

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	-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	1.7:1 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

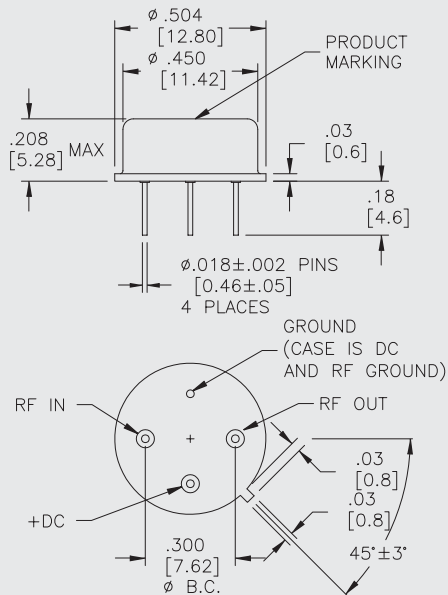
ABSOLUTE MAXIMUM RATINGS

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.

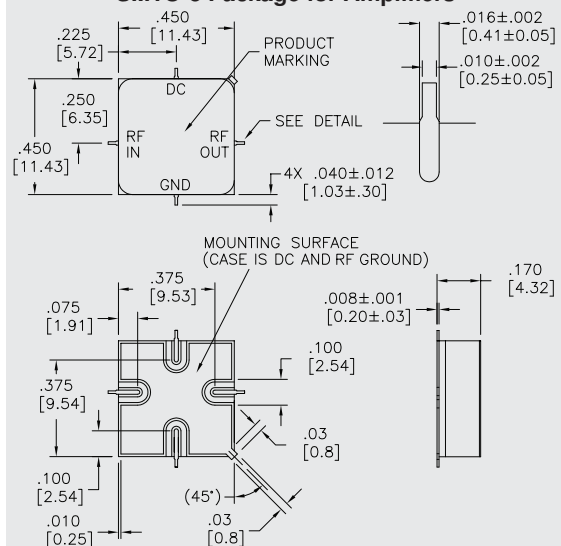
AC487

TO-8 Package for Amplifiers



AS487

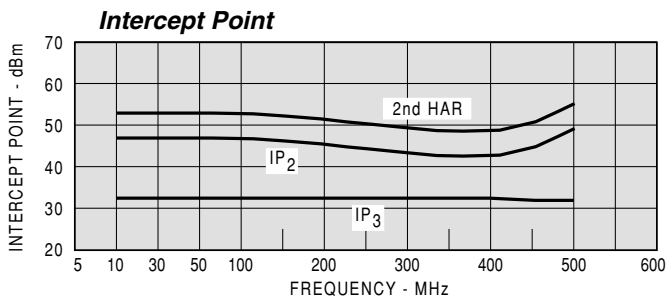
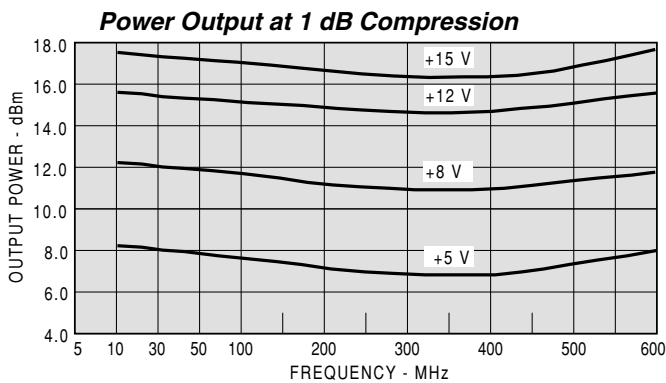
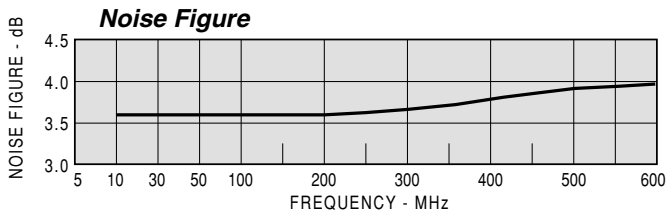
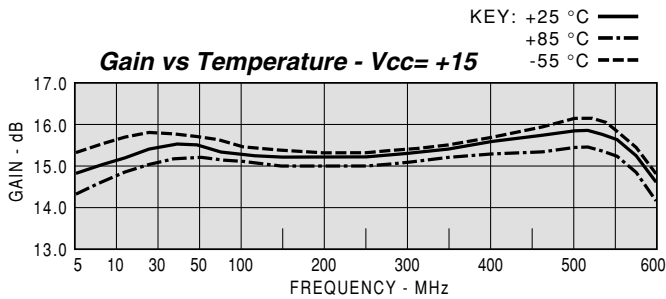
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC487			Vcc=+15V		Icc=33.40	
FREQ	SWR IN	SWR OUT	GAIN	DELAY	REV/ISO	DB
MHZ			DB	NSEC		
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

Model: AC487			LINEAR S-PARAMETERS						Icc=33.40	
			Vcc=+15V							
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	SWR IN	SWR OUT	GAIN	DELAY	REV/ISO	DB
MHZ			DB	NSEC		
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 IN	SWR OUT	GAIN	DELAY	REV/ISO	DB
MHZ			DB	NSEC		
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