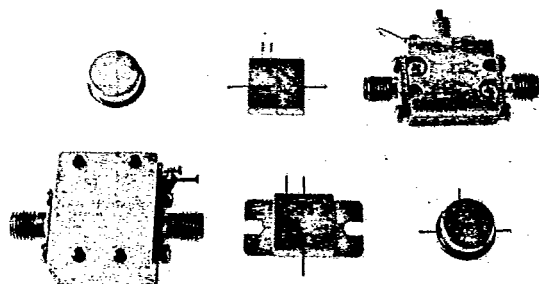


AH-521

B-74-09-51



10 to 500 MHz TO-8 Cascadable Amplifier

- Medium Output: +8.5dB
- Low Noise: 3.5dB
- Various Package Options (see photo)
Surface Mounted (SMT-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 +12 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.)	+15.5	+15.0	+14.0
Gain Flatness (dB Max.)	±0.5	±1.0	±1.0
Noise Figure (dB Max.)	+3.5	+4.0	+4.5
Power Output @ 1 dB Compression (dBm Min.)	+8.5	+7.0	+5.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+20.0	+18.0	+15.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+29.0	+28.0	+25.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+34.0	+33.0	+31.0
Input/Output VSWR (Max.)	1.5:1	2.0:1	2.0:1
DC Current at 12 V (mA Max.)	+21.0	+23.0	+30.0

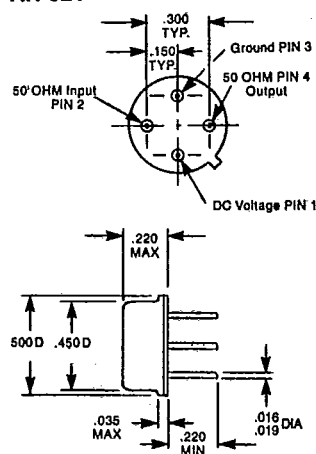
Maximum Ratings

Ambient Operating Temperature	-54°C to +100°C
Storage Temperature ...	-54°C to +125°C
Maximum Case Temperature	+100°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	+100°C
Weight	+2.5 grams Max.

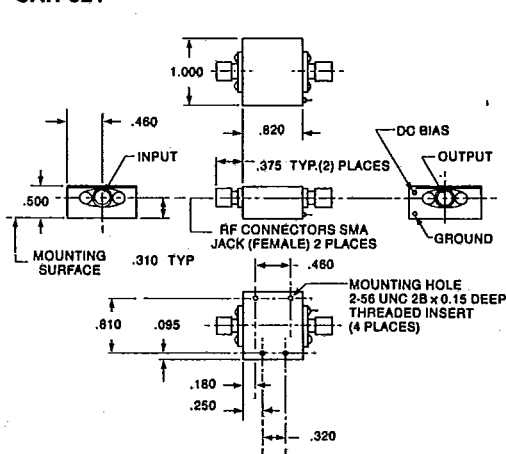
Outline Drawings

(For additional package configurations, see Section 9)

