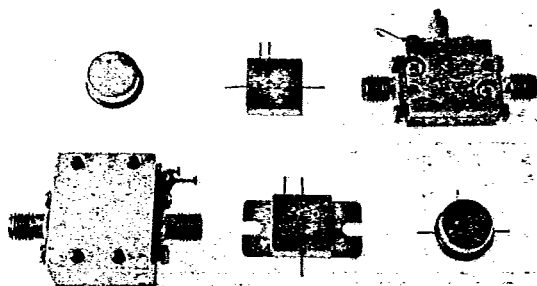


AH-33

T-7409-01



10 to 2000 MHz TO-8 Cascadable Amplifier

- Low Noise: +4.0dB
- Medium Output: +3.8dBm
- Various Package Options (see photo)
Surface Mounted (SMT0-8), Flatpack with flange (FPF), Connectorized (CAH), Connectorized Flatpack (CFP), Flatpack (FP), and TO-8 (AH)

Electrical Specifications

Measured in a 50-ohm system at +15 Vdc nominal

Characteristic	Typical 25°C	Guaranteed 0°C to +50°C	Specifications -54°C to +85°C
Frequency (MHz Min.)	10-2000	10-2000	10-2000
Small Signal Gain (dB Min.)	+12.0	+11.0	+10.0
Gain Flatness (dB Max.)	< ±0.5	±1.0	±1.0
Noise Figure (dB Max.)	+4.0	+5.5	+6.0
Power Output @ 1 dB Compression (dBm Min.)	+3.8	+2.0	+2.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+18.0	+13.0	+12.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+27.0	+23.0	+22.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+29.0	+27.0	+24.0
Input/Output VSWR (Max.)	<1.7:1	2.0:1	2.2:1
DC Current at 15 V (mA Max.)	+14.0	+16.0	+20.0

Maximum Ratings

Ambient Operating
Temperature -54°C to +100°C

Storage Temperature ... -62°C to +125°C

Maximum Case Temperature +125°C

Maximum DC Voltage +18.0V

Maximum Continuous RF Input
Power +13.0dBm

Maximum Short Term RF Input
Power +50.0 mW (1 minute Max.)

Maximum Peak
Power +0.5W (3μseconds Max.)

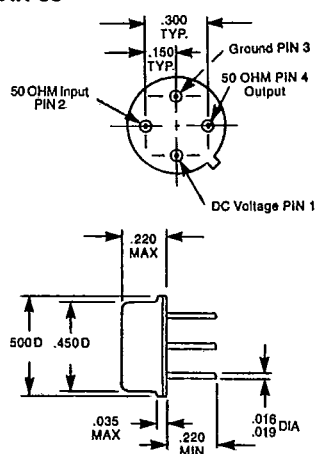
"X" Series Burn-In
Temperature +125°C

Weight +2.5 grams Max.

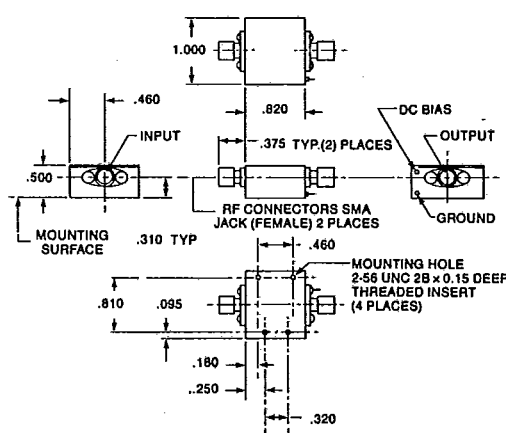
Outline Drawings

(For additional package configurations, see Section 9)

