AC487 10 TO 400 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	*AC487*
High Output Level	*+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	Guaranteed -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 Output	< 1.3:1 < 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	*AC487*
Second Order Harmonic Intercept Point	+50 dBm
Second Order Two Tone Intercept Point	+44 dBm
Third Order Two Tone Intercept Point	+32 dBm

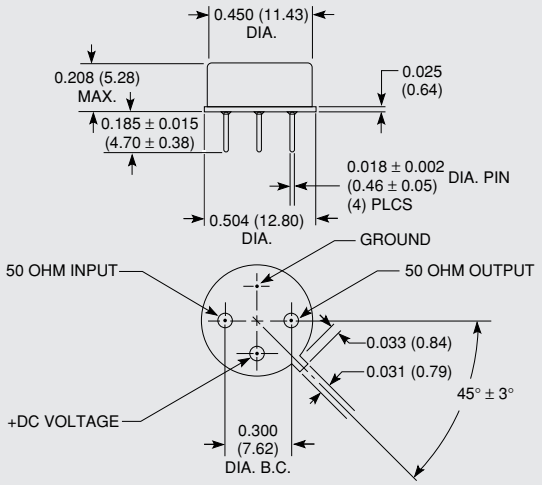
ABSOLUTE MAXIMUM RATINGS

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.

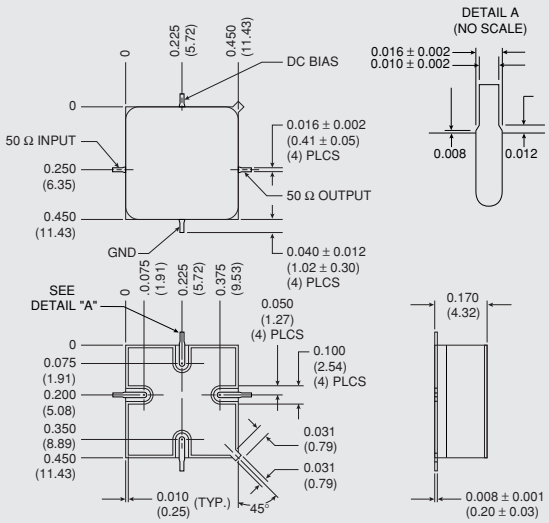
AC487

TO-8 Package for Amplifiers



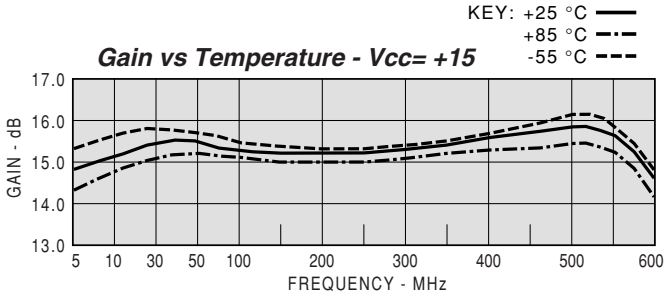
AS487

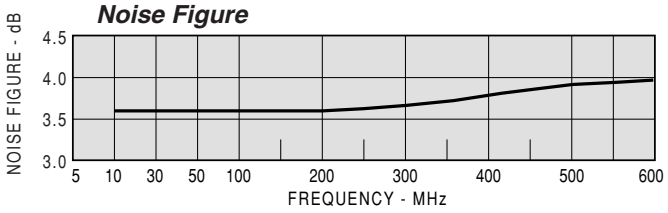
SMTO-8 Package for Amplifiers

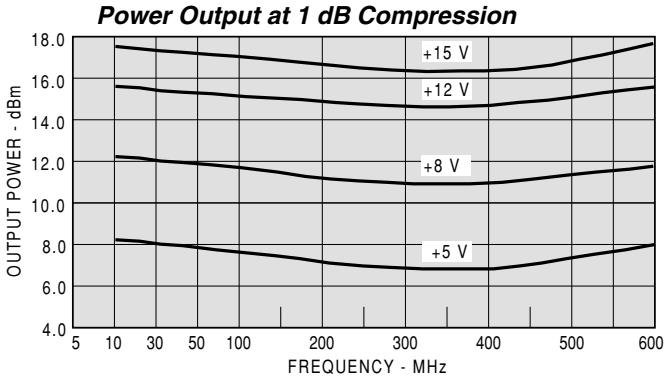


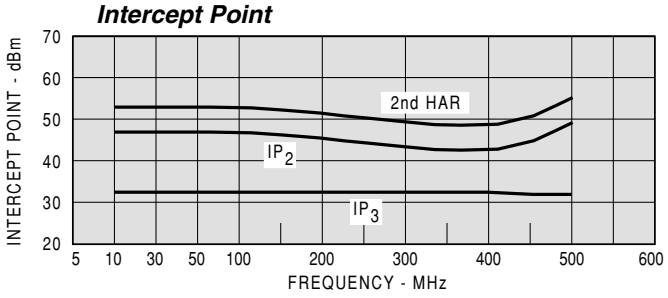
DIMENSIONS ARE IN INCHES (MILLIMETERS)

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AC487 Vcc=+15V Icc=33.40

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
5	1.90	2.36	14.9		-23.0
10	1.44	1.63	15.3		-22.0
20	1.25	1.36	15.5	2.767	-21.6
50	1.18	1.29	15.5	1.371	-21.4
100	1.20	1.40	15.3	1.002	-21.5
150	1.24	1.49	15.2	0.903	-21.3
200	1.29	1.57	15.2	0.916	-21.1
250	1.34	1.63	15.2	0.876	-20.7
300	1.40	1.66	15.2	0.951	-20.5
350	1.46	1.64	15.3	0.954	-19.9
400	1.54	1.54	15.4	1.000	-19.5
450	1.65	1.38	15.7	1.110	-19.0
500	1.82	1.36	15.7	1.243	-18.5
550	2.05	1.80	15.5	1.396	-18.2

LINEAR S-PARAMETERS

Model: AC487 Vcc=+15V Icc=33.40

FREQ	S11		S21		S12		S22	
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 MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO 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 MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO 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