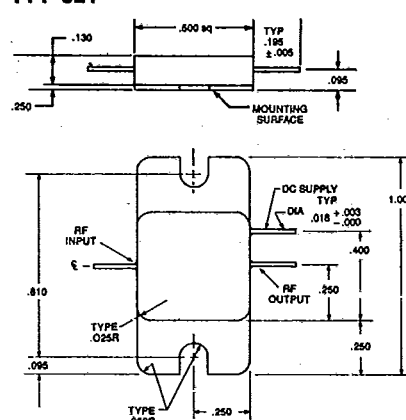
AH-521



CAH-521

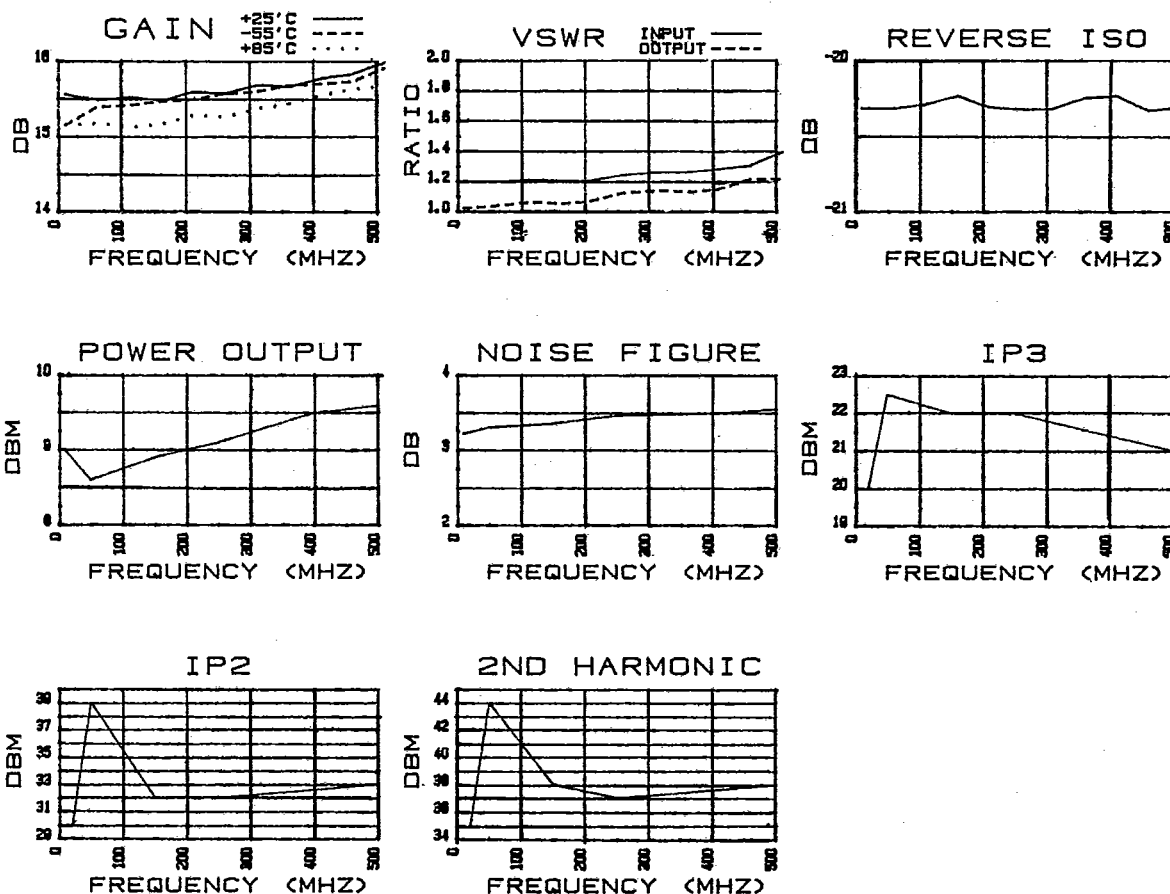


FPF-521



B-74-09-51 AH-521

Typical Performance



AH-521 20.9 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
10.000	-20.8	-159.7	15.55	-176.3	-20.31	3.9	-38.6	83.0
60.000	-20.8	-177.7	15.48	-171.6	-20.31	-3.2	-34.2	-82.4
110.000	-20.3	175.2	15.51	162.5	-20.29	-3.4	-30.1	-99.6
160.000	-20.7	159.6	15.46	150.6	-20.23	-9.8	-31.6	-97.4
210.000	-20.5	157.5	15.58	145.5	-20.31	-12.9	-29.0	-106.5
260.000	-19.2	157.0	15.56	136.3	-20.32	-16.1	-24.4	-129.0
310.000	-18.6	153.7	15.68	127.5	-20.31	-19.2	-23.6	-130.4
360.000	-18.6	141.1	15.65	115.3	-20.24	-22.3	-24.1	-131.7
410.000	-18.0	137.1	15.76	109.7	-20.23	-25.4	-23.0	-139.0
460.000	-17.4	134.0	15.82	100.3	-20.33	-28.7	-20.1	-152.0
510.000	-15.5	129.1	15.98	90.6	-20.30	-32.3	-20.0	-166.0

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	1.200	2.573	-0.092	0.000	1.024
60.000	1.200	-0.498	-0.162	0.674	1.040
110.000	1.213	-0.446	-0.125	0.501	1.064
160.000	1.204	-3.313	-0.178	0.663	1.054
210.000	1.210	0.641	-0.054	0.284	1.074
260.000	1.247	0.494	-0.080	0.512	1.128
310.000	1.266	0.786	0.038	0.488	1.142
360.000	1.267	-2.332	0.009	0.677	1.133
410.000	1.288	1.147	0.123	0.311	1.152
460.000	1.311	0.745	0.184	0.526	1.218
510.000	1.401	0.202	0.338	0.534	1.222