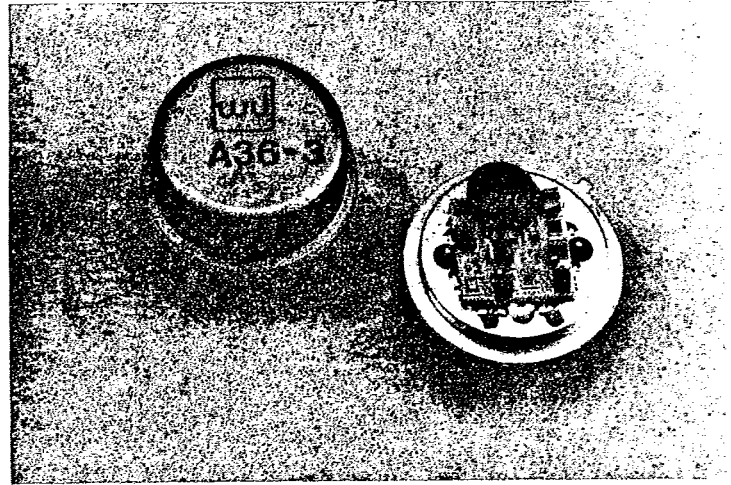


100 TO 3000 MHz TO-8 CASCADABLE AMPLIFIER

- **ULTRA-WIDE BANDWIDTH:**
100-3000 MHz
- **HIGH GAIN – TWO STAGES:**
15.0 dB (TYP.)
- **HIGH OUTPUT LEVEL:**
> +14 dBm, 2200-3000 MHz (TYP.)



Specifications

Characteristic	Typical	Guaranteed*	
		0°-50°C	-54°C - +85°C
Frequency (Min.)	80-3000 MHz	100-3000 MHz	100-3000 MHz
Small Signal Gain (Min.)	15.0 dB	14.0 dB	13.0 dB
Gain Flatness (Max.)	±0.5 dB	±0.9 dB	±1.2 dB
Noise Figure (Max.)	6.0 dB	7.0 dB	7.5 dB
Power Output at 1 dB Compression (Min.)			
100-2000 MHz	+12.0 dBm	+11.0 dBm	+11.0 dBm
2200-3000 MHz	+15.0 dBm	+13.0 dBm	+12.5 dBm
VSWR (Max.)			
Input	< 1.7:1	2.2:1	2.2:1
Output	< 2.0:1	2.5:1	2.5:1
DC Current (Max.) at 15 Volts	63 mA	64 mA	67 mA

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

Typical Intermodulation Performance at 25°C

Second Order Harmonic Intercept Point +40 dBm (Typ.)

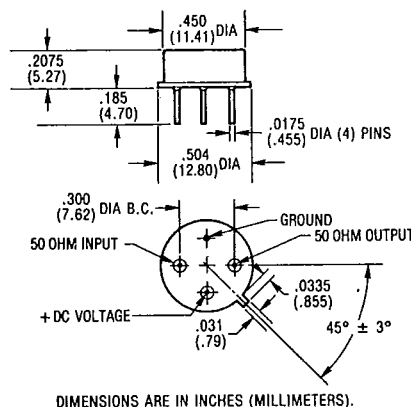
Second Order Two Tone Intercept Point +34 dBm (Typ.)

Third Order Two Tone
Intercept Point+24 dBm (Typ.)

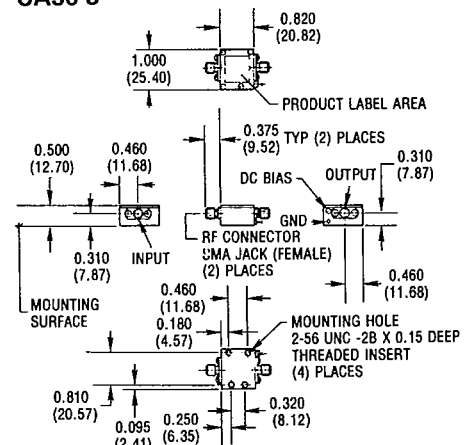
Weight 2.27 grams (0.08 oz.) maximum.

