristics	Typical	Guaranteed	
		0° to +50°C	-54° to +85°C
Frequency (Min.)		5-400 MHz	5-400 MHz
Small Signal Gain (Min.)	13.5dB	13.0 dB	12.5 dB
Gain Flatness (Max.)	< ±0.3 dB		
Noise Figure (Max.)	5.7 dB		
Power Output			
at 1 dB Compression (Min.)	+9.0 dBm	+6.5 dBm	+6.0 dBm
VSWR (Max.) Input/Output	< 1.8:1		
DC Current at 15 Volts (Max.)		27 mA	29 mA

* Measured in a 50-ohm system at 15 Vdc ±1% Nominal.
 Note: The EA5 is the same as the EA2 except three external capacitors are required which allows an increase of the low frequency bandwidth.

Typical Intermodulation Performance at 25°C

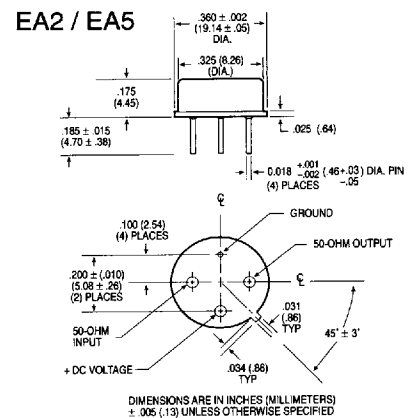
Second Order Harmonic Intercept Point.....+33 dBm (Typ.)
 Second Order Two Tone Intercept Point.....+28 dBm (Typ.)
 Third Order Two Tone Intercept Point.....+21 dBm (Typ.)

Absolute Maximum Ratings

Storage Temperature-62°C to +125°C
 Maximum Case Temperature125°C
 Maximum DC Voltage.....+17 Volts
 Maximum Case Temperature125°C
 Maximum Continuous RF Input Power+13 dBm
 Maximum Short Term RF Input Power (1 Minute Max.).....50 Milliwatts
 Maximum Peak Power0.5 Watt (3 µsec Max.)
 "S" Series Burn-in Temperature (Case).....125°C

Weight approximately 1.0 grams (0.04 oz.)

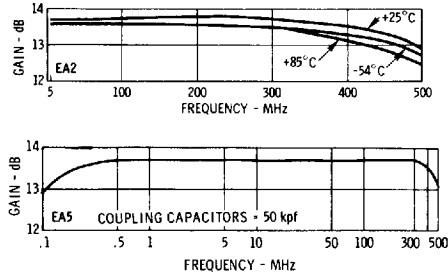
Outline Drawings



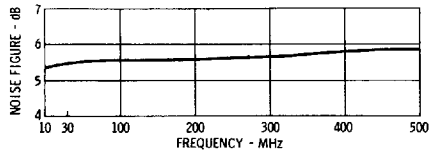
WJ-CA package is not available for TO-5's.

Typical Performance at 25°C

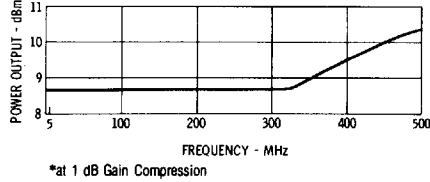
Gain



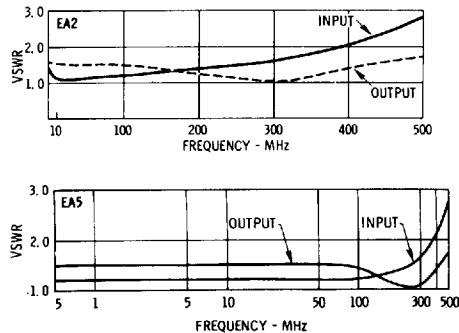
Noise Figure



Power Output*



VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
1.0	1.5	1.4	14.0
2.0	1.3	1.5	14.1
5.0	1.2	1.5	14.1
10.0	1.2	1.5	14.1
50.0	1.2	1.5	14.1
100.0	1.2	1.5	14.1
150.0	1.2	1.5	14.1
200.0	1.3	1.4	14.1
250.0	1.3	1.4	14.1
300.0	1.4	1.4	14.1
350.0	1.5	1.3	14.2
400.0	1.5	1.3	14.2
450.0	1.6	1.3	14.2
500.0	1.8	1.3	14.2

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	.202	-118	5.004	-160	.073	21	.181	-16
2.0	.126	-142	5.077	-170	.075	10	.188	-7
5.0	.109	-164	5.094	-177	.075	4	.192	-2
10.0	.106	-170	5.093	-180	.075	2	.194	-2
50.0	.104	-173	5.078	173	.075	1	.194	-5
100.0	.103	-171	5.052	166	.076	1	.192	-11
150.0	.106	-166	5.075	158	.077	0	.187	-17
200.0	.126	-158	5.065	151	.078	1	.181	-22
250.0	.140	-157	5.075	144	.080	1	.171	-27
300.0	.163	-158	5.085	136	.082	0	.160	-31
350.0	.189	-158	5.126	129	.084	-1	.148	-35
400.0	.210	-157	5.137	121	.087	-1	.138	-38
450.0	.245	-163	5.116	113	.090	-3	.125	-38
500.0	.291	-166	5.108	105	.093	-4	.118	-36

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jC} 45°C/W
 Transistor Power Dissipation P_D 0.068 W
 Junction Temperature Rise Above Case T_{JC} ... 3°C

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