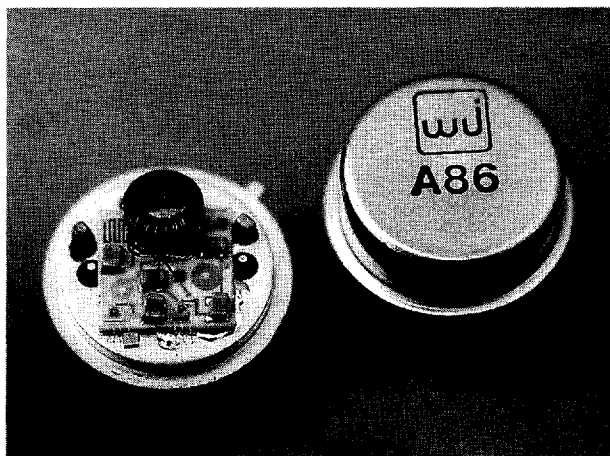


WJ-A86 / SMA86

10 to 200 MHz
TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ HIGH GAIN -TWO STAGES: 28 dB (TYP.)
- ◆ HIGH EFFICIENCY: 21 mA @ 5 VDC (TYP.)
- ◆ LOW NOISE: 3.8 dB (TYP.)
- ◆ MEDIUM OUTPUT LEVEL: +9.0 dBm (TYP.)



Specifications *

Characteristic	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	3-250 MHz	10-200 MHz	10-200 MHz
Small Signal Gain (Min.)	28 dB	27 dB	26 dB
Gain Flatness (Max.)	±0.3 dB	±0.8 dB	±1.0 dB
Noise Figure (Max.)	3.8 dB	4.5 dB	5.0 dB
Power Output at 1 dB Compression (Min.)	+9.0 dBm	+7.5 dBm	+7.0 dBm
VSWR (Max.) Input/Output	<1.5:1	1.9:1	2.0:1
DC Current at (Max.) 5 Volts	21 mA	23 mA	25 mA

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

Notes:

1. WJ-CA86 is a standard WJ-A86 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

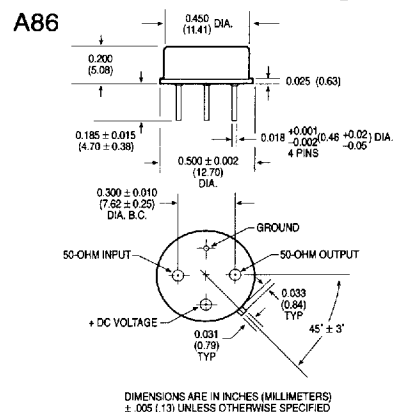
Second Order Harmonic Intercept Point.....+36 dBm (Typ.)
Second Order Two Tone Intercept Point.....+32 dBm (Typ.)
Third-Order Two Tone Intercept Point+20 dBm (Typ.)

Absolute Maximum Ratings

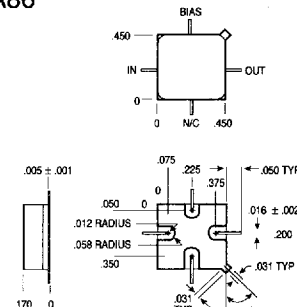
Storage Temperature.....-62°C to +125°C
Maximum Case Temperature.....125°C
Maximum DC Voltage.....8 Volts
Maximum Continuous RF Input Power.....+6 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....50 mW
Maximum Peak Power.....0.5 Watt (3 μsec Max.)
"S" Series Burn-In Temperature (Case).....125°C

Weight approximately 2.0 grams (0.07oz.)

Outline Drawings

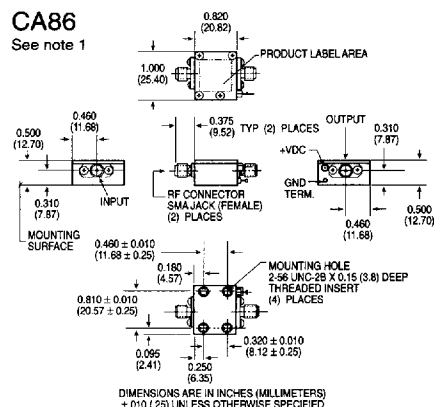


SMA86



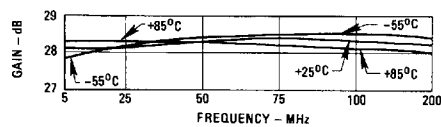
CA86

See note 1

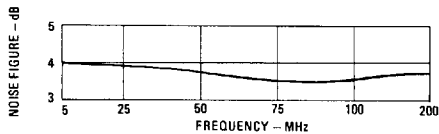


Typical Performance at 25°C

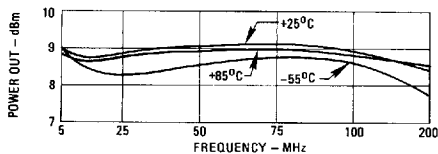
Gain



Noise Figure

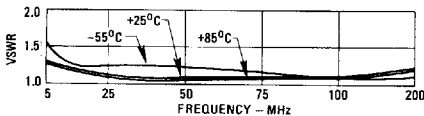


Power Output*

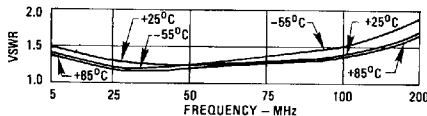


*at 1 dB Gain Compression

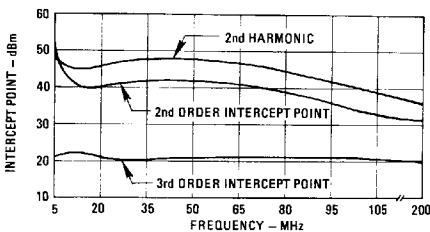
Input-VSWR



Output-VSWR



Intercept Point



Typical Automatic Test Data

V_{CC} = 5.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
2.0	1.7	3.2	27.6
5.0	1.3	1.5	27.8
10.0	1.2	1.3	27.8
50.0	1.1	1.3	28.1
100.0	1.1	1.2	28.1
150.0	1.1	1.2	28.1
200.0	1.1	1.4	28.0
250.0	1.1	1.8	27.6
300.0	1.1	2.5	27.1

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2.0	.250	159	23.926	45	.008	41	.528	121
5.0	.117	147	24.540	15	.012	12	.206	65
10.0	.084	149	24.630	5	.012	5	.145	39
50.0	.057	143	25.393	-19	.013	-3	.116	-19
100.0	.049	116	25.494	-42	.012	-6	.079	-69
150.0	.036	81	25.436	-65	.012	-11	.082	-152
200.0	.031	16	25.239	-89	.012	-14	.169	156
250.0	.046	-36	23.947	-113	.012	-21	.293	128
300.0	.065	-69	22.683	-139	.012	-24	.424	105

Thermal Data: V_{CC} = 5 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.027 W
 Junction Temperature Rise Above Case T_{jc} ... 1°C