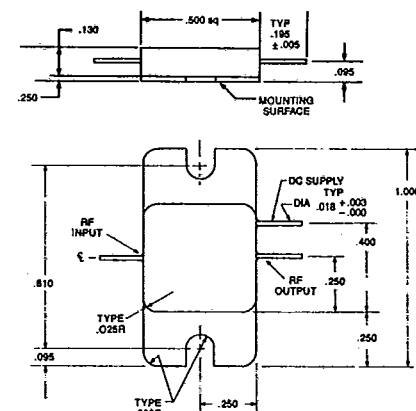
AH-33



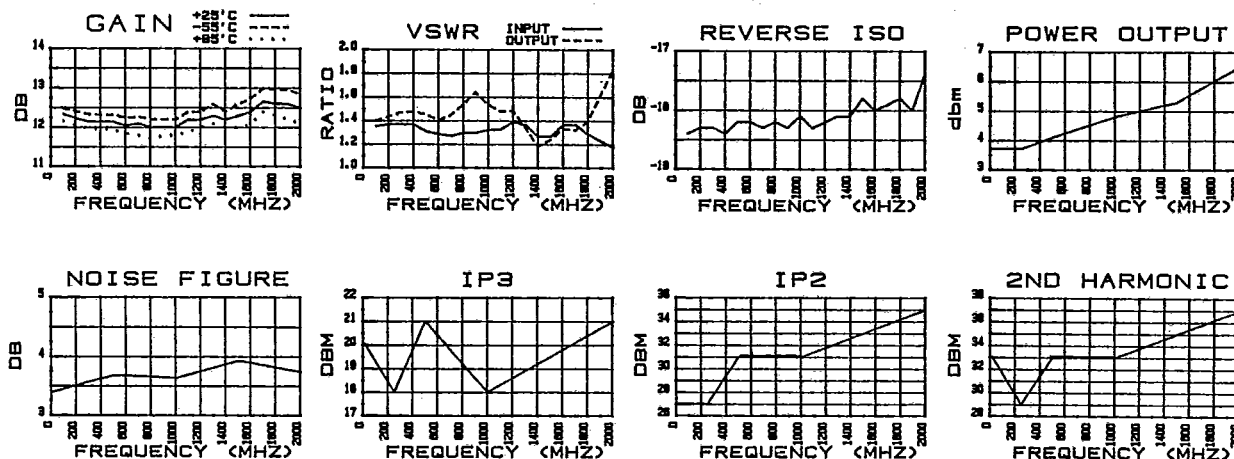
CAH-33



FPF-33



Typical Performance



AH-33 13.87 mA @15.0Vdc Linear S-Parameters

FREQUENCY MHz	RETURN LOSS INPUT (S11)		TRANS. GAIN FORWARD (S21)		TRANS. GAIN REVERSE (S12)		RETURN LOSS OUTPUT (S22)	
	dB	ANG	dB	ANG	dB	ANG	dB	ANG
100.000	-16.5	173.3	12.33	170.3	-18.40	-2.0	-15.6	164.8
200.000	-16.1	172.5	12.23	159.5	-18.30	-6.5	-15.0	141.8
300.000	-16.1	171.0	12.14	148.3	-18.30	-9.0	-14.4	119.3
400.000	-16.2	171.3	12.14	138.5	-18.40	-13.8	-14.3	101.0
500.000	-17.5	170.8	12.14	128.5	-18.20	-16.8	-14.7	76.0
600.000	-18.1	171.3	12.04	117.5	-18.20	-20.2	-15.5	53.3
700.000	-18.5	175.3	12.10	108.3	-18.30	-23.5	-14.8	32.3
800.000	-17.7	165.5	12.00	98.3	-18.20	-28.5	-13.5	27.3
900.000	-17.7	155.0	12.00	87.8	-18.30	-32.0	-12.3	22.0
1000.000	-17.1	151.8	12.00	79.0	-18.10	-34.5	-13.5	2.8
1100.000	-17.0	151.8	12.20	69.0	-18.30	-39.5	-14.3	-19.3
1200.000	-15.7	143.5	12.20	57.5	-18.20	-43.5	-14.2	-33.5
1300.000	-16.3	127.0	12.30	46.3	-18.10	-47.8	-16.7	-43.5
1400.000	-18.6	121.2	12.20	36.0	-18.10	-54.0	-21.5	-67.2
1500.000	-18.6	74.5	12.30	25.5	-17.80	-57.3	-19.4	-120.2
1600.000	-16.2	147.5	12.40	15.0	-18.00	-61.3	-16.9	-149.0
1700.000	-16.2	136.3	12.66	3.0	-17.90	-67.5	-17.2	-173.0
1800.000	-18.1	132.0	12.61	-10.2	-17.80	74.5	-15.7	158.0
1900.000	-19.8	49.3	12.60	-24.0	-18.00	-79.0	-12.6	128.3
2000.000	-21.9	101.3	12.50	-38.2	-17.40	-85.0	-10.7	104.5

Deviation from Linear Phase, Gain, Group Delay, and VSWR

FREQUENCY (MHz)	VSWR INPUT	DEV. LIN. 0 (DEG.)	GAIN DEV. (dB)	GROUP DELAY (n-SEC)	VSWR OUTPUT
100.000	1.352	-1.689	0.076	0.000	1.398
200.000	1.372	-1.790	-0.025	0.299	1.433
300.000	1.372	-2.392	-0.115	0.313	1.471
400.000	1.367	-1.493	-0.115	0.271	1.478
500.000	1.308	-0.844	-0.115	0.278	1.451
600.000	1.284	-1.195	-0.214	0.306	1.404
700.000	1.270	0.204	-0.154	0.257	1.445
800.000	1.300	0.853	-0.255	0.278	1.536
900.000	1.300	1.002	-0.254	0.292	1.641
1000.000	1.325	2.901	-0.254	0.243	1.536
1100.000	1.329	3.549	-0.055	0.278	1.478
1200.000	1.393	2.698	-0.055	0.319	1.484
1300.000	1.362	2.097	0.045	0.313	1.343
1400.000	1.266	2.496	-0.055	0.285	1.184
1500.000	1.266	2.645	0.045	0.292	1.240
1600.000	1.367	2.794	0.145	0.292	1.333
1700.000	1.367	1.443	0.405	0.333	1.320
1800.000	1.284	-1.158	0.356	0.368	1.393
1900.000	1.228	-4.260	0.346	0.382	1.612
2000.000	1.175	-7.861	0.246	0.396	1.824