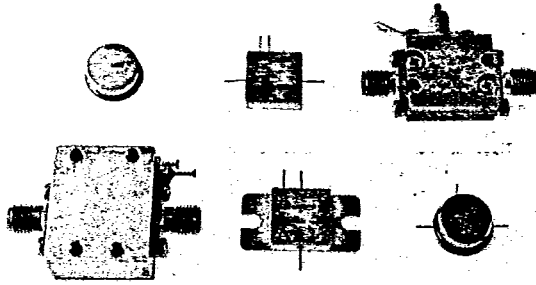


# AH-23

T-74-09-01



## 5 to 1500 MHz TO-8 Cascadable Amplifier

- Low Noise: + 4.0dB
- Medium Output: + 3.5dBm
- 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	Guaranteed	Specifications
	25°C	0°C to + 50°C	- 54°C to + 85°C
Frequency (MHz Min.)	5-1500	5-1500	5-1500
Small Signal Gain (dB Min.)	+ 12.5	+ 10.0	+ 9.5
Gain Flatness (dB Max.)	± 0.3	± 0.6	± 1.0
Noise Figure (dB Max.)	+ 4.0	+ 5.5	+ 6.0
Power Output @ 1 dB Compression (dBm Min.)	+ 3.5	+ 2.0	+ 2.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+ 16.0	+ 14.0	+ 12.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+ 20.0	+ 18.0	+ 15.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+ 25.0	+ 23.0	+ 20.0
Input/Output VSWR (Max.)	< 1.8:1	2.0:1	2.0:1
DC Current at 15 V (mA Max.)	+ 14.0	+ 16.0	+ 20.0

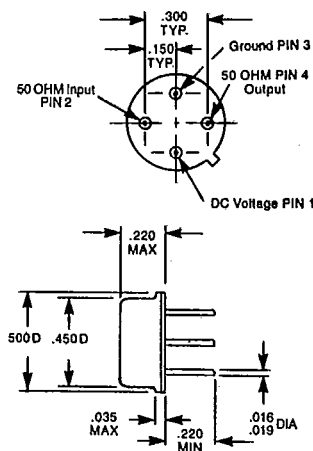
### Maximum Ratings

- 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 ..... + 17.0dBm (1 minute Max.)
- Maximum Peak Power ..... + 0.5W (3µseconds Max.)
- "X" Series Burn-In Temperature ..... + 125°C
- Weight ..... + 2.5 grams Max.

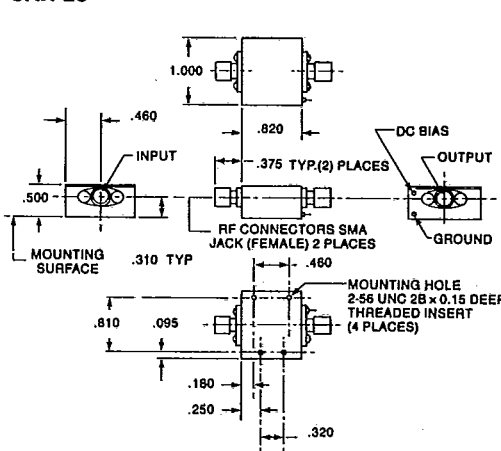
### Outline Drawings

(For additional package configurations, see Section 9)

