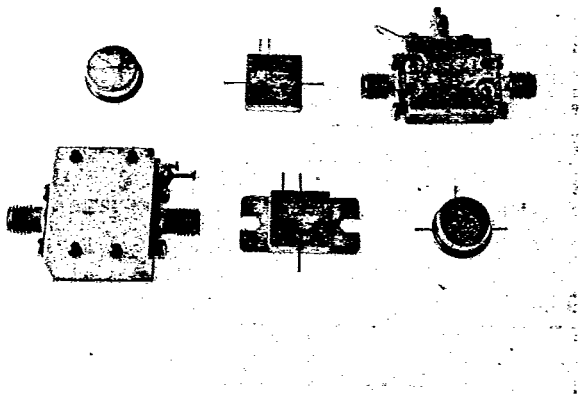
AP-1

T-74-09-01
B-74-09-51



10 to 100 MHz TO-8 Cascadable Amplifier

- High Output: 27.0dBm
- High Dynamic Range
- 24 Volt Supply
- **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 + 24 Vdc nominal

Characteristic	Typical 25°C	Guaranteed 0°C to +50°C	Specifications −54°C to +71°C
Frequency (MHz Min.)	10-100	10-100	10-100
Small Signal Gain (dB Min.)	+13.7	+13.0	+11.5
Gain Flatness (dB Max.)	±0.2	±0.7	±1.0
Noise Figure (dB Max.)	+7.0	+8.0	+10.0
Power Output @ 1 dB Compression (dBm Min.)	+27.0	+26.0	+24.5
Two Tone 3rd Order Intercept Point (dBm Min.)	+35.0	+33.0	+31.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+45.0	+43.0	+40.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+53.0	+51.0	+49.0
Input/Output VSWR (Max.)	<1.6:1	2.0:1	2.0:1
DC Current at 24 V (mA Max.)	+101	+105	+110

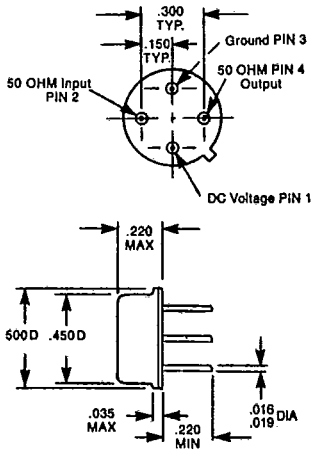
Maximum Ratings

Ambient Operating Temperature ..... −54°C to +71°C
Storage Temperature ... −62°C to +125°C
Maximum Case Temperature ..... +85°C
Maximum DC Voltage ..... +25.0V
Maximum Continuous RF Input Power ..... +100.0 mW
Maximum Short Term RF Input Power ..... +200.0 mW (1 minute Max.)
Maximum Peak Power ..... +0.5W (3µseconds Max.)
"X" Series Burn-In Temperature ..... +71°C
Weight ..... +2.5 grams Max.

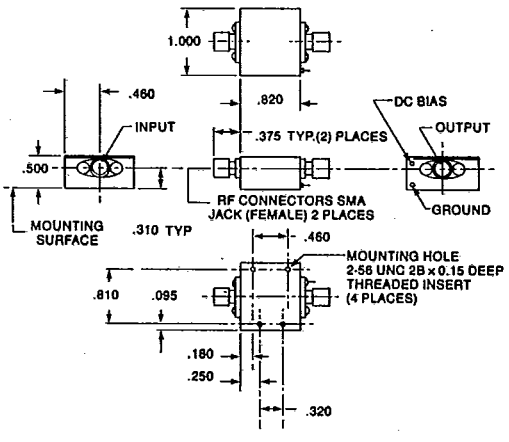
Outline Drawings

(For additional package configurations, see Section 9)

