



COUGAR COMPONENTS

2/99

AC487

10 TO 400 MHz
TO-8 CASCADABLE AMPLIFIER

Typical Values

High Output Level	AC487 +17.0 dBm
High Efficiency	33 mA Current Drain
High Third Order I.P.	+32 dBm
Wide Power Supply Range	5 to +15 Volts
High Performance Thin Film	
Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	5-450 MHz	10-400 MHz	10-400 MHz
Small Signal Gain (Min.)	15.5 dB	14.5 dB	14.0 dB
Gain Flatness (Max.)	< ±0.3 dB	±0.7 dB	±0.9 dB
Noise Figure (Max.)	3.6 dB	4.0 dB	4.5 dB
SWR (Max.)	Input < 1.3:1 Output < 1.7:1	1.7:1 2.0:1	1.9:1 2.0:1
Power Output (Min.) @ 1dB comp.	+17.0 dBm	+15.5 dBm	+15.0 dBm
DC Current (Max.)	33 mA	36 mA	38 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25° C

Second Order Harmonic Intercept Point	AC487 +50 dBm
Second Order Two Tone Intercept Point	+44 dBm
Third Order Two Tone Intercept Point	+32 dBm

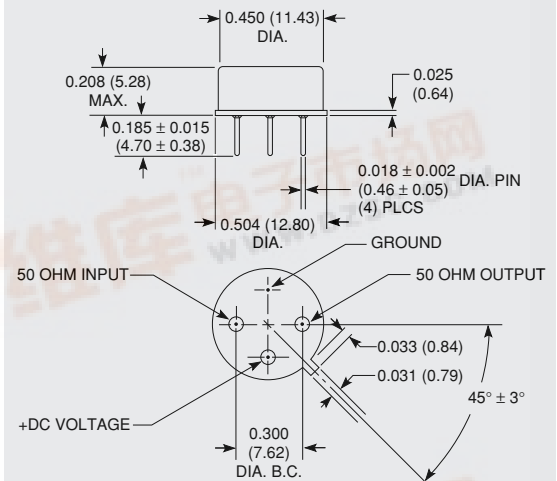
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to 125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+105° C
Thermal Resistance ¹ (θjc)	+48° C/Watt
Junction Temperature Rise Above Case (Tjc)	+25.7° C

¹ Thermal resistance is based on total power dissipation.

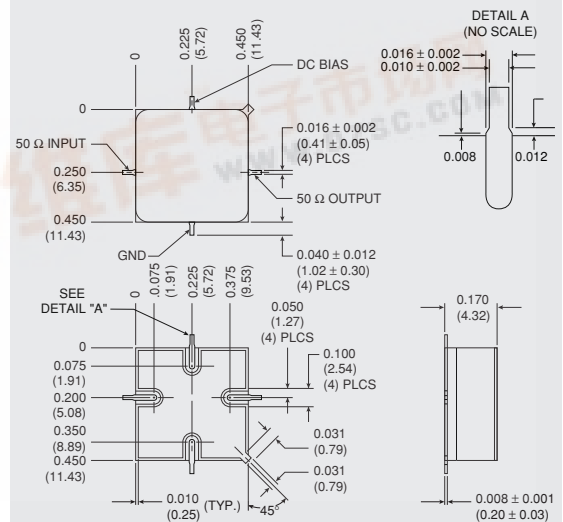
AC487

TO-8 Package for Amplifiers



AS487

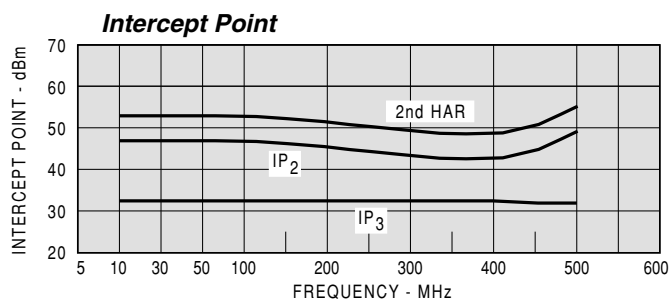
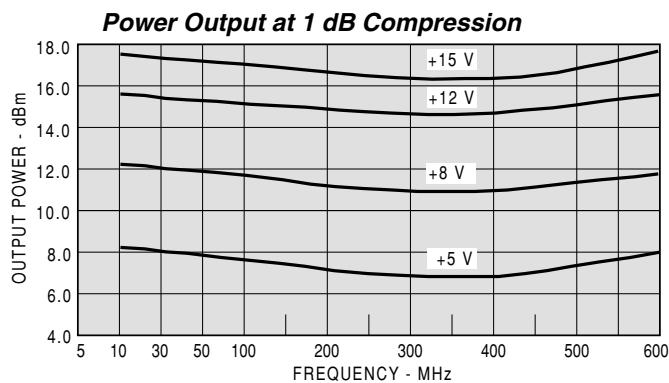
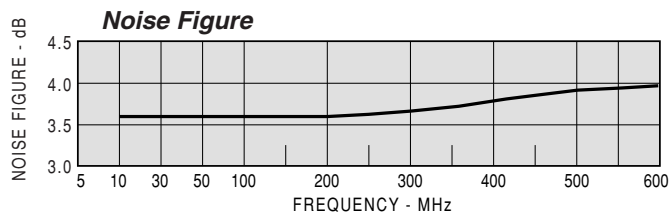
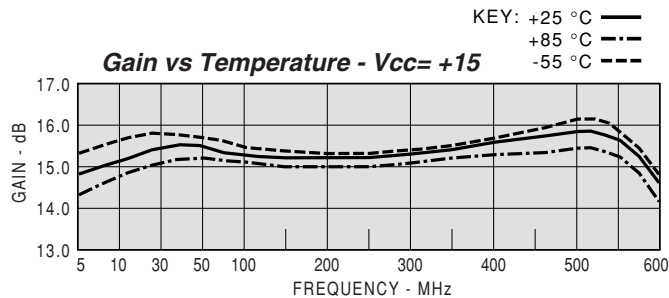
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)



TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model: AC487		Vcc=+15V		Icc=33.40
FREQ	SWR	SWR	GAIN	DELAY
MHZ	IN	OUT	DB	NSEC
5	1.90	2.36	14.9	
10	1.44	1.63	15.3	
20	1.25	1.36	15.5	2.767
50	1.18	1.29	15.5	1.371
100	1.20	1.40	15.3	1.002
150	1.24	1.49	15.2	0.903
200	1.29	1.57	15.2	0.916
250	1.34	1.63	15.2	0.876
300	1.40	1.66	15.2	0.951
350	1.46	1.64	15.3	0.954
400	1.54	1.54	15.4	1.000
450	1.65	1.38	15.7	1.110
500	1.82	1.36	15.7	1.243
550	2.05	1.80	15.5	1.396

Model: AC487		LINEAR S-PARAMETERS							
		Vcc=+15V				Icc=33.40			
		S11		S21		S12		S22	
FREQ									
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
5	0.31	-55.3	5.53	-155.7	0.071	22.0	0.40	140.1	
10	0.18	-54.0	5.81	-169.7	0.079	10.0	0.24	139.0	
20	0.11	-46.6	5.99	-179.9	0.084	3.0	0.15	149.6	
50	0.08	-28.2	5.95	165.4	0.085	-7.0	0.13	-177.5	
100	0.09	-29.5	5.84	147.4	0.084	-16.0	0.17	-163.7	
150	0.11	-45.1	5.78	131.2	0.086	-25.0	0.20	-162.3	
200	0.13	-59.2	5.72	114.7	0.088	-33.0	0.22	-163.9	
250	0.14	-72.0	5.73	98.7	0.092	-41.0	0.24	-170.1	
300	0.17	-91.3	5.75	81.9	0.094	-52.0	0.25	-178.7	
350	0.19	-109.7	5.85	64.6	0.101	-63.0	0.24	169.4	
400	0.21	-134.3	5.92	46.6	0.106	-75.0	0.21	151.2	
450	0.25	-163.8	6.08	26.5	0.112	-88.0	0.16	116.1	
500	0.29	160.4	6.11	4.0	0.119	-105.0	0.15	47.8	
550	0.34	122.6	5.99	-20.8	0.123	-125.0	0.28	-11.1	
600	0.41	81.0	5.42	-47.8	0.117	-147.0	0.48	-47.3	
650	0.47	44.0	4.54	-74.1	0.102	-168.0	0.67	-74.6	

Model: AC487		Vcc=+12V		Icc=26.81	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
5	1.91	2.26	14.8		-22.7
10	1.46	1.61	15.2		-21.6
20	1.26	1.33	15.4	2.751	-21.7
50	1.19	1.26	15.4	1.404	-21.2
100	1.22	1.41	15.2	0.998	-21.6
200	1.30	1.60	15.0	0.922	-20.7
300	1.41	1.69	15.0	0.926	-20.5
400	1.56	1.59	15.2	1.001	-19.1
500	1.87	1.45	15.5	1.205	-18.4
600	2.56	3.18	14.2	1.461	-18.3

Model: AC487		Vcc=+8V		Icc=18.19	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
5	1.92	2.25	14.6		-22.6
10	1.48	1.57	15.0		-21.7
20	1.30	1.30	15.2	2.790	-21.0
50	1.23	1.23	15.1	1.454	-21.0
100	1.25	1.42	15.0	1.029	-21.2
200	1.33	1.68	14.7	0.949	-20.5
300	1.44	1.81	14.5	0.946	-19.9
400	1.63	1.68	14.8	1.026	-18.8
500	2.03	1.61	14.9	1.242	-17.5
600	2.75	3.66	13.3	1.482	-18.3