

10 TO 200 MHz TO-8 CASCADABLE AMPLIFIER

AC251

1.2 dB

Medium Output Power **+13.2 dBm**

High Efficiency **11 mA Current Drain**

High Performance Thin Film

TO-8 Package

SPECIFICATIONS

Parameter	Typical	Guaranteed*	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	10-250 MHz	10-200 MHz	10-200 MHz
Small Signal Gain (Min.)	8.0 dB	7.5 dB	7.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.3 dB	±0.4 dB
Noise Figure (Max.)	1.2 dB	1.7 dB	2.2 dB
SWR (Max.) Input/Output	<1.4:1	1.5:1	1.7:1
Power Output (Min.) @ 1 dB comp.	+13.2 dBm	+12.0 dBm	+11.5 dBm
DC Current (Max.)	11.0 mA	14.0 mA	17.0 mA

* Measured in a 50-ohm system at +5 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

<i>Typical @ 25° C</i>	+5 volts	+8 volts
Second Order Harmonic Intercept Point	54 dBm	58 dBm
Second Order Two Tone Intercept Point	49 dBm	52 dBm
Third Order Two Tone Intercept Point	30 dBm	33 dBm

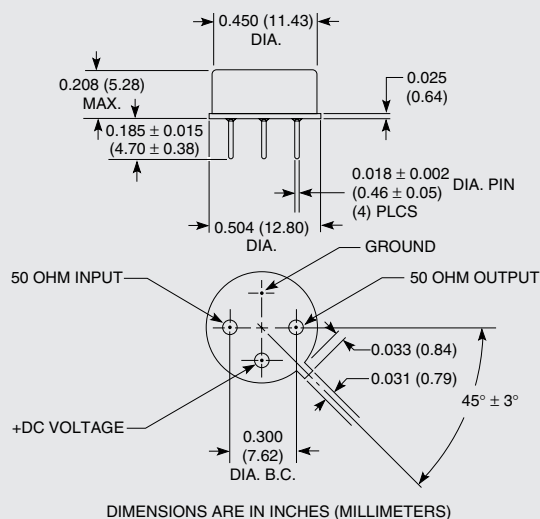
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to 125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+13 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	+125° C
Thermal Resistance¹ (θ_{jc})	+69° C/Watt
Junction Temperature Rise Above Case (T_{jc})	+4.8° C

¹ Thermal resistance is based on total power dissipation.

