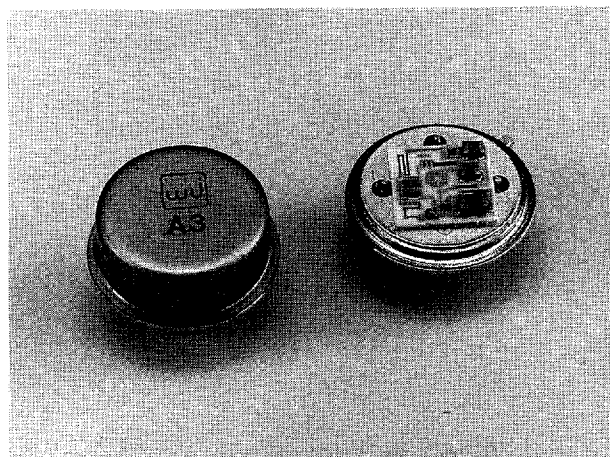


WJ-A3 / SMA3

5 to 500 MHz TO-8 CASCADABLE AMPLIFIER

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW NOISE: 3.3 dB (TYP.)
- ◆ LOW VSWR: 1.3:1 (TYP.)
- ◆ LOW DC CURRENT: 9 mA (TYP.) @ 15 VDC



Specifications*

Characteristics	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency (Min.)	4-550 MHz	5-500 MHz	5-500 MHz
Small Signal Gain (Min.)	15.5 dB	14 dB	13.5 dB
Gain Flatness (Max.)	±0.2 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	3.3 dB	4.0 dB	4.5 dB
Power Output			
at 1 dB Compression (Min.)	-1.0 dBm	-2.0 dBm	-3.0 dBm
VSWR (Max.) Input/Output	1.3:1	1.7:1	2.0:1
DC Current (Max.) at 15 Volts	9 mA	11 mA	12 mA

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

Notes:

1. WJ-CA3 is a standard WJ-A3 installed in a miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range.

Typical Intermodulation Performance at 25°C

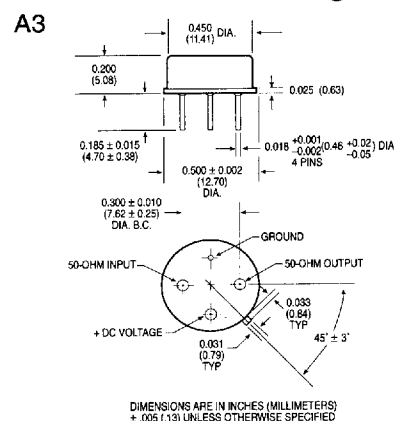
Second Order Harmonic Intercept Point.....	+17 dBm (Typ.)
Second Order Two Tone Intercept Point.....	+12 dBm (Typ.)
Third Order Two Tone Intercept Point.....	+11 dBm (Typ.)

Absolute Maximum Ratings

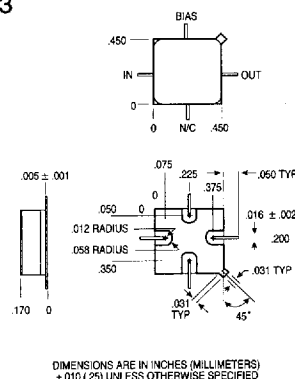
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage.....	+18 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term RF Input Power.....	50 Milliwatts (1 Minute Max.)
Maximum Peak Power.....	0.5 Watt (3μ Sec Max.)
"S" Series Burn-In Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)

Outline Drawings

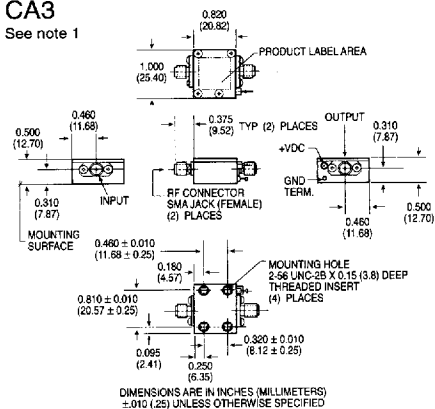


SMA3



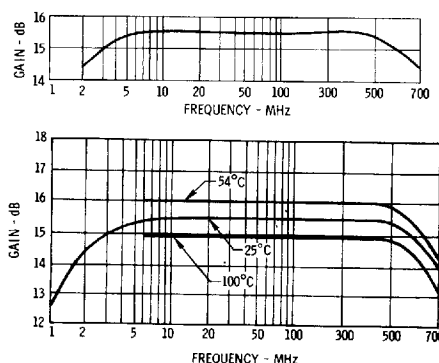
CA3

See note 1

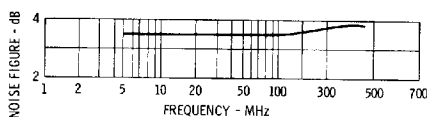


Typical Performance at 25°C

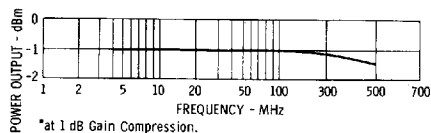
Gain



Noise Figure

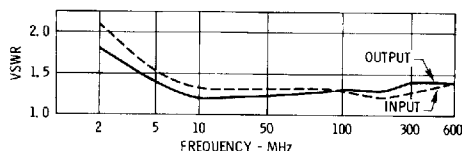


Power Output*



*at 1 dB Gain Compression.

VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
2.0	2.5	2.3	15.1
5.0	1.6	1.6	16.1
10.0	1.5	1.4	16.2
50.0	1.3	1.3	16.4
100.0	1.4	1.3	16.2
200.0	1.4	1.3	16.1
300.0	1.4	1.3	16.2
400.0	1.4	1.3	16.2
500.0	1.4	1.3	16.1
600.0	1.5	1.4	15.6
700.0	1.3	2.3	13.9

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2.0	0.434	-79	5.70	-147.6	0.13	-21.4	0.397	-81
5.0	0.236	-123	6.37	-167.8	0.10	-14.7	0.234	-127
10.0	0.194	-147	6.49	-175.9	0.09	-9.1	0.180	-150
50.0	0.138	161	6.59	167.8	0.09	-3.2	0.114	148
100.0	0.161	138	6.49	152.8	0.09	-3.0	0.147	126
200.0	0.162	101	6.40	126.1	0.10	-5.2	0.123	77
300.0	0.171	62	6.42	98.6	0.11	-10.7	0.135	27
400.0	0.183	22	6.43	69.7	0.11	-16.6	0.129	-11
500.0	0.172	-19	6.38	37.7	0.12	-23.7	0.112	-22
600.0	0.188	-62	6.03	1.4	0.13	-31.7	0.175	7
700.0	0.144	-97	4.98	-37.3	0.14	-42.2	0.392	-9

Thermal Data: V_{CC} = 15 Vdc

Thermal Resistance θ_{jc} 45°C/W
 Transistor Power Dissipation P_d 0.055 W
 Junction Temperature Rise Above Case T_{jc} ... 2°C