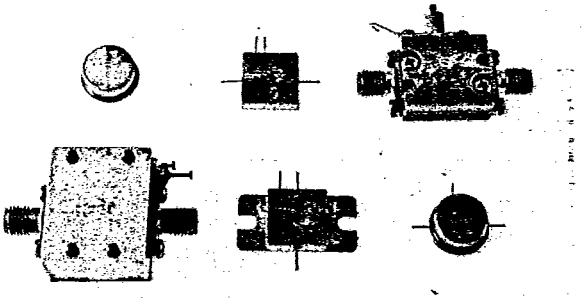
AH-522

B-74-09-51



10 to 500 MHz TO-8 Cascadable Amplifier

- Low Noise: +3.0dB
- Medium Gain: +15.0dB
- **Various Package Options (see photo)**
  Surface Mounted (SMTO-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.)	10-500	10-500	10-500
Small Signal Gain (dB Min.)	+15.0	+14.5	+14.0
Gain Flatness (dB Max.)	±0.3	±0.6	±1.0
Noise Figure (dB Max.)	+3.0	+3.5	+4.0
Power Output @ 1 dB Compression (dBm Min.)	0	−1.0	−2.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+10.0	+9.0	+8.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+15.0	+14.0	+12.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+21.0	+20.0	+18.0
Input/Output VSWR (Max.)	<1.6:1	1.8:1	2.0:1
DC Current at 15 V (mA Max.)	+12.0	+14.0	+16.0

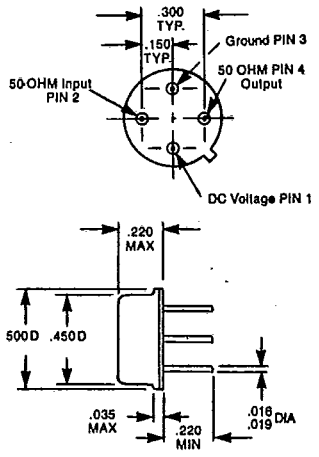
Maximum Ratings

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.

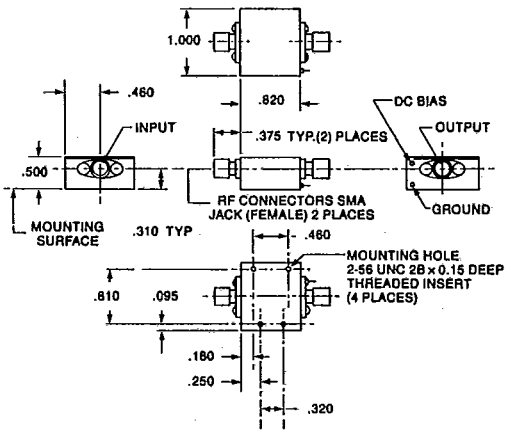
Outline Drawings

(For additional package configurations, see Section 9)