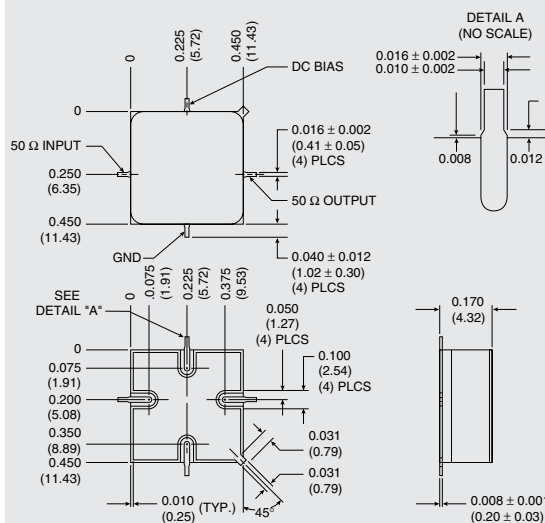
AC251

TO-8 Package for Amplifiers

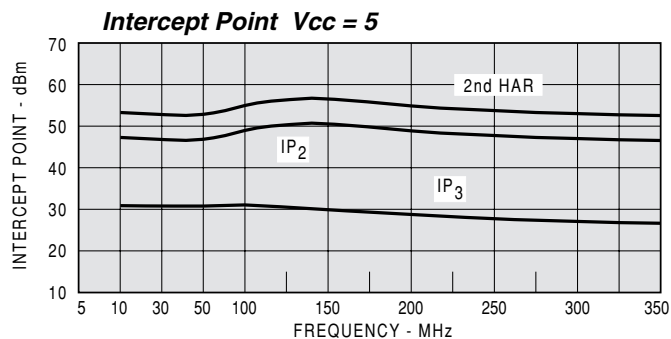
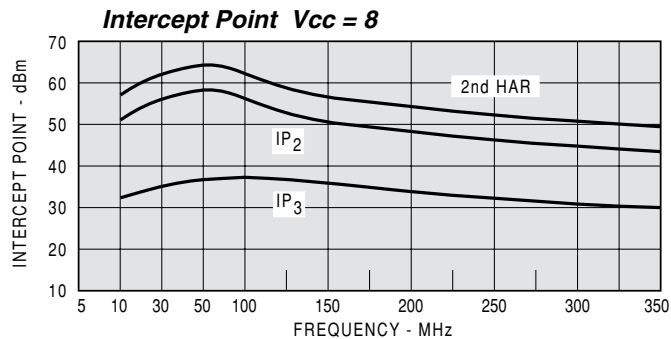
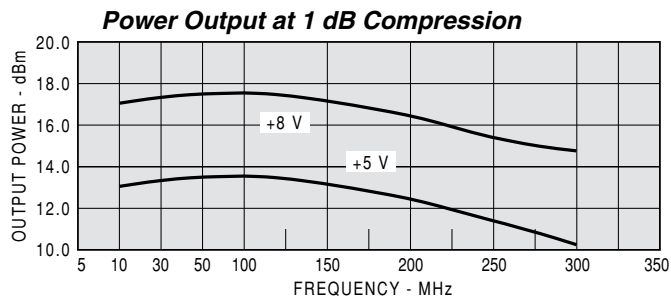
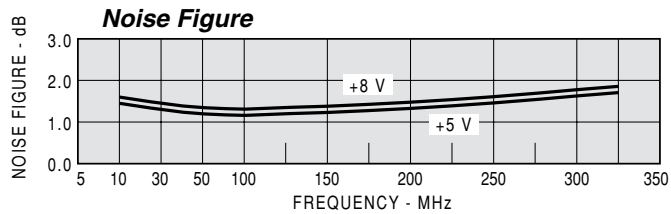
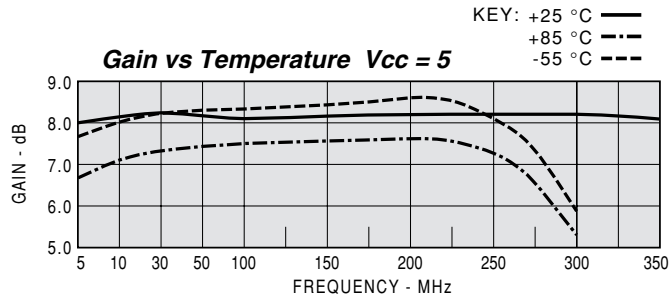


AS251

SMT0-8 Package for Amplifiers



TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model:AC251		$V_{cc}=+5V$				$I_{cc}=10.76$
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO
MHZ	IN	OUT	DB	DEG	NSEC	DB
5	1.12	1.13	7.97	10		-11.0
10	1.09	1.10	8.13	3		-10.9
20	1.08	1.09	8.19	-2	1.6	-10.8
50	1.07	1.09	8.20	-13	0.97	-10.8
100	1.06	1.12	8.14	-27	0.81	-11.0
200	1.03	1.17	8.17	-56	0.8	-11.4
300	1.29	1.29	8.22	-88	0.88	-12.0

Model:AC251		$V_{cc}=+5V$				$I_{cc}=10.76$
FREQ.	S11	S12	S21	S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG
5	0.06	152.4	2.50	10.1	0.281	10.4
10	0.04	152.1	2.55	3.2	0.287	3.3
20	0.04	148.2	2.57	-2.5	0.288	-2.4
50	0.03	133.8	2.57	-13.0	0.287	-12.4
100	0.03	109.4	2.55	-27.5	0.282	-26.6
200	0.02	156.5	2.56	-56.2	0.270	-54.6
300	0.13	179.8	2.58	-87.9	0.250	-85.3

Model:AC251		$V_{cc}=+8V$				$I_{cc}=19.78$
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO
MHZ	IN	OUT	DB	DEG	NSEC	DB
5	1.34	1.34	7.74	16		-11.2
10	1.22	1.23	7.98	6		-11.0
20	1.17	1.18	8.11	-1	1.9	-10.9
50	1.13	1.16	8.16	-12	1.0	-10.9
100	1.11	1.18	8.14	-26	0.81	-11.0
200	1.07	1.23	8.16	-55	0.79	-11.4
300	1.30	1.29	8.23	-86	0.86	-12.1

Model:AC251		$V_{cc}=+8V$				$I_{cc}=19.78$
FREQ.	S11	S12	S21	S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG
5	0.14	137.4	2.44	15.5	0.275	15.9
10	0.10	141.3	2.51	6.2	0.282	6.4
20	0.08	143.2	2.54	-0.6	0.285	-0.5
50	0.06	137.8	2.56	-11.8	0.286	-11.5
100	0.05	122.3	2.55	-26.4	0.281	-26.1
200	0.04	135.5	2.56	-55.0	0.269	-54.2
300	0.13	171.7	2.58	-86.1	0.250	-84.9

100-400 MHz