

AC556 5 to 500 MHz AC576 TO-8 Cascadable Amplifiers

(Typical Values)

	AC556	AC576
High Gain	28.5 dB	29.0 dB
Medium Output Level	+ 14.5 dBm	+ 15.0 dBm
High Third Order I.P.	+ 28.0 dBm	+ 29.0 dBm
High Efficiency		
High Performance Thin Film		

Specifications

Parameter	Typical	Guaranteed*		
		0 to 50°C	- 55 to 85°C	
Frequency (Min.)	5-600 MHz	5-500 MHz	5-500 MHz	
Small Signal Gain (Min.)	AC556: 28.5 dB AC576: 29.0 dB	27.5 dB 28.0 dB	27.0 dB 27.5 dB	
Gain Flatness (Max.)	± 0.35 dB	± 0.5 dB	± 0.7 dB	
Noise Figure (Max.)	AC556: 3.5 dB AC576: 3.3 dB	4.2 dB 4.0 dB	4.7 dB 4.5 dB	
SWR (Max.)	Input/Output: 1.5:1	1.8:1	2.0:1	
Power Output @ 1dB comp. (Min.)	AC556: + 14.5 dBm AC576: + 15.0 dBm	+ 14.0 dBm + 14.5 dBm	+ 13.5 dBm + 14.0 dBm	
DC Current (Max.)	65.0 mA	68.0 mA	71.0 mA	

*Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

Intermodulation Performance

(Typical at 25 °C)

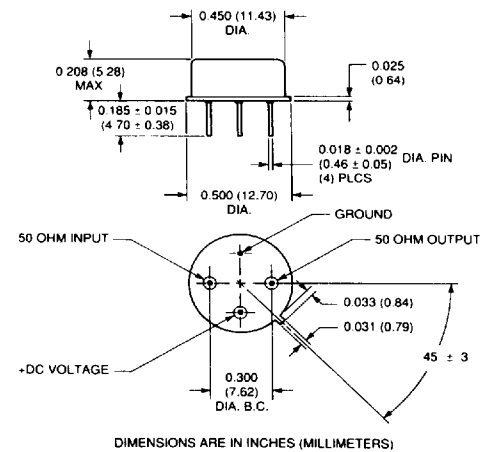
	AC556	AC576
Second Order Harmonic Intercept Point	+ 44 dBm	+ 48 dBm
Second Order Two Tone Intercept Point	+ 38 dBm	+ 42 dBm
Third Order Two Tone Intercept Point	+ 28 dBm	+ 29 dBm

Absolute Maximum Ratings

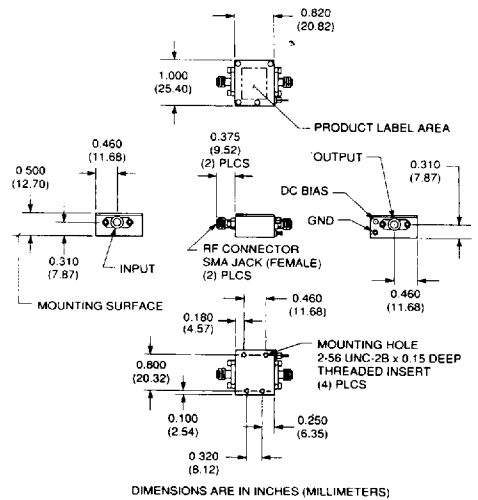
Ambient Operating Temperature	-55 to 100° C
Storage Temperature	-62 to 125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+6 dBm
Maximum Short Term Input Power (1 Minute Max.)	40 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Q Series Burn-in Temperature	+125° C

