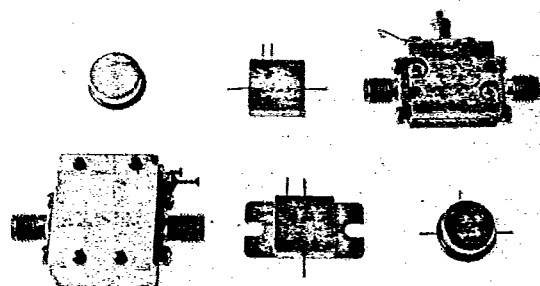


AP-10

B-74-09-51



10 to 1000 MHz TO-8 Cascadable Amplifier

- **High Output: +22.0dBm**
- **Medium Gain: +9.7dB**
- **High Third Order IP: +34.0dBm Typical**
- **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	Guaranteed	Specifications
	25°C	0°C to +50°C	-54°C to +85°C
Frequency (MHz Min.)	10-1000	10-1000	10-1000
Small Signal Gain (dB Min.)	+9.7	+9.5	+9.0
Gain Flatness (dB Max.)	±0.3	±0.7	±1.0
Noise Figure (dB Max.)	+8.0	+9.5	+10.0
Power Output @ 1 dB Compression (dBm Min.)	+22.0	+20.0	+20.0
Two Tone 3rd Order Intercept Point (dBm Min.)	+34.0	+32.0	+29.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+52.0	+50.0	+45.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+58.0	+56.0	+50.0
Input/Output VSWR (Max.)	<1.8:1	1.9:1	2.0:1
DC Current at 15 V (mA Max.)	+101	+106	+110

Maximum Ratings

Ambient Operating Temperature -54°C to +85°C

Storage Temperature ... -62°C to +125°C

Maximum Case Temperature +95°C

Maximum DC Voltage +18.0V

Maximum Continuous RF Input Power +50.0 mW

Maximum Short Term RF Input Power +100.0 mW (1 minute Max.)

Maximum Peak Power +0.5W (3μseconds Max.)

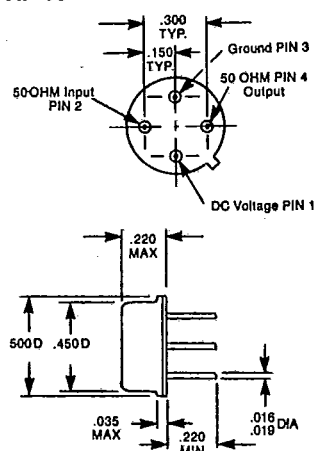
"X" Series Burn-In Temperature +85°C

Weight +2.5 grams Max.

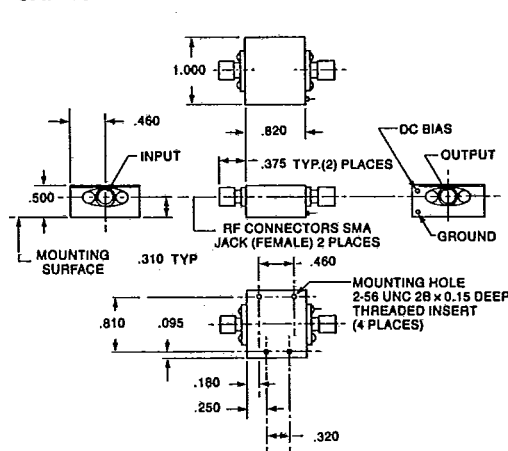
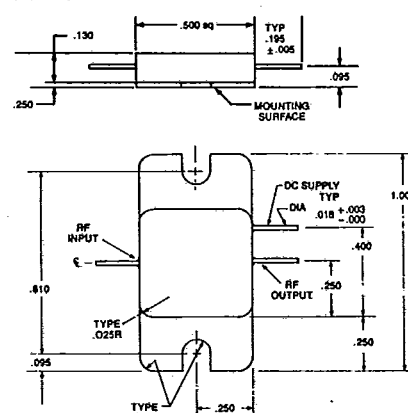
Outline Drawings

(For additional package configurations, see Section 9)

