

# AC264

## 30 TO 250 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC264
High Output Level .....	+24.0 dBm
High Third Order I.P. ....	+43.0 dBm
Low Noise .....	2.0 dB
High Efficiency .....	45 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.)	30-250 MHz	30-250 MHz	30-250 MHz
Small Signal Gain (Min.)	8.3 dB	7.5 dB	6.8 dB
Gain Flatness (Max.)	±0.3 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)	2.0 dB	2.3 dB	2.7 dB
SWR (Max.) Input/Output	1.5:1	2.0:1	2.0:1
Power Output (Min.) @ 1dB comp. 30-150 MHz 150-250 MHz	+24.0 dBm +22.5 dBm	+23.5 dBm +21.8 dBm	+23.0 dBm +21.3 dBm
Reverse Isolation	11.0 dB	—	—
DC Current (Max.)	45 mA	48 mA	50 mA

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

### INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC264
Second Order Harmonic Intercept Point .....	+61 dBm
Second Order Two Tone Intercept Point .....	+55 dBm
Third Order Two Tone Intercept Point .....	+43 dBm

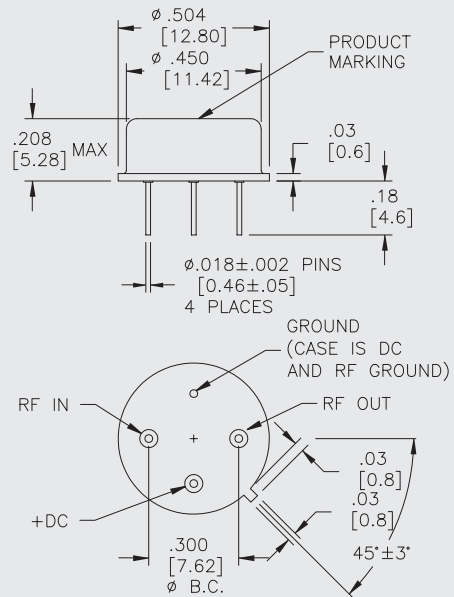
### ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-65 to +150 °C
Maximum Case Temperature .....	+125 °C
Maximum DC Voltage .....	+17 Volts
Maximum Continuous RF Input Power .....	+17 dBm
Maximum Short Term Input Power (1 Minute Max.) .....	50 Milliwatts
Maximum Peak Power (3 μsec Max.) .....	0.5 Watt
Burn-in Temperature .....	+110 °C
Thermal Resistance <sup>1</sup> (θjc) .....	+44.5 °C/Watt
Junction Temperature Rise Above Case (Tjc) .....	+30.0 °C

<sup>1</sup> Thermal resistance is based on total power dissipation.

