

# AC1486

## 900 TO 1400 MHz TO-8 CASCADABLE AMPLIFIER

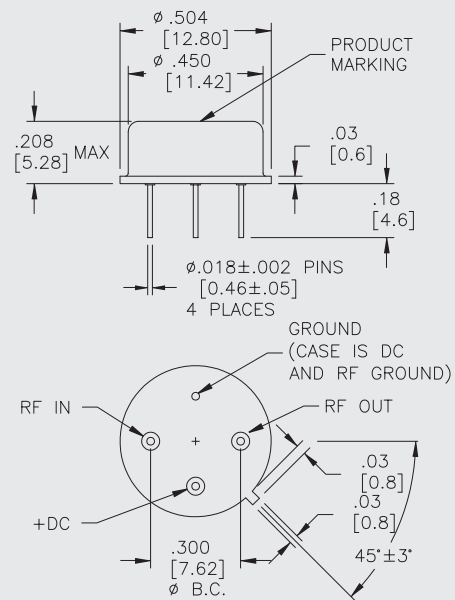
**Typical Values**

Low Noise Figure .....	<b>1.1 dB</b>
High Gain .....	<b>24.5 dB</b>
High Performance Thin Film Standard Size TO-8 Package	

**AC1486**

### AC1486

**TO-8 Package for Amplifiers**



## SPECIFICATIONS\*

Parameter	Typical	Guaranteed*	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	800-1500 MHz	900-1400 MHz	900-1400 MHz
Small Signal Gain (Min.)	24.5 dB	23.0 dB	22.5 dB
Gain Flatness (Max.)	±0.2 dB	±0.6 dB	±0.7 dB
Noise Figure (Max.)	1.1 dB	1.3 dB	1.7 dB
SWR (Max. Input/Output)	< 1.6:1	2.0:1	2.0:1
Power Output (Min.) @ 1dB comp.	+14.0 dBm	+12.0 dBm	+11.0 dBm
Reverse Isolation	40.0 dB	—	—
DC Current (Max.)	58.0 mA	63.0 mA	68.0 mA

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

## INTERMODULATION PERFORMANCE

**Typical @ 25 °C**

Second Order Harmonic Intercept Point .....	<b>+38 dBm</b>
Second Order Two Tone Intercept Point .....	<b>+32 dBm</b>
Third Order Two Tone Intercept Point .....	<b>+26 dBm</b>

**AC1486**

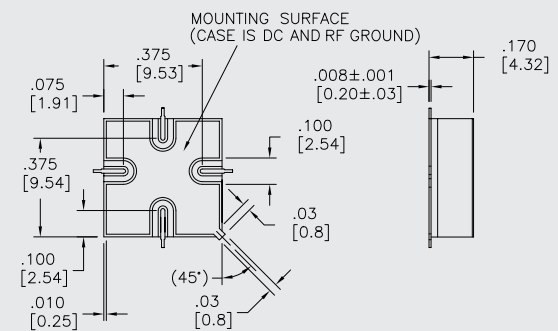
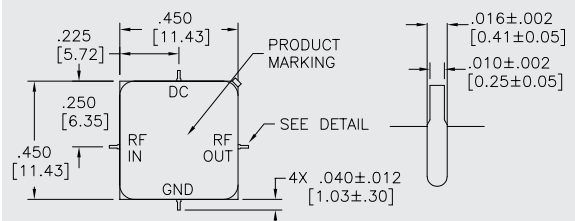
## ABSOLUTE MAXIMUM RATINGS

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 Resistance <sup>1</sup> (θjc) .....	+32 °C/Watt
Junction Temperature Rise Above Case (Tjc) .....	+30.5 °C

