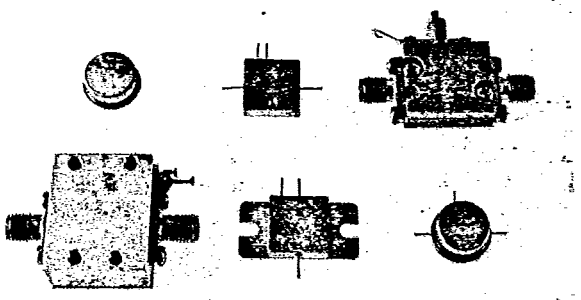
AH-18

T-74-09-01



10 to 800 MHz TO-8 Cascadable Amplifier

- High Output: +15.0dB
- Medium Noise: +5.0dB
- Medium Third Order: +28.0dBm
- **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.)	10-800	10-800	10-800
Small Signal Gain (dB Min.)	+15.0	+14.0	+13.5
Gain Flatness (dB Max.)	±0.3	±0.7	±1.0
Noise Figure (dB Max.)	+5.0	+5.5	+6.0
Power Output @ 1 dB Compression (dBm Min.)	+15.0	+14.0	+13.5
Two Tone 3rd Order Intercept Point (dBm Min.)	+28.0	+12.0	+23.0
Two Tone 2nd Order Intercept Point (dBm Min.)	+37.0	+35.0	+33.0
One Tone 2nd Harmonic Intercept Point (dBm Min.)	+43.0	+41.0	+38.0
Input/Output VSWR (Max.)	<1.5:1	1.9:1	2.0:1
DC Current at 15 V (mA Max.)	+43.0	+45.0	+50.0

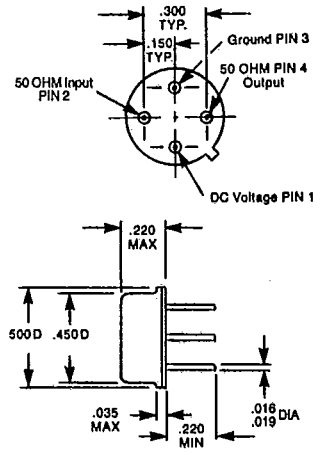
Maximum Ratings

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 ..... +17.0dBm (1 minute Max.)
Maximum Peak Power ..... +0.5W (3µseconds Max.)
"X" Series Burn-In Temperature ..... +100°C
Weight ..... +2.5 grams Max.

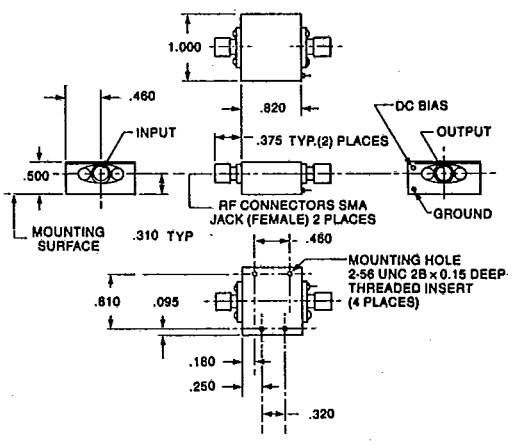
Outline Drawings

(For additional package configurations, see Section 9)