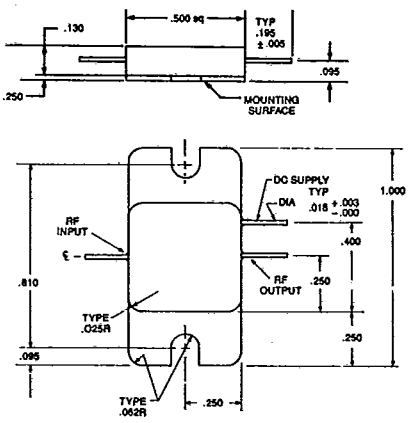
AP-1



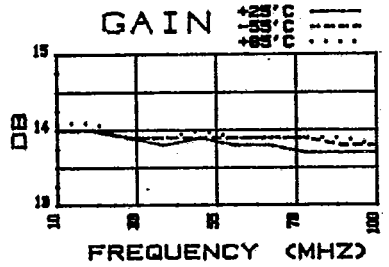
CAP-1

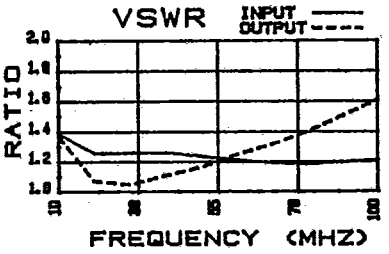


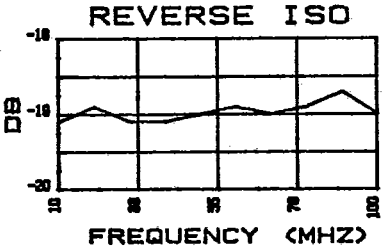
FPF-1

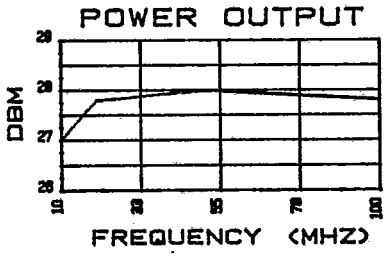


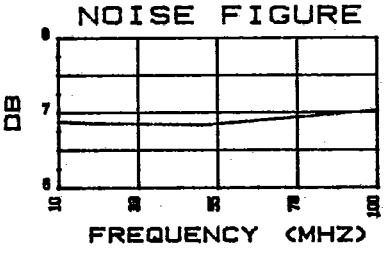
Typical Performance

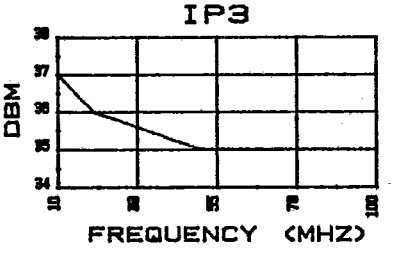


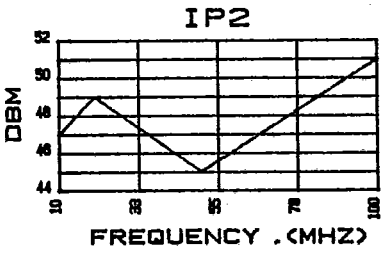


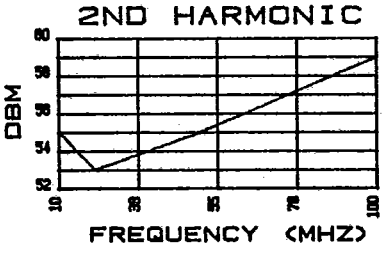












AP-1 *100.6 mA* @24.0Vdc
Linear S-Parameters

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	-15.9	-136.3	14.00	-169.8	-19.10	14.5	-16.2	104.3
20.000	-19.0	-152.8	14.00	-179.5	-18.90	6.5	-29.4	88.8
30.000	-18.8	-159.8	13.90	175.5	-19.10	2.8	-33.0	-92.8
40.000	-18.8	34.2	13.80	171.5	-19.10	1.5	-25.6	-103.3
50.000	-19.6	-178.8	13.90	168.5	-19.00	2.0	-22.5	-100.8
60.000	-20.5	173.8	13.80	165.5	-18.90	1.0	-19.2	-100.3
70.000	-21.2	166.3	13.80	162.5	-19.00	1.5	-17.3	-100.0
80.000	-21.6	160.5	13.70	159.5	-18.90	0.0	-15.6	-101.8
90.000	-20.9	158.3	13.70	156.5	-18.70	-1.8	-13.9	-105.3
100.000	-20.4	160.3	13.70	153.8	-19.00	-1.0	-12.6	-108.5

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
10.000	1.382	5.309	0.170	0.000	1.367
20.000	1.253	-0.765	0.170	2.708	1.070
30.000	1.259	-2.089	0.070	1.389	1.046
40.000	1.259	-2.414	-0.030	1.111	1.111
50.000	1.234	-1.738	0.070	0.833	1.162
60.000	1.208	-1.062	-0.030	0.833	1.246
70.000	1.191	-0.386	-0.030	0.833	1.316
80.000	1.181	0.289	-0.130	0.833	1.398
90.000	1.198	0.965	-0.130	0.833	1.506
100.000	1.211	1.891	-0.130	0.764	1.612