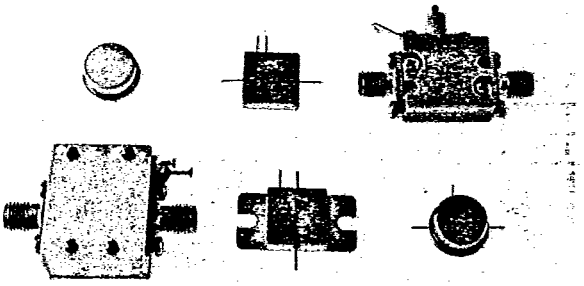
AH-3

T-74-09-01



5 to 500 MHz TO-8 Cascadable Amplifier

- High Gain: +15.5dB
- Low Noise: +3.0dB
- **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.)	5-500	5-500	5-500
Small Signal Gain (dB Min.)	+15.5	+14.0	+14.0
Gain Flatness (dB Max.)	±0.4	±0.8	±1.0
Noise Figure (dB Max.)	+3.0	+4.0	+4.5
Power Output @ 1 dB Compression (dBm Min.)	+1.0	−2.0	−3.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+13.0	+8.0	+7.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+16.0	+15.0	+13.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+24.0	+22.0	+18.0
Input/Output VSWR (Max.)	<1.6:1	1.8:1	2.0:1
DC Current at 15 V (mA Max.)	+12.0	+13.0	+18.0

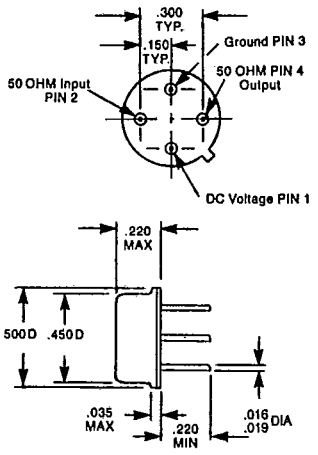
Maximum Ratings

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.

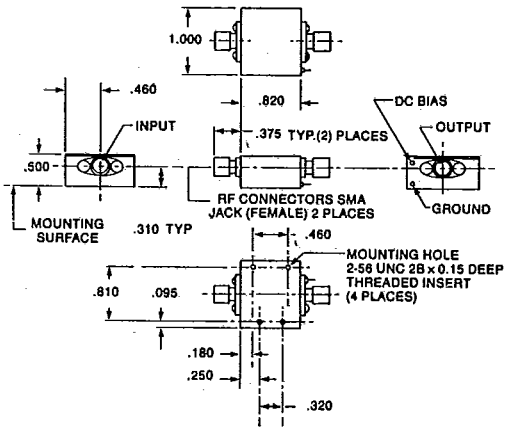
Outline Drawings

(For additional package configurations, see Section 9)