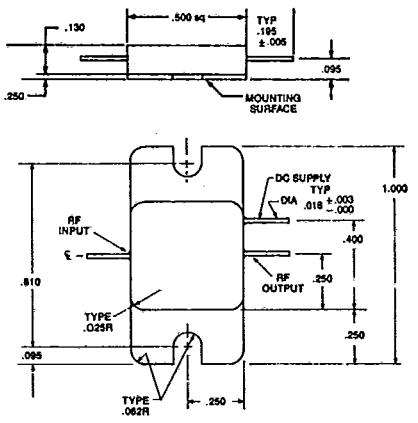
AH-18



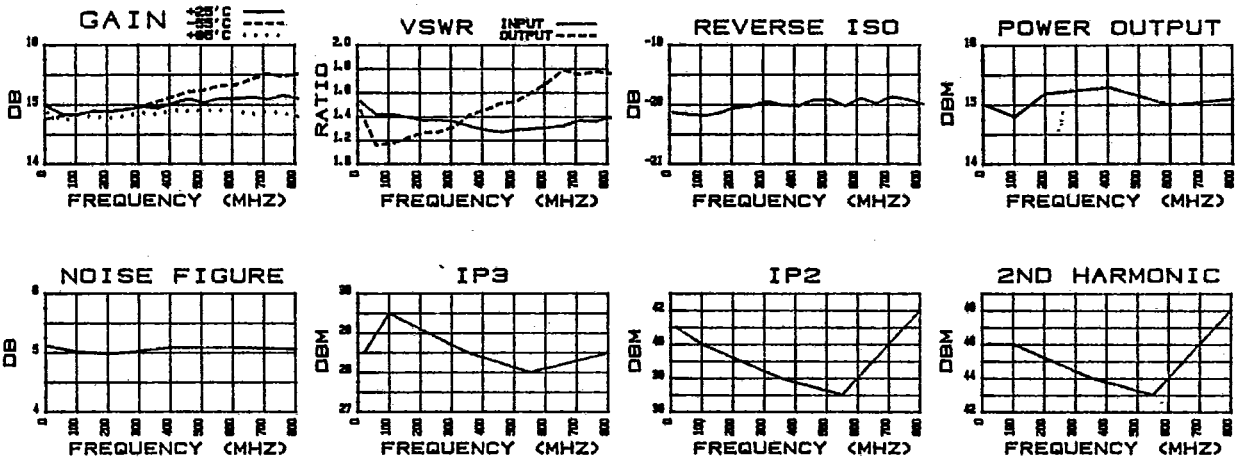
CAH-18



FPF-18



Typical Performance



AH-18 *39.5 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
10.000	-13.7	-142.3	14.96	-166.5	-20.13	11.6	-14.8	113.6
60.000	-15.3	-173.1	14.82	174.4	-20.17	-1.3	-22.6	125.8
110.000	-15.2	-177.1	14.84	165.5	-20.18	-4.6	-21.8	110.0
160.000	-15.7	175.4	14.89	154.0	-20.13	-6.9	-20.1	83.5
210.000	-16.2	172.0	14.88	149.3	-20.04	-8.5	-18.6	71.6
260.000	-16.1	177.8	14.91	141.0	-20.02	-10.8	-18.4	57.0
310.000	-16.4	176.2	14.97	132.7	-19.94	-12.5	-17.3	43.3
360.000	-17.3	173.2	14.94	121.4	-20.00	-13.7	-15.2	30.2
410.000	-18.0	175.1	15.02	113.1	-20.02	-15.6	-14.6	20.8
460.000	-18.5	-174.8	15.10	108.2	-19.91	-17.7	-13.8	8.9
510.000	-17.9	-176.4	15.02	99.7	-19.91	-21.2	-13.6	-2.0
560.000	-17.7	-166.7	15.10	91.3	-20.02	-23.7	-12.7	-16.8
610.000	-17.4	-166.3	15.10	79.4	-19.89	-25.8	-11.8	-26.9
660.000	-17.1	-158.3	15.13	74.6	-19.97	-28.3	-11.0	-41.9
710.000	-16.1	-170.2	15.09	65.7	-19.86	-29.9	-11.3	-50.3
760.000	-16.4	-169.2	15.15	56.6	-19.91	-32.1	-11.1	-61.4
810.000	-15.6	-172.1	15.10	47.8	-19.99	-31.4	-11.2	-72.4

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	1.523	9.236	-0.039	0.000	1.446
60.000	1.416	-1.365	-0.176	1.065	1.159
110.000	1.419	-1.640	-0.161	0.491	1.177
160.000	1.395	-4.565	-0.111	0.638	1.220
210.000	1.367	-0.775	-0.120	0.265	1.266
260.000	1.372	-0.485	-0.085	0.460	1.273
310.000	1.355	-0.178	-0.033	0.459	1.315
360.000	1.318	-2.951	-0.064	0.630	1.418
410.000	1.287	-2.649	0.016	0.459	1.458
460.000	1.269	1.030	0.096	0.271	1.514
510.000	1.291	1.039	0.021	0.475	1.529
560.000	1.299	1.234	0.104	0.465	1.607
610.000	1.313	-2.171	0.098	0.665	1.688
660.000	1.325	1.635	0.125	0.264	1.789
710.000	1.370	1.266	0.085	0.496	1.751
760.000	1.358	0.813	0.149	0.501	1.776
810.000	1.398	0.527	0.096	0.492	1.759