Outline Drawings

A36-3



CA36-3



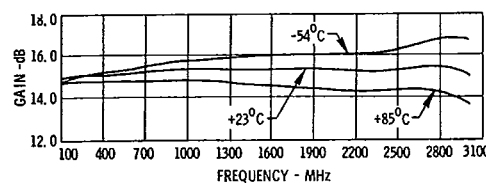
DIMENSIONS ARE IN INCHES (MILLIMETERS).

*WJ-CA36-3 is standard WJ-A36-3 installed in miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range. See Cascaded Thin Film Amplifiers.

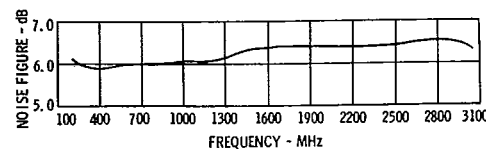
Typical Performance at 25°C

Typical Automatic Test Data

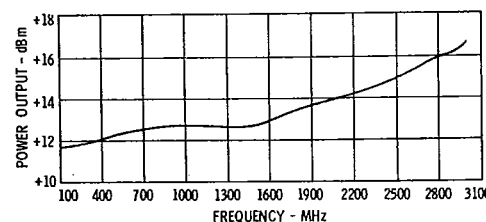
Gain



Noise Figure

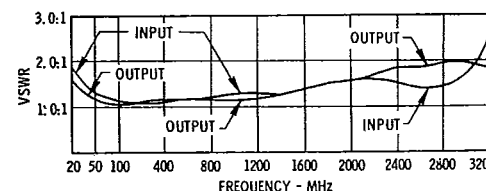


Power Output*

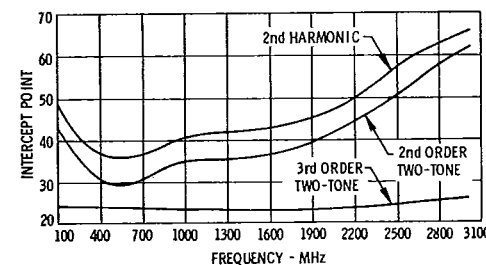


* @ 1 dB COMPRESSION

VSWR



Intercept Point



Vcc = 15 V

FREQ MHz	USUR IN	USUR OUT	GRIN DB				
100.	1.2	1.2	15.0	1600.	1.4	1.4	15.6
200.	1.2	1.2	15.1	1700.	1.5	1.5	15.6
300.	1.2	1.1	15.1	1800.	1.5	1.6	15.6
400.	1.2	1.1	15.2	1900.	1.5	1.6	15.5
500.	1.2	1.1	15.3	2000.	1.6	1.7	15.5
600.	1.3	1.1	15.3	2100.	1.6	1.8	15.6
700.	1.3	1.1	15.4	2200.	1.6	1.9	15.7
800.	1.3	1.2	15.4	2300.	1.6	1.9	15.7
900.	1.3	1.2	15.4	2400.	1.6	2.0	15.9
1000.	1.4	1.2	15.5	2500.	1.6	2.0	16.1
1100.	1.4	1.2	15.6	2600.	1.8	2.0	15.9
1200.	1.4	1.2	15.6	2700.	1.8	2.0	16.1
1300.	1.4	1.3	15.6	2800.	1.8	2.0	16.1
1400.	1.4	1.3	15.6	2900.	1.7	1.9	15.8
1500.	1.4	1.4	15.6	3000.	1.9	1.9	15.4
				3100.	2.3	1.8	15.1