Outline Drawings

TO-8 Package for Amplifiers



Amplifier Case - connectorized

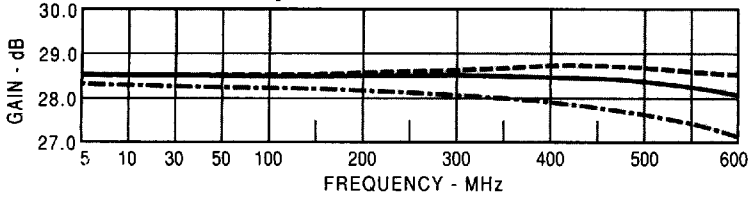


AC556/AC576

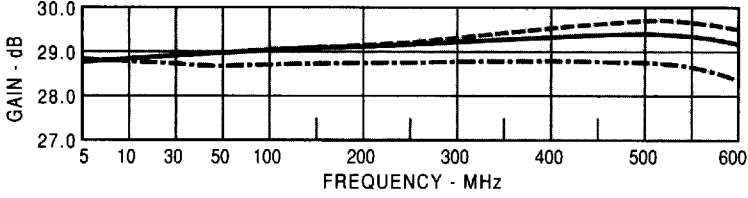
Typical Performance

KEY: +25 °C —
 +85 °C - - -
 -55 °C - - -

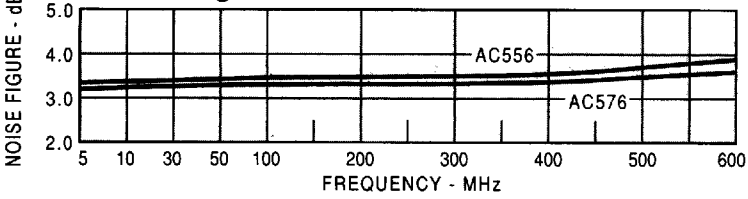
Gain vs Temperature AC556



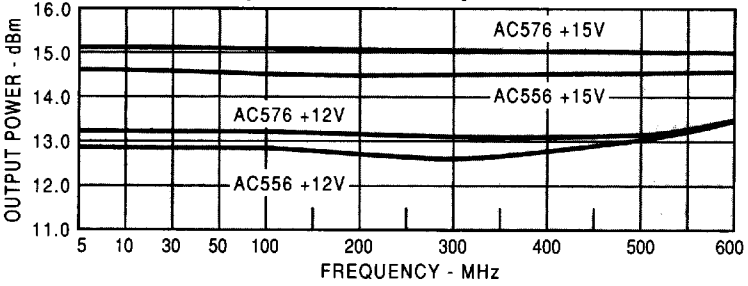
Gain vs Temperature AC576



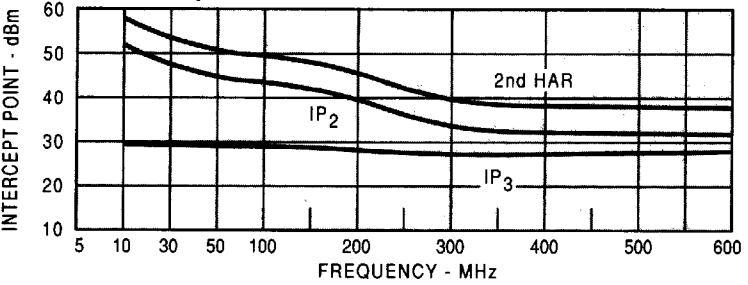
Noise Figure Vcc = 15



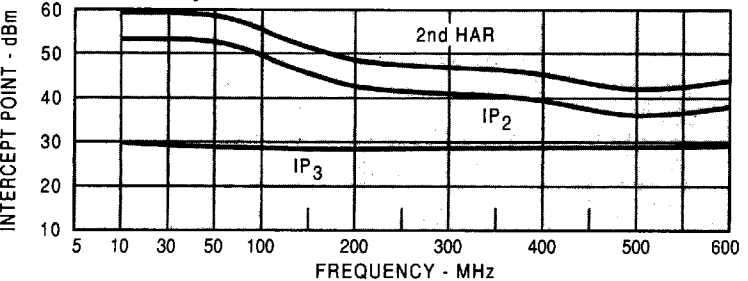
Power Output at 1 dB Compression



Intercept Point AC556



Intercept Point AC576



Typical Automatic Test Data

MODEL:AC556

Vcc=+15V Icc= 64.93 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
2.0	1.63	2.05	27.3		-41.9
5.0	1.34	1.41	28.5		-40.3
10.0	1.31	1.28	28.7		-40.1
50.0	1.23	1.22	28.9	1.593	-40.1
100.0	1.27	1.20	28.8	1.153	-39.5
200.0	1.25	1.15	28.9	1.013	-40.0
300.0	1.23	1.05	28.7	.990	-38.7
400.0	1.18	1.11	28.8	1.095	-37.5
500.0	1.20	1.40	28.7	1.113	-36.3
600.0	1.76	1.96	28.2	1.302	-34.8

LINEAR S-PARAMETERS

B-74-09-51

MODEL:AC556

Vcc=+15V Icc= 64.93 mA

FREQ. MHZ	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2	.24	-48.1	23.23	57.8	.008	65	.34	-87.0
5	.15	-29.1	26.70	23.3	.010	25	.17	-115.3
10	.13	-22.3	27.35	8.5	.010	15	.12	-139.8
50	.10	6.0	27.80	-14.9	.010	1	.10	179.3
100	.12	-4.6	27.55	-35.6	.011	-0	.09	163.2
200	.11	8.3	27.98	-72.0	.010	2	.07	133.8
300	.10	-7.7	27.30	-107.7	.012	-8	.03	104.1
