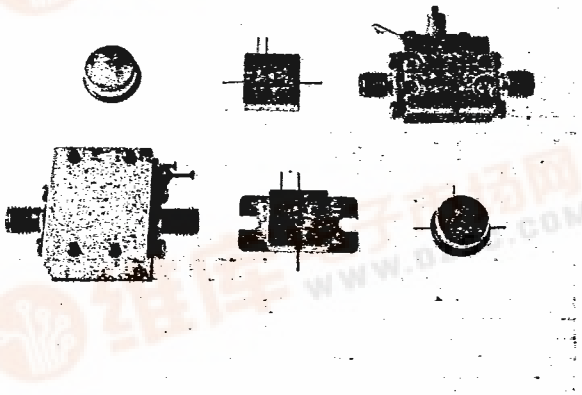
AH-37

T-74-09-01



10 to 2000 MHz TO-8 Cascadable Amplifier

- High Output: +16.0dB
- Third Order: +31.0dBm
- Wideband: 10–2000 MHz
- **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.)	10-2000	10-2000	10-2000
Small Signal Gain (dB Min.)	+10.0	+9.0	+7.5
Gain Flatness (dB Max.)	±0.5	±0.8	±1.0
Noise Figure (dB Max.)	+7.5	+8.0	+8.5
Power Output @ 1 dB Compression (dBm Min.)	+16.0	+14.0	+13.5
Two Tone 3rd Order Intercept Point (dBm Min.)	+31.0	+24.0	+24.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+41.0	+36.0	+34.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+47.0	+44.0	+39.0
Input/Output VSWR (Max.)	<1.6:1	2.0:1	2.0:1
DC Current at 15 V (mA Max.)	+53.0	+55.0	+60.0

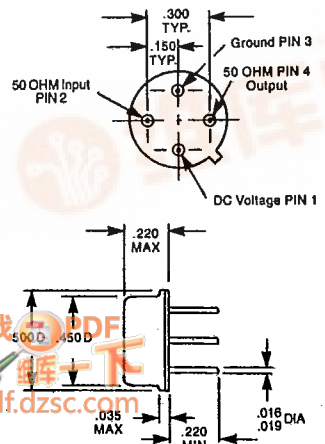
Maximum Ratings

Ambient Operating Temperature ..... −54°C to +100°C
Storage Temperature ... −62°C to +125°C
Maximum Case Temperature ..... +105°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.

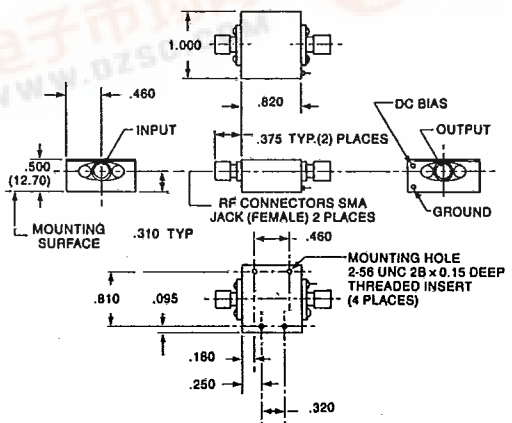
Outline Drawings

(For additional package configurations, see Section 9)