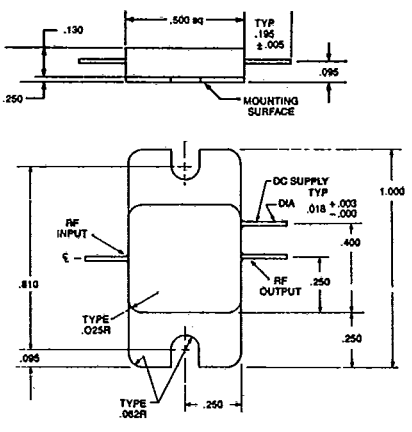
AH-522



CAH-522

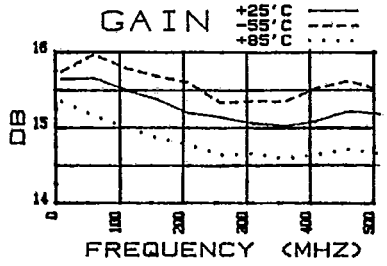


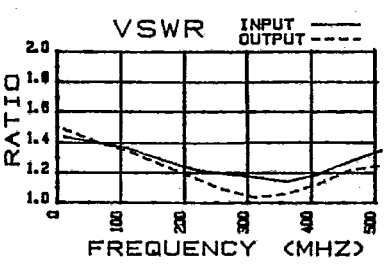
FPF-522

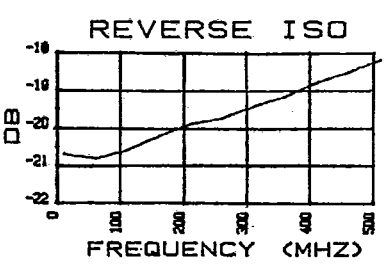


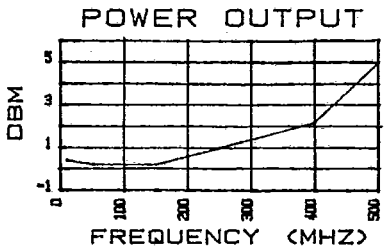
B-74-09-51 **AH-522**

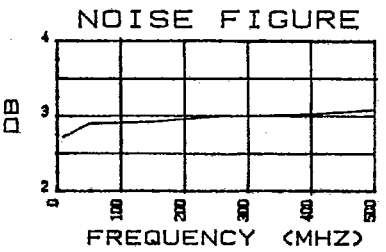
Typical Performance

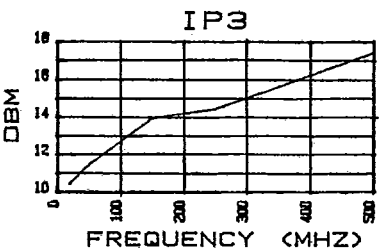


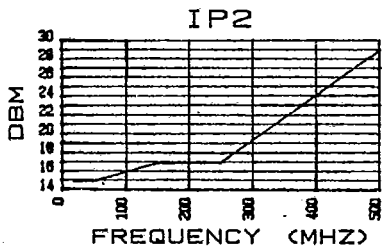


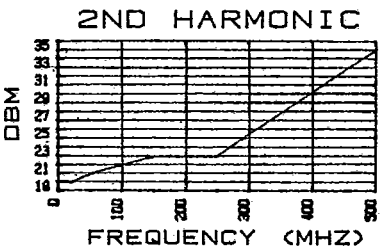












AH-522 *11.4 mA* @15.0Vdc

Linear S-Parameters

FREQUENCY	RETURN LOSS INPUT (S11)		TRANS. GAIN FORWARD (S21)		TRANS. GAIN REVERSE (S12)		RETURN LOSS OUTPUT (S22)	
MHz	dB	ANG	dB	ANG	dB	ANG	dB	ANG
10.000	-15.0	-154.4	15.64	-173.7	-20.72	-4.6	-14.2	-149.7
60.000	-15.6	178.8	15.66	165.7	-20.83	1.6	-15.6	169.6
110.000	-16.4	170.2	15.50	151.4	-20.60	3.9	-16.8	151.7
160.000	-18.1	157.2	15.37	134.9	-20.22	5.3	-19.1	127.5
210.000	-20.1	158.7	15.18	125.3	-19.91	5.8	-22.2	115.1
260.000	-21.4	169.5	15.13	112.0	-19.75	5.3	-28.2	124.0
310.000	-22.5	-174.2	15.05	99.2	-19.44	5.0	-36.5	172.6
360.000	-24.0	-155.4	15.02	82.3	-19.17	4.6	-31.6	-118.0
410.000	-21.4	-136.8	15.09	71.3	-18.80	3.9	-25.2	-137.5
460.000	-18.5	-134.1	15.22	55.3	-18.53	2.9	-20.5	-169.5
510.000	-16.7	-144.7	15.18	37.2	-18.20	0.7	-19.3	149.1

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
10.000	1.430	4.495	0.363	0.000	1.481
60.000	1.397	-1.991	0.382	1.147	1.400
110.000	1.357	-2.106	0.223	0.793	1.339
160.000	1.286	-4.463	0.094	0.918	1.251
210.000	1.218	0.110	-0.091	0.533	1.167
260.000	1.186	1.059	-0.145	0.734	1.081
310.000	1.163	2.370	-0.225	0.714	1.030
360.000	1.134	-0.343	-0.260	0.938	1.054
410.000	1.186	2.856	-0.190	0.609	1.117
460.000	1.270	0.944	-0.056	0.893	1.209
510.000	1.345	-2.931	-0.096	1.002	1.243