Linear S-Parameters

FREQ MHz	S11 MAG	S11 ANG	S21 MAG	S21 ANG	S12 MAG	S12 ANG	S22 MAG	S22 ANG
100.	.07	-76.8	5.66	-7.3	.03	7.9	.10	-177.6
200.	.07	-77.1	5.70	-31.8	.03	-7.1	.08	164.0
300.	.08	-95.8	5.72	-52.1	.03	-18.6	.06	149.0
400.	.09	-110.7	5.75	-71.7	.03	-29.0	.06	128.0
500.	.11	-126.2	5.81	-91.5	.03	-39.2	.05	104.3
600.	.12	-140.0	5.85	-111.4	.03	-49.7	.06	82.3
700.	.13	-149.6	5.87	-131.2	.03	-59.8	.07	61.3
800.	.14	-162.6	5.88	-150.8	.03	-69.3	.08	46.6
900.	.14	-171.9	5.91	-170.6	.03	-78.0	.08	28.0
1000.	.15	-176.7	5.96	-189.6	.03	-88.0	.09	6.6
1100.	.15	-166.3	6.00	-149.8	.03	-99.1	.09	-18.4
1200.	.15	-156.5	6.04	-129.5	.03	-111.2	.10	-44.2
1300.	.16	-151.4	6.05	-109.4	.03	-123.8	.12	-68.1
1400.	.17	-143.1	6.05	-89.6	.03	-135.8	.14	-90.7
1500.	.17	-137.4	6.03	-69.5	.03	-146.9	.16	-110.5
1600.	.18	-128.8	6.05	-49.3	.03	-158.7	.18	-129.8
1700.	.19	-121.7	6.01	-30.2	.03	-169.8	.20	-149.2
1800.	.20	-114.3	6.02	-10.2	.03	-178.8	.22	-169.0
1900.	.21	-102.4	5.94	-9.4	.03	-167.6	.24	-171.8
2000.	.23	-92.5	5.96	-28.2	.03	-155.0	.26	-153.6
2100.	.24	-75.9	6.01	-49.5	.03	-144.4	.28	-131.1
2200.	.24	-61.6	6.08	-68.6	.03	-133.3	.31	-113.9
2300.	.24	-45.1	6.08	-88.6	.03	-122.0	.32	-97.5
2400.	.23	-26.8	6.23	-108.8	.03	-110.2	.33	-81.0
2500.	.22	-5.2	6.35	-130.1	.03	-100.4	.34	-64.7
2600.	.21	-21.3	6.22	-151.7	.03	-90.7	.34	-48.0
2700.	.20	-54.5	6.38	-174.7	.03	-79.3	.34	-31.4
2800.	.20	-92.1	6.35	-164.2	.03	-69.7	.33	-15.7
2900.	.25	-132.0	6.18	-140.2	.04	-59.5	.32	.3
3000.	.32	-167.2	5.86	-115.0	.04	-49.0	.31	-13.6
3100.	.40	-163.4	5.67	-92.4	.04	-35.7	.30	-26.6
3200.	.49	-137.3	5.15	-67.2	.04	-22.6	.29	-39.3

Deviation from Linear Phase, Gain and Group Delay

FREQ MHz	DEV LIN DEG	REL O DEG	GRIN DEV DB	RBS CHIN DB	GROUP DELAY N-SEC
100.	0.77	.00	-.50	15.05	.68
200.	-1.78	-24.48	-.43	15.12	.62
300.	-1.17	-44.81	-.41	15.15	.55
400.	-1.81	-64.37	-.36	15.20	.55
500.	-.65	-84.14	-.28	15.28	.55
600.	-.63	-104.06	-.21	15.34	.55
700.	-.50	-123.89	-.19	15.37	.55
800.	-.22	-143.51	-.17	15.39	.55
900.	-.07	-163.29	-.12	15.44	.55
1000.	.08	-183.07	-.06	15.50	.55
1100.	.23	-202.86	.01	15.56	.56
1200.	-.12	-223.14	.06	15.61	.56
1300.	-.35	-243.30	.08	15.63	.56
1400.	-.20	-263.09	.07	15.63	.56
1500.	-.36	-283.17	.05	15.60	.56
1600.	-.66	-303.40	.09	15.64	.55
1700.	.20	-322.47	.03	15.58	.54
1800.	.14	-342.47	.03	15.59	.55
1900.	.50	-362.04	-.07	15.48	.53
2000.	1.55	-380.92	-.06	15.50	.56
2100.	.24	-402.16	.02	15.58	.56
2200.	1.11	-421.23	.13	15.68	.54
2300.	.95	-441.32	.12	15.68	.56
2400.	.70	-461.50	.33	15.89	.58
2500.	-.65	-482.78	.50	16.06	.60
2600.	-2.29	-504.35	.32	15.87	.60