

AC262

30 TO 250 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

Low Noise Figure.....	1.3 dB
High Output Power.....	+17.5 dBm
High Third Order Intercept	+35.0 dBm
High Efficiency.....	23 mA Current Drain
High Performance Thin Film	
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	10-300 MHz	30-250 MHz	30-250 MHz
Small Signal Gain (Min.)	8.0 dB	7.5^ dB	6.8^ dB
Gain Flatness (Max.)	±0.2 dB	±0.5dB	±0.7 dB
Noise Figure (Max.)	1.3 dB	1.8 dB	2.3 dB
SWR (Max.) Input/Output	<1.4:1	1.9:1	2.0:1
Power Output (Min.)			
@ 1 dB comp. 20-150 MHz	+19.3 dBm	+17.0 dBm	+16.5 dBm
150-200 MHz	+17.5 dBm	+16.0 dBm	+15.5 dBm
200-250 MHz	+16.0 dBm	+14.5 dBm	+14.0 dBm
Reverse Isolation	11.0 dB	—	—
DC Current (Max.)	23.0 mA	26.0 mA	28.0 mA

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

^a 1.0 dB less below 50 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	+12 volts	+15 volts
Second Order Harmonic Intercept Point	+54 dBm	+60 dBm
Second Order Two Tone Intercept Point	+49 dBm	+54 dBm
Third Order Two Tone Intercept Point	+31 dBm	+35 dBm

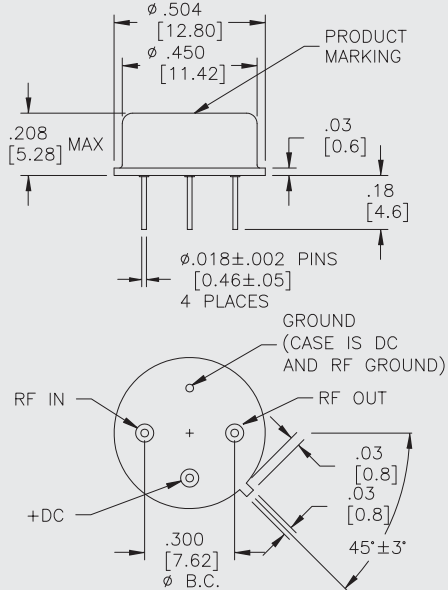
ABSOLUTE MAXIMUM RATINGS

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	+125 °C
Thermal Resistance¹ (θjc)	+27 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+10 °C

¹ Thermal resistance is based on total power dissipation.