400	.08	-10.7	27.43	-146.6	.013	-10	.05	-97.7
500	.09	150.1	27.16	173.3	.015	-16	.17	-129.7
600	.28	131.6	25.79	126.4	.018	-33	.32	-165.3
700	.54	106.7	22.06	80.4	.019	-57	.48	155.2

MODEL:AC556

Vcc=+12V Icc= 51.69 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
2.0	1.60	2.07	27.0		-41.7
5.0	1.38	1.42	28.2		-40.2
10.0	1.33	1.28	28.4		-39.8
50.0	1.32	1.22	28.5	1.612	-40.3
100.0	1.36	1.20	28.5	1.152	-39.6
200.0	1.22	1.14	28.6	1.021	-39.7
300.0	1.21	1.04	28.4	.998	-38.0
400.0	1.15	1.15	28.4	1.089	-37.1
500.0	1.18	1.50	28.4	1.127	-35.7
600.0	1.88	2.19	27.9	1.335	-33.9

MODEL:AC576

Vcc=+15V Icc= 66.67 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
2.0	1.49	1.73	27.5		-40.0
5.0	1.24	1.16	28.7		-38.3
10.0	1.19	1.08	28.9		-38.0
50.0	1.18	1.03	29.0	1.813	-37.8
100.0	1.18	1.04	29.0	1.076	-37.8
200.0	1.19	1.08	29.1	1.014	-37.6
300.0	1.19	1.14	29.3	1.033	-37.2
400.0	1.19	1.25	29.3	1.088	-36.6
500.0	1.27	1.43	29.3	1.147	-35.8
600.0	1.51	1.74	29.1	1.212	-35.1

MODEL:AC576

Vcc=+12V Icc= 52.74 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
2.0	1.47	1.69	27.2		-39.7
5.0	1.26	1.16	28.4		-38.1
10.0	1.22	1.08	28.5		-37.9
50.0	1.21	1.03	28.6	1.808	-37.6
100.0	1.20	1.04	28.6	1.080	-37.6
200.0	1.21	1.08	28.8	1.019	-37.4
300.0	1.22	1.15	28.9	1.040	-36.8
400.0	1.25	1.28	29.0	1.099	-36.2
500.0	1.35	1.51	29.0	1.162	-35.2
600.0	1.62	1.91	28.7	1.232	-34.3



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