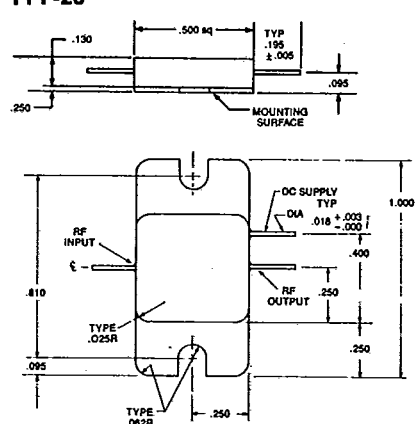
AH-23



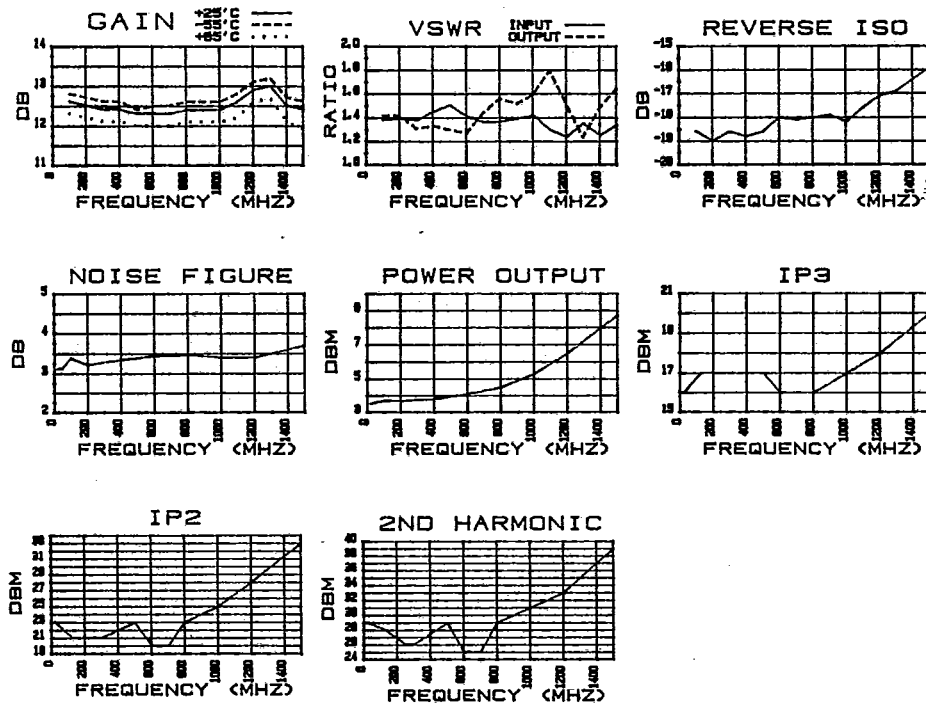
CAH-23



FPF-23



**Typical Performance**



**AH-23 14.4 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	-15.9	173.3	12.60	167.3	-18.60	-3.3	-15.3	165.3
200.000	-15.7	-179.5	12.50	153.0	-19.00	-13.3	-15.2	147.0
300.000	-16.0	-168.3	12.40	139.3	-18.60	-12.0	-17.5	118.3
400.000	-14.7	-170.8	12.40	126.3	-18.80	-15.2	-17.0	97.0
500.000	-13.9	175.3	12.30	113.0	-18.60	-19.0	-17.8	83.5
600.000	-15.4	176.5	12.30	98.5	-18.00	-21.0	-18.5	49.5
700.000	-16.3	-172.3	12.30	86.8	-18.10	-26.2	-14.9	2.3
800.000	-16.2	-179.3	12.40	72.5	-18.00	-32.5	-13.2	152.5
900.000	-15.7	169.3	12.40	58.5	-17.90	-37.5	-13.8	-38.7
1000.000	-15.2	167.0	12.40	44.0	-18.20	-43.3	-12.8	-77.8
1100.000	-17.8	174.8	12.60	28.5	-17.60	-49.3	-10.9	-110.0
1200.000	-19.5	96.0	12.90	12.2	-17.10	-36.5	-13.8	-125.8
1300.000	-16.5	60.5	13.00	-5.5	-16.90	-60.8	-19.6	-137.3
1400.000	-19.1	30.8	12.50	-22.8	-16.40	-72.0	-14.2	163.0
1500.000	-16.8	-118.5	12.40	-38.2	-15.90	-77.3	-12.3	146.5

**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	1.382	-3.221	0.107	0.000	1.415
200.000	1.393	-2.958	0.007	0.396	1.421
300.000	1.377	-2.196	-0.093	0.382	1.308
400.000	1.451	-0.683	-0.093	0.361	1.329
500.000	1.506	0.579	-0.193	0.368	1.296
600.000	1.409	0.592	-0.193	0.403	1.270
700.000	1.362	3.354	-0.193	0.326	1.439
800.000	1.367	3.617	-0.093	0.396	1.560
900.000	1.393	4.129	-0.093	0.389	1.513
1000.000	1.421	4.142	-0.093	0.403	1.594
1100.000	1.296	3.154	0.107	0.431	1.798
1200.000	1.237	1.417	0.407	0.451	1.513
1300.000	1.352	-1.821	0.507	0.493	1.234
1400.000	1.250	-4.558	0.007	0.479	1.484
1500.000	1.338	-5.546	-0.093	0.431	1.641