

AC437

10 TO 400 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC437
Medium Output Level	+16.5 dBm
High Efficiency	33 mA Current Drain
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.)	12.7 dB	12.0 dB	11.5 dB
Gain Flatness (Max.)	< ±0.3 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)	4.7 dB	5.3 dB	6.0 dB
SWR (Max.)	Input	1.5:1	1.9:1
	Output	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+16.5 dBm	+15.5 dBm	+15.0 dBm
	DC Current (Max.)	33.0 mA	36 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC437
Second Order Harmonic Intercept Point	+50 dBm
Second Order Two Tone Intercept Point	+44 dBm
Third Order Two Tone Intercept Point	+32 dBm

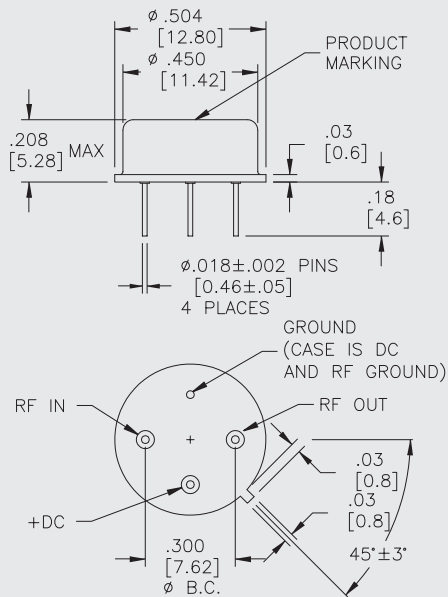
ABSOLUTE MAXIMUM RATINGS

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)	+54 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+29.0 °C

¹ Thermal resistance is based on total power dissipation.

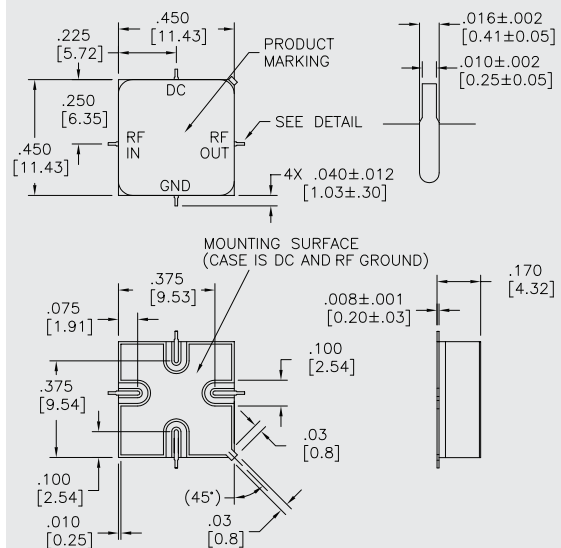
AC437

TO-8 Package for Amplifiers



AS437

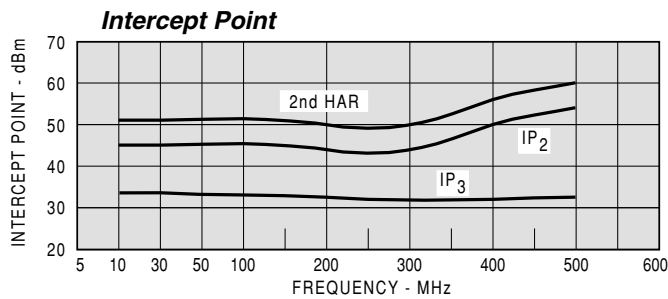
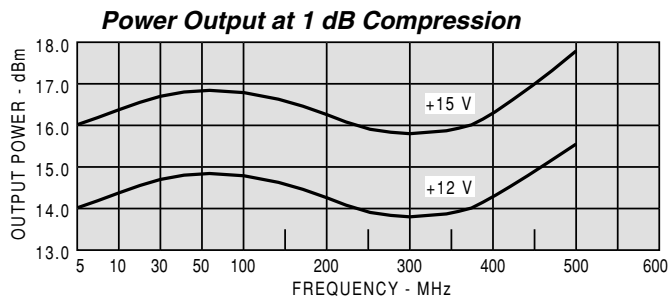
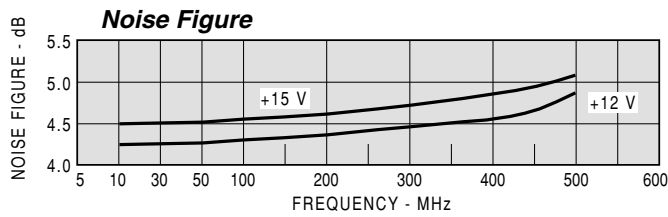
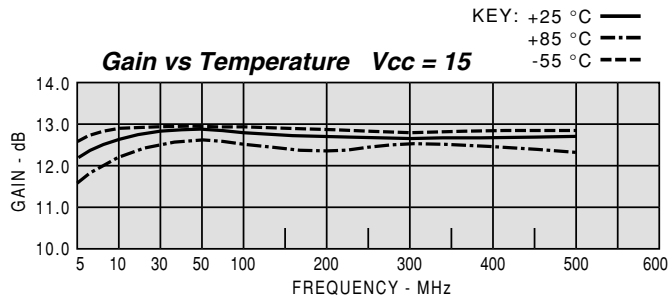
SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC437				Vcc=+15V		Icc=32.46	
FREQ	SWR IN	SWR OUT	GAIN	DELAY	REV/ISO	DB	DB
5	1.82	2.70	12.2			-21.1	
10	1.36	1.80	12.6			-19.7	
20	1.15	1.49	12.8	2.853		-19.3	
50	1.01	1.38	13.0	1.390		-19.1	
100	1.11	1.46	12.8	0.924		-19.2	
200	1.19	1.59	12.6	0.887		-19.1	
300	1.14	1.56	12.8	0.897		-18.5	
400	1.13	1.35	13.0	1.006		-17.9	
500	1.85	1.86	12.8	1.199		-17.6	