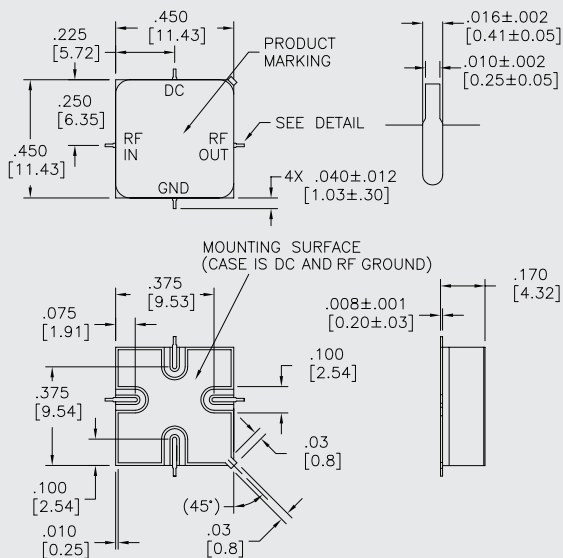
AC262

TO-8 Package for Amplifiers



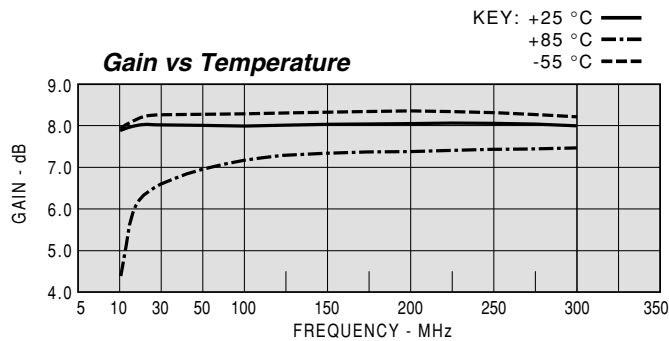
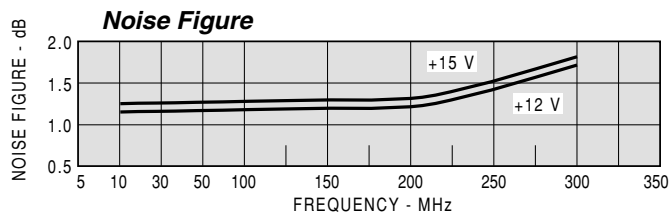
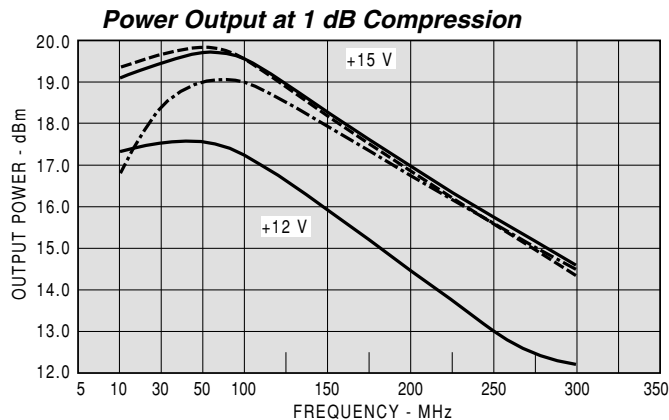
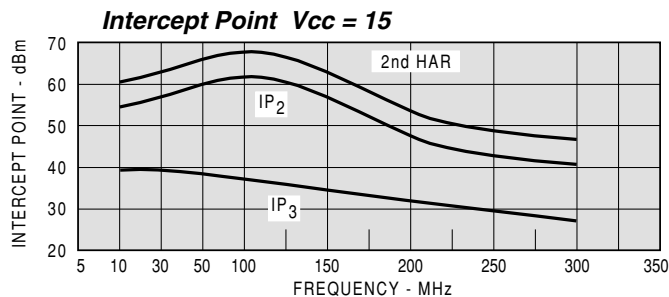
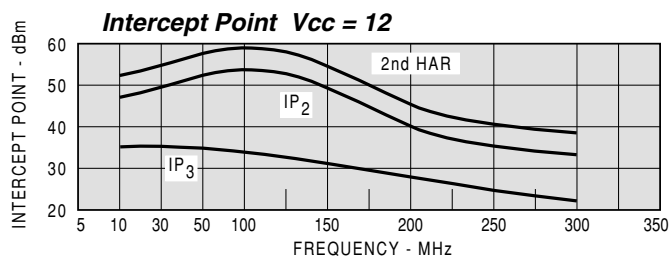
AS262

SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model: AC262				Vcc=+15V		Icc=22.33	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
10	1.24	1.25	7.7		-11.3		
20	1.17	1.18	7.8		-11.2		
50	1.14	1.13	7.9	1.300	-11.2		
100	1.20	1.14	7.9	1.068	-11.3		
200	1.45	1.28	8.1	1.056	-11.9		
300	1.98	1.68	8.2	1.174	-12.9		
400	3.26	2.88	7.5	1.366	-15.4		

Model: AC262				Vcc=+15V		Icc=22.33	
FREQ	S11	S21	S12	S22			
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	
10	0.11	143.3	2.43	6.6	0.273	7.0	0.11
20	0.08	154.3	2.46	-2.0	0.276	-1.0	0.08
50	0.07	-178.6	2.48	-15.7	0.276	-15.0	0.06
100	0.09	-161.1	2.49	-35.0	0.272	-34.0	0.07
200	0.19	-176.9	2.53	-73.1	0.255	-71.0	0.12
300	0.33	143.1	2.56	-115.3	0.225	-113.0	0.25
400	0.53	90.1	2.38	-164.4	0.170	-161.0	0.48

Model: AC262				Vcc=+12V		Icc=17.52	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
10	1.16	1.16	7.8		-11.2		
20	1.12	1.12	7.9		-11.1		
50	1.12	1.10	8.0	1.257	-11.1		
100	1.20	1.14	8.0	1.077	-11.3		
200	1.48	1.32	8.1	1.067	-11.9		
300	2.04	1.77	8.2	1.189	-13.0		
400	3.36	3.12	7.4	1.388	-15.5		

Model: AC262				Vcc=+12V		Icc=17.52	
FREQ	S11	S21	S12	S22			
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	
10	0.07	150.9	2.47	4.6	0.276	5.0	0.08
20	0.06	165.4	2.50	-3.1	0.279	-3.0	0.06
50	0.06	-164.2	2.51	-16.7	0.278	-16.0	0.05
110	0.09	-152.5	2.50	-36.0	0.273	-35.0	0.07
200	0.19	-173.8	2.54	-74.4	0.255	-72.0	0.14
300	0.34	144.1	2.56	-117.3	0.224	-114.0	0.28
400	0.54	89.6	2.35	-167.1	0.167	-162.0	0.51

Model: AC262				Vcc=+8V		Icc=10.90	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
10	1.09	1.10	7.9		-11.1		
20	1.07	1.07	8.0		-11.1		
50	1.11	1.09	8.0	1.271	-11.1		
100	1.22	1.17	8.0	1.103	-11.3		
200	1.55	1.43	8.0	1.118	-11.9		
300	2.20	2.07	8.0	1.250	-13.3		
400	3.66	3.91	6.9	1.441	-16.3		

Model: AC262				Vcc=+5V		Icc=6.09	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
10	1.03	1.05	7.7		-11.3		
20	1.02	1.03	7.8		-11.2		
50	1.11	1.11	7.8	1.345	-11.3		
100	1.26	1.25	7.8	1.179	-11.5		
200	1.67	1.69	7.7	1.211	-12.3		
300	2.43	2.73	7.3	1.353	-14.0		
400	3.83	5.62	5.5	1.487	-17.9		