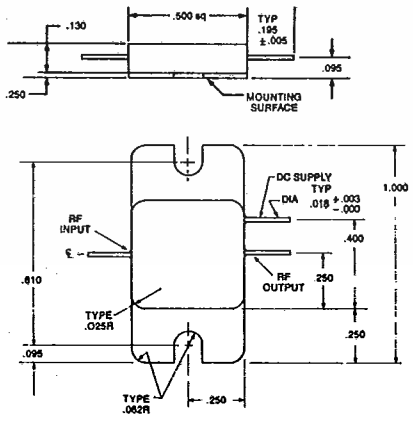
AH-37



CAH-37

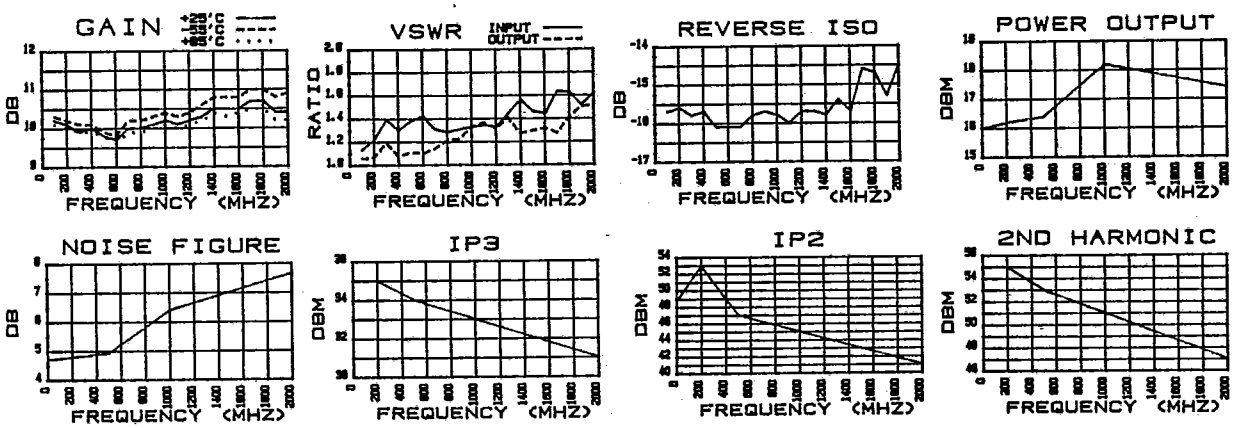


FPF-37



AH-37

Typical Performance



AH-37 *52.8 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
100.000	-24.2	159.8	10.20	159.8	-15.70	-10.7	-31.8	14.5
200.000	-20.1	150.8	10.10	138.8	-15.60	-25.8	-30.1	100.3
300.000	-15.7	133.0	9.90	118.5	-15.80	-39.0	-21.3	98.8
400.000	-17.7	120.8	10.00	98.0	-15.70	-15.5	-29.1	69.8
500.000	-15.9	122.8	9.80	79.0	-16.10	-64.8	-26.0	90.8
600.000	-15.2	123.8	9.70	59.5	-16.10	-78.0	-26.6	41.0
700.000	-17.6	121.8	10.00	41.0	-16.10	-89.3	-23.7	-106.0
800.000	-18.2	116.0	10.00	19.5	-15.80	-104.0	-20.4	-124.3
900.000	-17.5	76.5	10.10	-1.3	-15.70	-116.0	-20.0	-149.8
1000.000	-17.1	-63.8	10.20	-20.5	-15.80	-128.5	-17.1	170.8
1100.000	-16.7	61.8	10.10	-40.7	-16.00	-142.0	-16.3	156.3
1200.000	-17.1	25.3	10.20	-60.5	-15.70	-156.3	-17.5	160.3
1300.000	-14.8	4.5	10.30	-81.3	-15.70	-170.0	-15.5	110.0
1400.000	-13.2	-17.0	10.50	-100.5	-15.80	176.3	-18.6	61.7
1500.000	-14.6	-32.0	10.50	-121.8	-15.40	164.0	-17.9	66.5
1600.000	-14.9	-66.5	10.50	-143.8	-15.70	149.8	-17.4	0.0
1700.000	-12.4	-82.5	10.70	-166.3	-14.60	134.5	-18.5	-57.0
1800.000	-12.5	-100.0	10.70	173.8	-14.70	122.3	-15.4	134.8
1900.000	-13.8	-122.3	10.40	150.3	-15.30	104.3	-14.0	-98.5
2000.000	-12.5	-154.5	10.40	126.8	-14.50	91.0	-13.8	-131.3

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	1.131	-1.746	-0.015	0.000	1.053
200.000	1.219	-2.317	-0.115	0.583	1.065
300.000	1.393	-2.137	-0.315	0.563	1.188
400.000	1.300	-2.207	-0.215	0.569	1.073
500.000	1.382	-0.777	-0.415	0.528	1.106
600.000	1.421	0.153	-0.515	0.542	1.098
700.000	1.304	2.083	-0.215	0.514	1.140
800.000	1.281	1.013	-0.215	0.597	1.211
900.000	1.308	0.693	-0.115	0.576	1.222
1000.000	1.325	1.873	-0.015	0.535	1.325
1100.000	1.343	2.052	-0.115	0.563	1.362
1200.000	1.325	2.732	-0.015	0.549	1.308
1300.000	1.445	2.412	0.085	0.576	1.404
1400.000	1.560	3.592	0.285	0.535	1.266
1500.000	1.458	2.772	0.285	0.590	1.292
1600.000	1.439	1.202	0.285	0.611	1.312
1700.000	1.631	-0.868	0.485	0.625	1.270
1800.000	1.622	-0.438	0.485	0.556	1.409
1900.000	1.513	-3.508	0.185	0.653	1.499
2000.000	1.622	-6.579	0.185	0.653	1.513