Model: AC437				LINEAR S-PARAMETERS				Vcc=+15V		Icc=32.46	
FREQ	S11		S21		S12		S22		MAG	ANG	
5	0.29	-66.6	4.08	-153.7	0.088	24.0	0.46	144.2			
10	0.15	-74.2	4.27	-168.4	0.103	12.0	0.29	143.4			
20	0.07	-87.6	4.37	-178.8	0.108	4.0	0.20	152.0			
50	0.00	86.5	4.46	166.2	0.111	-6.0	0.16	175.9			
100	0.05	71.2	4.36	149.3	0.110	-15.0	0.19	-172.6			
200	0.09	51.3	4.29	117.6	0.112	-31.0	0.23	-179.6			
300	0.06	37.0	4.34	85.4	0.118	-48.0	0.22	158.5			
400	0.06	129.7	4.48	49.4	0.128	-69.0	0.15	99.2			
500	0.30	121.0	4.36	5.9	0.133	-100.0	0.30	-13.3			
600	0.55	87.0	3.36	-41.7	0.110	-134.0	0.64	-71.6			

Model: AC437				Vcc= +12V		Icc=25.97	
FREQ	SWR IN	SWR OUT	GAIN	DELAY	REV/ISO	DB	DB
5	1.79	2.64	12.2			-21.0	
10	1.36	1.77	12.6			-19.7	
20	1.15	1.47	12.8	2.864		-19.2	
50	1.02	1.36	12.9	1.389		-19.1	
100	1.11	1.47	12.7	0.942		-19.1	
200	1.18	1.64	12.6	0.887		-19.0	
300	1.12	1.62	12.7	0.910		-18.4	
400	1.16	1.43	13.0	1.007		-17.6	
500	1.91	1.98	12.7	1.232		-17.3	

Model: AC437				LINEAR S-PARAMETERS				Vcc=+12V		Icc=25.97	
FREQ	S11		S21		S12		S22		MAG	ANG	
5	0.28	-65.9	4.06	-154.2	0.089	23.0	0.45	143.6			
10	0.15	-72.5	4.26	-168.8	0.103	12.0	0.28	142.9			
20	0.07	-84.5	4.36	-179.0	0.109	4.0	0.19	151.9			
50	0.01	56.0	4.43	166.0	0.111	-5.0	0.15	177.9			
100	0.05	64.8	4.33	148.9	0.111	-15.0	0.19	-169.9			
200	0.08	47.7	4.25	116.9	0.112	-30.0	0.24	-178.1			
300	0.05	37.9	4.31	84.3	0.121	-47.0	0.24	158.2			
400	0.07	137.0	4.44	47.8	0.132	-69.0	0.18	98.4			
500	0.31	121.9	4.30	3.8	0.137	-100.0	0.33	-10.0			
600	0.56	86.4	3.23	-44.2	0.112	-135.0	0.66	-71.2			