

AC1286

650 TO 1200 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

Ultra Low Noise Figure	AC1286 1.0 dB
High Gain	29.0 dB
High Performance Thin Film Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed*	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	600-1300 MHz	650-1200 MHz	650-1200 MHz
Small Signal Gain (Min.)	31.0 dB	28.0 dB	27.0 dB
Gain Flatness (Max.)	±0.4 dB	±0.6 dB	±0.7 dB
Noise Figure (Max.)	1.0 dB	1.3 dB	1.7 dB
SWR (Max.)	Input Output	1.6:1 1.7:1	1.8:1 1.9:1
Power Output (Min.) @ 1dB comp.	+12.0 dBm	+10.5 dBm	+9.5 dBm
Reverse Isolation	42.0 dB	—	—
DC Current (Max.)	62.0 mA	65.0 mA	68.0 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 900 MHz

Second Order Harmonic Intercept Point	AC1286 +41 dBm
Second Order Two Tone Intercept Point	+35 dBm
Third Order Two Tone Intercept Point	+23 dBm

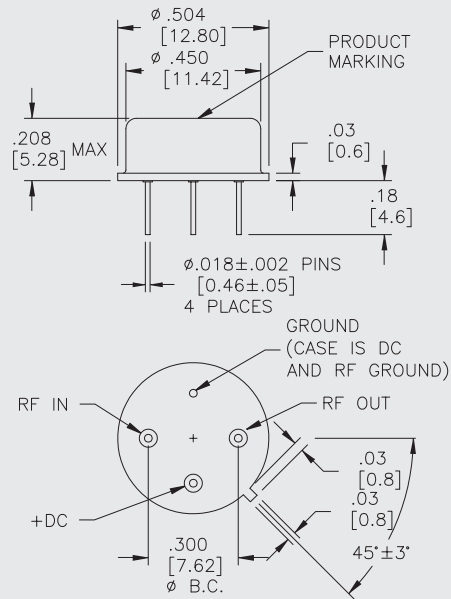
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+17 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+125 °C
Thermal Resistance ¹ (θjc)	+22 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+20.2 °C

¹ Thermal resistance is based on total power dissipation.

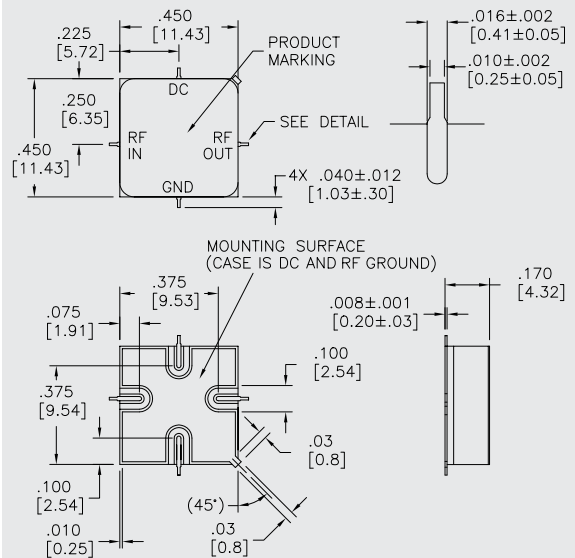
AC1286

TO-8 Package for Amplifiers



AS1286

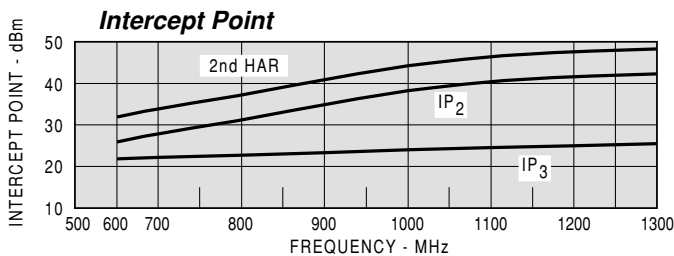
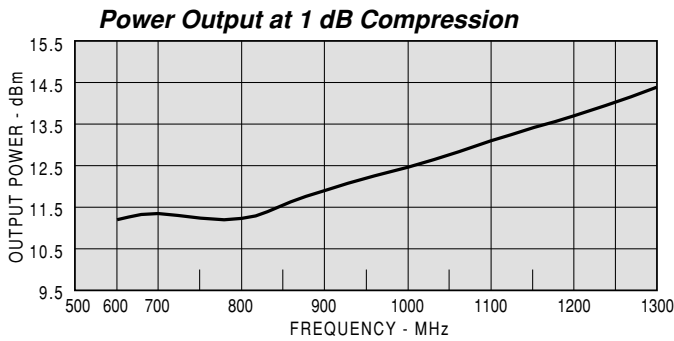
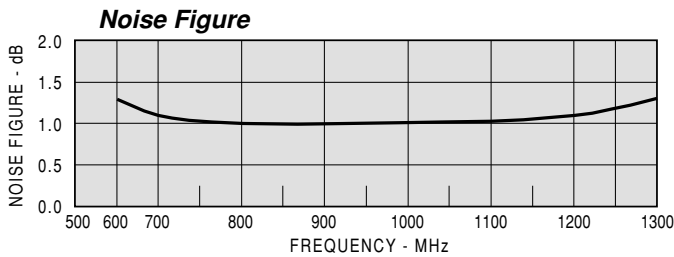
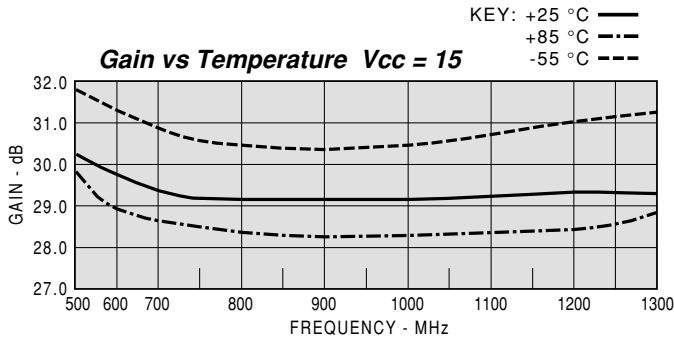
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC1286 Vcc=+15V Icc= 62.66