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

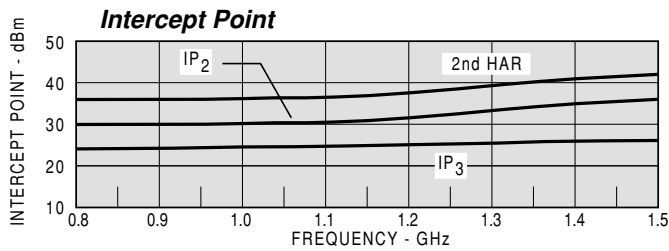
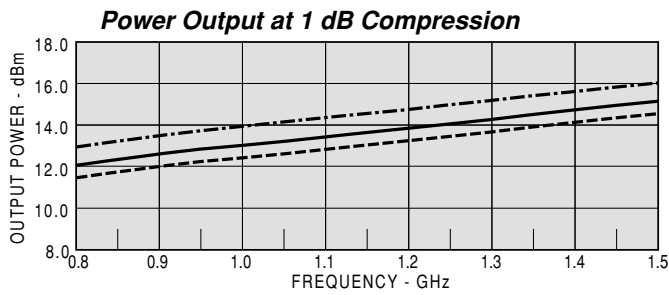
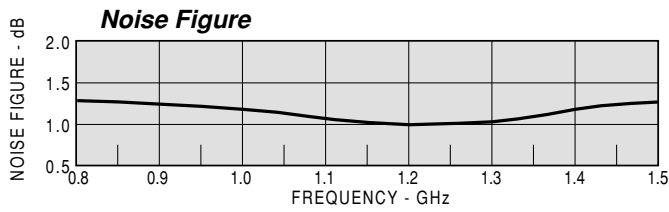
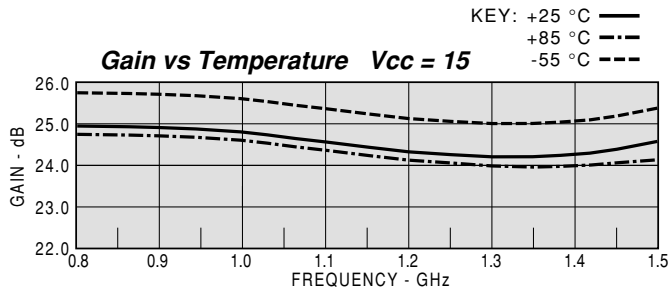
### AS1486

**SMT0-8 Package for Amplifiers**



DIMENSIONS ARE IN INCHES [MILLIMETERS]

## TYPICAL PERFORMANCE



## TYPICAL AUTOMATIC TEST DATA

Model: AC1486				Vcc= +15V		Icc= 60.34	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	DB	DB
MHZ	IN	OUT	DB	NSEC			
800	1.80	1.39	25.3	0.719	-43.4		
900	1.43	1.36	25.1	0.719	-42.3		
1000	1.37	1.33	24.9	0.675	-41.5		
1100	1.45	1.30	24.6	0.642	-41.0		
1200	1.51	1.28	24.5	0.626	-40.6		
1300	1.48	1.28	24.5	0.640	-40.3		
1400	1.34	1.29	24.5	0.674	-40.5		
1500	1.24	1.30	24.6	0.744	-41.2		
1600	1.63	1.29	24.4	0.824	-42.2		

Model: AC1486				Vcc= +15V				Icc= 60.34	
FREQ.	S11		S21		S12		S22		
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
800	0.29	11.5	18.34	-126.3	0.007	82.0	0.16	64.0	
900	0.18	-35.8	18.02	-152.2	0.008	69.0	0.15	44.6	
1000	0.16	-95.6	17.52	-176.5	0.008	57.0	0.14	25.3	
1100	0.18	-138.1	16.99	-160.5	0.009	44.0	0.13	7.6	
1200	0.20	-165.9	16.73	-137.9	0.009	35.0	0.12	-10.1	
1300	0.19	168.1	16.76	-114.8	0.010	21.0	0.12	-28.1	
1400	0.15	131.4	16.83	-90.6	0.009	10.0	0.13	-46.1	
1500	0.11	52.7	17.07	-63.8	0.009	-6.0	0.13	-65.5	
1600	0.24	-21.1	16.62	-34.1	0.008	-27.0	0.13	-87.5	

Model: AC1486				Vcc= +12V		Icc= 53.79	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	DB	DB
MHZ	IN	OUT	DB	NSEC			
800	1.79	1.37	24.5	0.728	-42.4		
900	1.43	1.34	24.3	0.728	-41.2		
1000	1.38	1.30	24.1	0.682	-40.5		
1100	1.45	1.28	23.9	0.644	-40.2		
1200	1.53	1.26	23.9	0.631	-39.4		
1300	1.52	1.26	23.9	0.650	-39.1		
1400	1.39	1.28	24.1	0.677	-39.0		
1500	1.26	1.30	24.4	0.757	-39.5		
1600	1.57	1.30	24.4	0.861	-40.2		

Model: AC1486				Vcc= +12V				Icc= 53.79	
FREQ.	S11		S21		S12		S22		
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
800	0.28	8.9	16.69	-122.5	0.008	86.0	0.16	66.2	
900	0.18	-37.8	16.47	-148.7	0.009	71.0	0.14	46.0	
1000	0.16	-93.5	16.10	-173.2	0.009	59.0	0.13	25.4	
1100	0.18	-132.9	15.72	-163.6	0.010	45.0	0.12	5.9	
1200	0.21	-160.6	15.61	-140.8	0.011	33.0	0.12	-13.5	
1300	0.21	176.3	15.76	-117.6	0.011	21.0	0.12	-33.9	
1400	0.16	143.3	16.05	-93.2	0.011	5.0	0.12	-55.0	
1500	0.12	78.6	16.59	-65.8	0.011	-15.0	0.13	-79.4	
1600	0.22	-7.5	16.55	-34.8	0.010	-39.0	0.13	-110.0	