AP-10

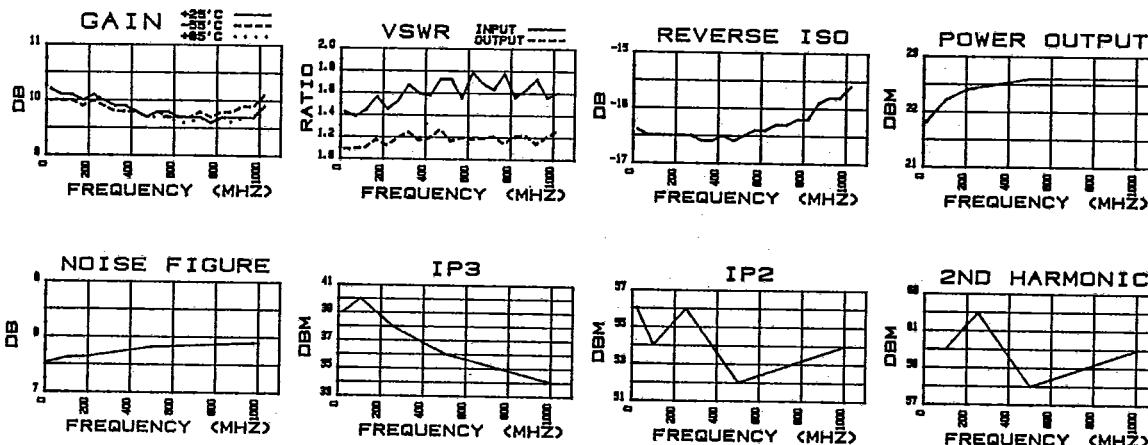


CAP-10

**FPF-10**

B-74-09-51 AP-10

Typical Performance



AP-10 101.2 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
20.000	-15.2	-172.0	10.20	177.0	-16.40	0.0	-27.7	130.5
70.000	-15.9	170.5	10.10	162.3	-16.50	-9.7	-27.1	92.8
120.000	-14.8	164.0	10.10	148.3	-16.50	-18.0	-26.4	105.3
170.000	-13.2	156.8	10.00	135.8	-16.50	-26.0	-21.9	93.8
220.000	-14.7	152.8	10.10	123.3	-16.50	-33.0	-24.9	57.0
270.000	-13.6	142.0	10.00	110.3	-16.50	-41.3	-21.2	49.8
320.000	-12.0	133.8	9.90	97.5	-16.60	-48.8	-19.3	59.8
370.000	-12.8	132.0	9.90	85.3	-16.60	-56.0	-22.2	29.3
420.000	-13.0	116.3	9.80	72.3	-16.50	-64.5	-21.2	3.3
470.000	-11.5	113.0	9.70	59.5	-16.60	-71.3	-18.5	5.2
520.000	-11.5	106.5	9.80	47.3	-16.50	-78.8	-22.5	-1.3
570.000	-13.3	95.8	9.80	34.7	-16.40	-86.5	-20.9	-53.0
620.000	-11.0	87.8	9.70	21.8	-16.40	-94.5	-21.6	-51.3
670.000	-11.9	82.0	9.70	9.5	-16.30	-101.8	-21.2	-62.0
720.000	-12.4	78.8	9.70	-3.3	-16.30	-109.5	-20.5	-116.3
770.000	-11.1	55.8	9.60	-16.5	-16.20	-118.3	-23.6	-113.8
820.000	-13.2	60.0	9.70	-29.5	-16.20	-126.0	-20.3	-130.8
870.000	-12.4	46.5	9.70	-41.5	-15.90	-133.5	-20.1	-170.3
920.000	-11.5	18.0	9.70	-55.3	-15.80	-143.0	-23.7	-178.8
970.000	-13.2	23.5	9.70	-68.0	-15.80	-150.8	-20.6	169.5
1020.000	-12.7	10.0	9.90	-81.0	-15.60	-158.5	-18.6	128.5

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
20.000	1.421	2.254	0.352	0.000	1.086
70.000	1.382	0.267	0.252	0.819	1.092
120.000	1.445	-0.970	0.252	0.778	1.101
170.000	1.560	-0.708	0.152	0.694	1.175
220.000	1.451	-0.445	0.252	0.694	1.121
270.000	1.528	-0.682	0.152	0.722	1.191
320.000	1.671	-0.670	0.052	0.708	1.243
370.000	1.594	-0.157	0.052	0.681	1.168
420.000	1.577	-0.394	-0.048	0.722	1.191
470.000	1.725	-0.382	-0.148	0.708	1.270
520.000	1.725	0.131	-0.048	0.681	1.162
570.000	1.552	0.394	-0.048	0.694	1.198
620.000	1.785	0.156	-0.148	0.722	1.181
670.000	1.681	0.669	-0.148	0.681	1.191
720.000	1.631	0.682	-0.148	0.708	1.208
770.000	1.772	0.194	-0.248	0.736	1.141
820.000	1.560	-0.043	-0.148	0.722	1.214
870.000	1.631	0.720	-0.148	0.667	1.219
920.000	1.725	-0.268	-0.148	0.764	1.140
970.000	1.560	-0.255	-0.148	0.708	1.206
1020.000	1.603	-0.492	0.052	0.722	1.266