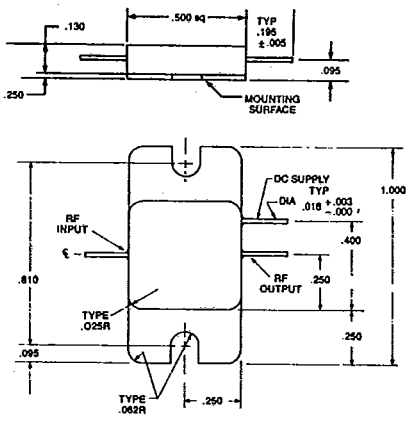
AH-3



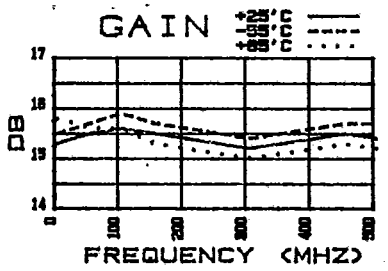
CAH-3

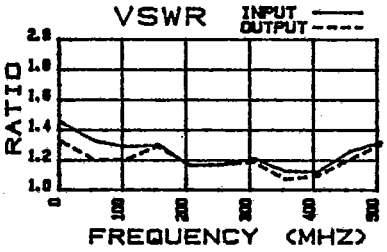


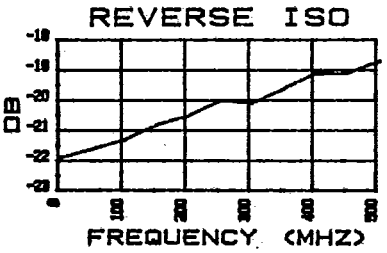
FPF-3

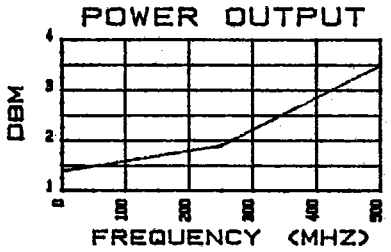


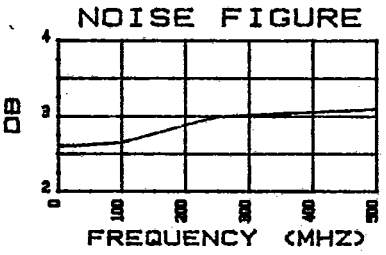
Typical Performance

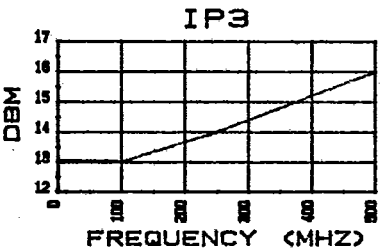


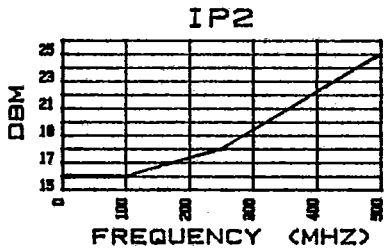


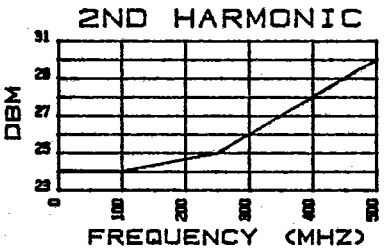












AH-3 *12.1 mA* @15.0Vdc
Linear S-Parameters

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
5.000	-14.8	-164.3	15.30	178.5	-21.90	-4.2	-17.2	-157.8
55.000	-17.1	146.5	15.50	159.0	-21.60	-4.0	-20.7	126.8
105.000	-18.0	128.7	15.60	140.0	-21.30	-5.0	-20.7	110.0
155.000	-17.6	124.8	15.50	122.5	-20.80	-8.7	-17.8	95.8
205.000	-22.4	111.5	15.40	104.3	-20.50	-12.2	-22.4	68.3
255.000	-22.3	113.0	15.30	88.0	-20.00	-18.5	-22.0	57.8
305.000	-20.4	116.3	15.20	70.5	-20.10	-22.8	-21.3	81.5
355.000	-24.6	152.5	15.30	53.3	-19.60	-29.5	-29.1	112.5
405.000	-25.0	147.5	15.40	34.2	-19.10	-34.5	-26.8	129.5
455.000	-18.9	159.3	15.50	14.2	-19.10	3.5	-20.7	96.2
505.000	-17.2	158.3	15.40	-7.0	-18.70	-46.3	-17.6	103.5

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
5.000	1.445	0.727	-0.100	0.000	1.320
55.000	1.325	-0.627	0.100	1.083	1.203
105.000	1.288	-1.482	0.200	1.056	1.203
155.000	1.304	-0.836	0.100	0.972	1.296
205.000	1.164	-0.941	-0.000	1.014	1.164
255.000	1.166	0.955	-0.100	0.903	1.173
305.000	1.211	1.600	-0.200	0.972	1.188
355.000	1.125	2.495	-0.100	0.958	1.073
405.000	1.119	1.641	0.000	1.056	1.096
455.000	1.256	-0.214	0.100	1.111	1.203
505.000	1.320	-3.318	-0.000	1.181	1.304