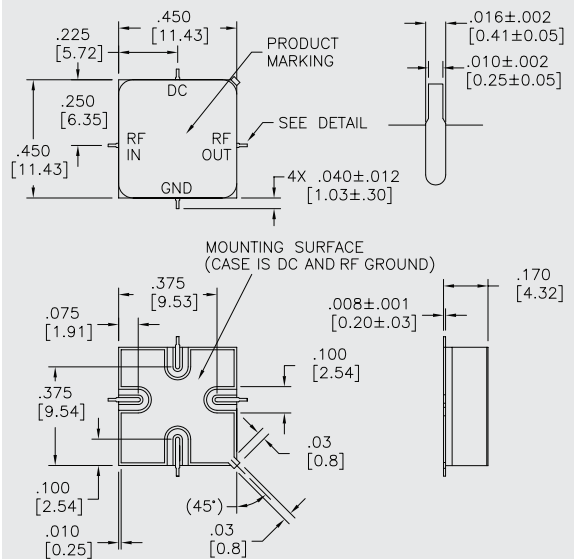
### AC264

#### TO-8 Package for Amplifiers



### AS264

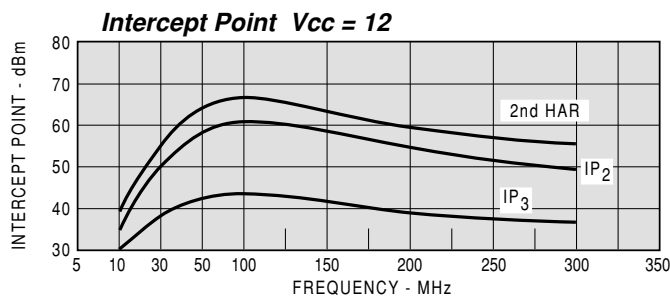
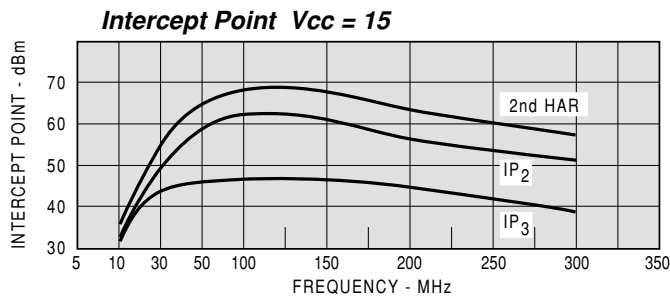
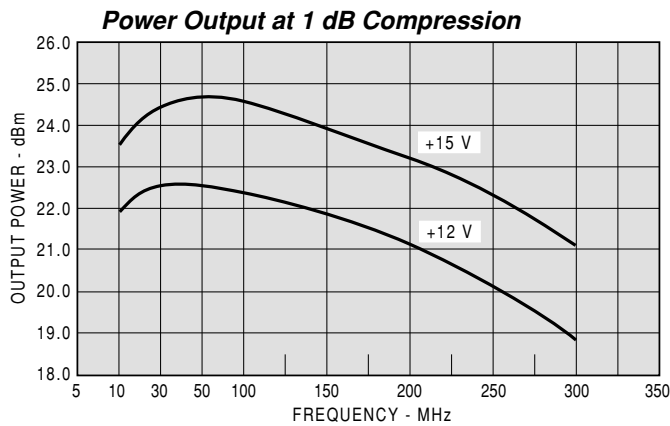
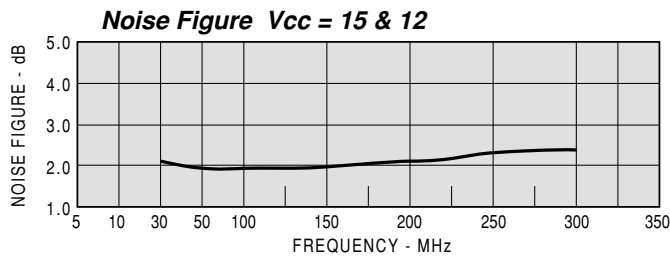
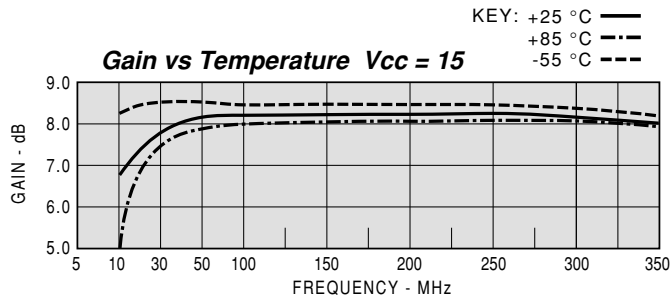
#### SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AC264		Vcc=+15V				Icc=45.47	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
10	2.75	3.00	6.57	34		-12.3	
20	1.73	1.81	7.70	14		-11.3	
50	1.22	1.25	8.14	-7	2.00	-10.9	
100	1.11	1.10	8.18	-27	1.10	-10.9	
150	1.22	1.15	8.19	-44	0.94	-11.2	
200	1.37	1.25	8.18	-60	0.93	-11.4	
250	1.54	1.37	8.21	-77	0.94	-11.7	
300	1.75	1.54	8.16	-95	0.98	-12.1	
350	2.01	1.76	8.06	-113	1.00	-12.6	

Model: AC264		Vcc=+15V				Icc=45.47		
FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.47	131.4	2.13	33.7	0.242	34.2	0.50	133.5
20	0.27	119.9	2.43	14.1	0.273	14.3	0.29	117.5
50	0.10	121.7	2.55	-7.1	0.285	-6.7	0.11	110.3
100	0.05	-178.3	2.56	-26.7	0.284	-26.1	0.05	146.6
150	0.10	-153.3	2.57	-43.6	0.277	-42.9	0.07	179.5
200	0.16	-157.0	2.57	-60.2	0.270	-59.5	0.11	-179.5
250	0.21	-168.9	2.57	-77.2	0.260	-76.1	0.16	174.8
300	0.27	174.2	2.56	-94.9	0.249	-94.2	0.21	165.4
350	0.34	153.9	2.53	-113.5	0.234	-112.4	0.27	155.2

Model: AC264		Vcc=+12V				Icc=35.49	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
10	1.51	1.57	7.77	15		-11.2	
20	1.27	1.30	8.03	3		-11.0	
50	1.12	1.12	8.17	-12	1.40	-10.9	
100	1.16	1.13	8.18	-29	0.98	-11.0	
150	1.28	1.20	8.16	-45	0.90	-11.1	
200	1.43	1.31	8.17	-62	0.93	-11.4	
250	1.61	1.44	8.19	-79	0.94	-11.7	
300	1.83	1.61	8.15	-97	0.99	-12.1	
350	2.11	1.85	8.02	-115	1.00	-12.6	

Model: AC264		Vcc=+12V				Icc=35.49		
FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.20	126.2	2.45	15.1	0.276	15.4	0.22	127.3
20	0.12	130.6	2.52	3.5	0.283	3.7	0.13	126.5
50	0.06	158.0	2.56	-11.5	0.287	-10.9	0.06	141.8
100	0.07	-151.3	2.56	-29.2	0.283	-28.4	0.06	-174.8
150	0.12	-147.0	2.56	-45.4	0.278	-44.7	0.09	-168.8
200	0.18	-154.5	2.56	-62.1	0.270	-61.0	0.13	-174.8
250	0.23	-167.9	2.57	-78.9	0.260	-77.4	0.18	176.5
300	0.29	174.6	2.56	-96.7	0.249	-95.5	0.23	165.9
350	0.36	154.0	2.52	-115.5	0.233	-113.7	0.30	154.9