

# AC1264

## 10 TO 1200 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC1264
High Gain .....	26.0 dB
Low Noise Figure .....	2.9 dB
Ultra Low Phase Deviation from Linearity: 100-1000 MHz .....	< ±2°
High Performance Thin Film Standard Size TO-8 Package	

### SPECIFICATIONS\*

Parameter	Typical	Guaranteed*	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	3-1300 MHz	10-1200 MHz	10-1200 MHz
Small Signal Gain (Min.)	26.0 dB	25.0 dB	24.5 dB
Gain Flatness (Max.)	±0.25 dB	±0.6 dB	±0.8 dB
Noise Figure (Max.)	2.9 dB	3.5 dB	4.0 dB
SWR (Max.) Input/Output	< 1.3:1	1.7:1	1.9:1
Power Output (Min.) @ 1dB comp.	+8.0 dBm	+7.0 dBm	+7.0 dBm
Reverse Isolation	35.0 dB	—	—
DC Current (Max.)	35.0 mA	38.0 mA	40.0 mA

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

### INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC1264
Second Order Harmonic Intercept Point .....	+50 dBm
Second Order Two Tone Intercept Point .....	+44 dBm
Third Order Two Tone Intercept Point .....	+21 dBm

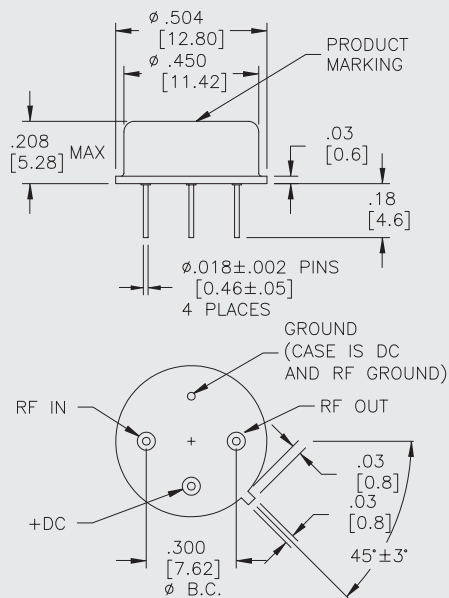
### ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-62 to +125 °C
Maximum Case Temperature .....	+125 °C
Maximum DC Voltage .....	+18 Volts
Maximum Continuous RF Input Power .....	+6 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 Resistance <sup>1</sup> (θ <sub>jc</sub> ) .....	+33 °C/Watt
Junction Temperature Rise Above Case (T <sub>jc</sub> ) .....	+18.9 °C

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

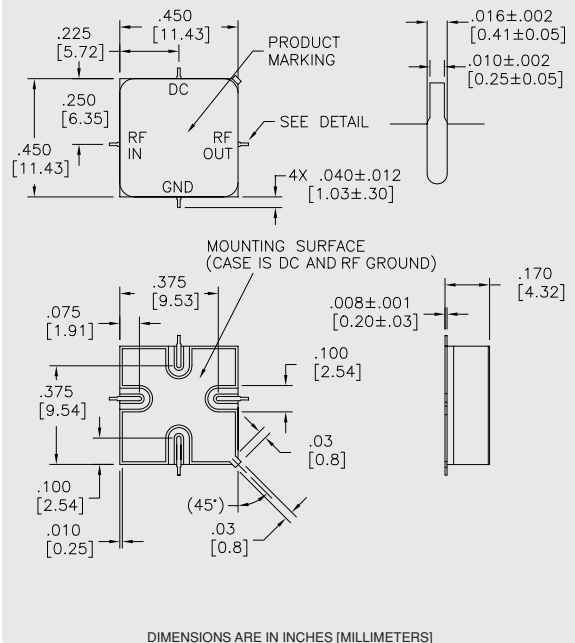
### AC1264

#### TO-8 Package for Amplifiers



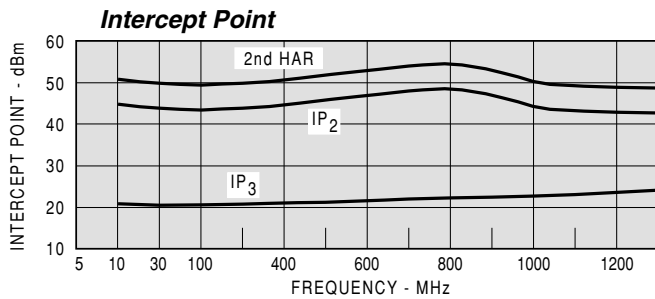
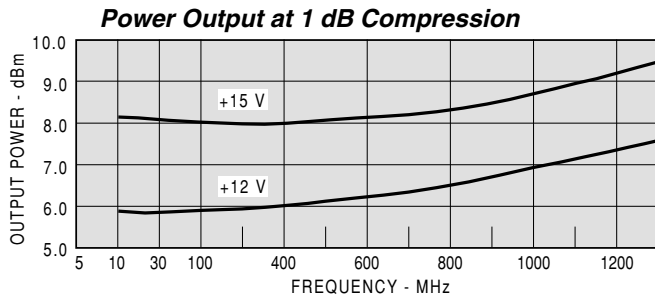
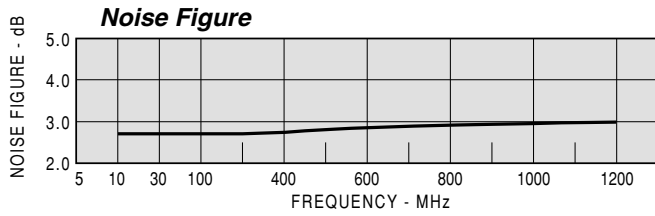
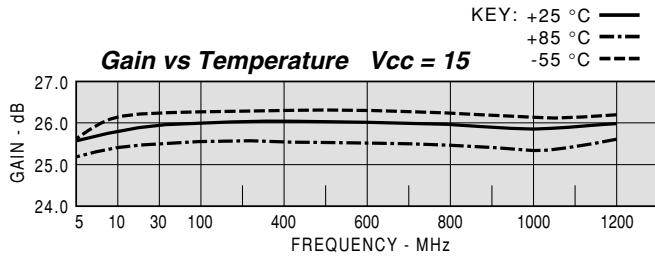
### AS1264

#### SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**



**TYPICAL AUTOMATIC TEST DATA**

Model: AC1264				Vcc= +15V		Icc= 34.75	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	DB	DB
MHZ	IN	OUT	DB	NSEC			
3	1.51	1.41	24.8				-36.8
5	1.31	1.24	25.4				-36.0
10	1.17	1.14	25.6				-35.8
50	1.10	1.08	25.7	1.353			-35.5
100	1.11	1.09	25.7	0.636			-35.8
200	1.12	1.10	25.8	0.600			-35.9
300	1.14	1.13	25.7	0.575			-35.7
400	1.18	1.17	25.8	0.597			-36.0
500	1.20	1.21	25.9	0.596			-35.8
600	1.23	1.27	25.8	0.595			-36.1
700	1.25	1.32	25.9	0.598			-36.1
800	1.26	1.37	25.9	0.617			-36.2
900	1.26	1.41	25.8	0.611			-36.2
1000	1.19	1.46	25.8	0.589			-36.6
1100	1.14	1.51	25.8	0.635			-37.2
1200	1.09	1.54	25.9	0.642			-37.3
1300	1.14	1.57	25.8	0.662			-37.4

LINEAR S-PARAMETERS

Model: AC1264				Vcc= +15V						Icc= 34.75	
FREQ.	S11		S21		S12		S22		MAG	ANG	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
3	0.20	-100.9	17.47	44.6	0.014	58.0	0.17	-103.0			
5	0.13	-111.2	18.61	26.3	0.016	35.0	0.11	-109.9			
10	0.08	-131.9	19.14	11.6	0.016	17.0	0.06	-127.4			
50	0.05	-175.4	19.29	-7.8	0.017	1.0	0.04	-169.3			
100	0.05	163.3	19.33	-19.3	0.016	-5.0	0.04	179.6			
200	0.05	142.3	19.39	-40.9	0.016	-10.0	0.05	164.1			
300	0.07	128.6	19.35	-61.5	0.016	-18.0	0.06	149.3			
400	0.08	120.1	19.60	-83.0	0.016	-23.0	0.08	135.2			
500	0.09	102.9	19.67	-104.5	0.016	-29.0	0.10	119.4			
600	0.10	93.4	19.60	-125.9	0.016	-35.0	0.12	103.8			
700	0.11	78.9	19.69	-147.4	0.016	-42.0	0.14	88.9			
800	0.11	64.8	19.62	-169.6	0.016	-51.0	0.16	73.8			
900	0.11	54.9	19.54	168.4	0.015	-56.0	0.17	58.8			
1000	0.09	44.5	19.41	147.1	0.015	-66.0	0.19	44.9			
1100	0.07	38.9	19.52	124.2	0.014	-72.0	0.20	28.6			
1200	0.04	60.8	19.61	101.2	0.014	-80.0	0.21	12.1			
1300	0.06	115.3	19.59	77.5	0.014	-93.0	0.22	-3.7			
1400	0.14	119.9	19.65	52.6	0.013	-106.0	0.23	-18.3			

Model: AC1264				Vcc= +12V		Icc= 27.86	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	DB	DB
MHZ	IN	OUT	DB	NSEC			
3	1.47	1.44	24.2				-36.3
5	1.26	1.26	24.7				-35.6
10	1.14	1.15	25.0				-35.4
50	1.05	1.10	25.0	1.334			-35.2
100	1.04	1.10	25.1	0.634			-35.3
200	1.06	1.11	25.1	0.599			-35.5
300	1.08	1.14	25.1	0.575			-35.4
400	1.10	1.17	25.2	0.597			-35.2
500	1.12	1.21	25.3	0.600			-35.6
600	1.14	1.26	25.3	0.595			-35.7
700	1.16	1.30	25.3	0.601			-35.7
800	1.16	1.34	25.3	0.623			-36.1
900	1.16	1.37	25.3	0.614			-35.8
1000	1.11	1.41	25.3	0.600			-36.6
1100	1.09	1.45	25.3	0.650			-36.7
1200	1.12	1.46	25.4	0.647			-36.8
1300	1.26	1.47	25.3	0.670			-37.0