FREQ. (MHZ)	SWR IN	SWR OUT	GAIN (DB)	PHASE (DEG)	DELAY (NSEC)	REV/ISO (DB)
500	2.88	1.25	30.88	-47	0.94	-53.6
600	1.87	1.34	31.34	-79	0.88	-50.5
700	1.52	1.43	31.30	-108	0.77	-48.4
800	1.43	1.50	31.11	-135	0.72	-46.5
900	1.47	1.54	30.91	-159	0.66	-45.7
1000	1.56	1.57	30.71	177	0.67	-44.7
1100	1.62	1.61	30.59	154	0.61	-44.1
1200	1.60	1.65	30.67	131	0.65	-43.5
1300	1.41	1.72	31.07	105	0.71	-42.9

Model: AC1286 Vcc= +15V Icc= 62.66

LINEAR S-PARAMETERS

FREQ. (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
500	0.48	42.2	35.00	-46.9	0.002	132.8	0.11	61.8
600	0.30	10.1	36.92	-79.5	0.003	119.3	0.15	50.6
700	0.21	-18.4	36.71	-108.2	0.004	103.5	0.18	36.1
800	0.18	-46.2	35.92	-134.5	0.005	95.6	0.20	21.8
900	0.19	-69.2	35.10	-158.9	0.005	85.3	0.21	8.5
1000	0.22	-92.3	34.32	177.0	0.006	78.8	0.22	-4.4
1100	0.24	-113.2	33.86	154.1	0.006	65.7	0.23	-17.7
1200	0.23	-137.7	34.16	130.6	0.007	47.6	0.25	-33.9
1300	0.17	-175.1	35.76	105.2	0.007	33.1	0.26	-54.9
1400	0.15	78.9	38.50	75.1	0.007	-4.6	0.29	-85.4
1500	0.47	-2.9	39.43	35.1	0.006	-55.9	0.30	-133.7

Model: AC1286 Vcc= +12V Icc= 59.05

FREQ. (MHZ)	SWR IN	SWR OUT	GAIN (DB)	PHASE (DEG)	DELAY (NSEC)	REV/ISO (DB)
500	3.12	1.23	29.87	-46	1.00	-53.7
600	1.87	1.31	30.61	-82	0.96	-50.4
700	1.44	1.39	30.69	-113	0.84	-47.7
800	1.34	1.45	30.59	-142	0.78	-45.0
900	1.41	1.49	30.51	-169	0.72	-44.7
1000	1.54	1.52	30.43	165	0.74	-43.4
1100	1.72	1.56	30.43	140	0.68	-42.7
1200	1.80	1.61	30.69	114	0.72	-41.2
1300	1.71	1.74	31.36	85	0.80	-40.5

Model: AC1286 Vcc= +12V Icc= 59.05

LINEAR S-PARAMETERS

FREQ. (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
500	0.51	28.6	31.15	-46.2	0.002	136.3	0.10	52.4
600	0.30	-10.5	33.94	-81.8	0.003	115.3	0.13	42.0
700	0.18	-42.6	34.22	-113.4	0.004	99.2	0.16	26.1
800	0.15	-64.9	33.85	-142.0	0.006	86.3	0.18	9.9
900	0.17	-81.7	33.55	-168.5	0.006	72.7	0.20	-6.0
1000	0.21	-102.5	33.22	165.0	0.007	61.0	0.21	-21.6
1100	0.26	-127.0	33.24	139.8	0.007	46.5	0.22	-38.3
1200	0.29	-157.1	34.23	113.7	0.009	25.2	0.24	-59.3
1300	0.26	157.8	36.99	85.3	0.009	2.6	0.27	-87.7
1400	0.31	66.0	41.64	49.2	0.010	-41.8	0.34	-130.8
1500	0.68	-22.8	40.94	-1.7	0.009	-106.1	0.39	164.8