

AC1286 650 TO 1200 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

Ultra Low Noise Figure	1.0 dB
High Gain	31.0 dB

High Performance Thin Film Standard Size TO-8

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 1.6:1 Output 1.7:1	1.8:1 1.9:1	2.0:1 2.0:1
Power Output (Min.) @ 1dB comp.	+12.0 dBm	+10.5 dBm	+9.5 dBm
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	+41 dBm
Second Order Two Tone Intercept Point	+35 dBm
Third Order Two Tone Intercept Point	+23 dBm

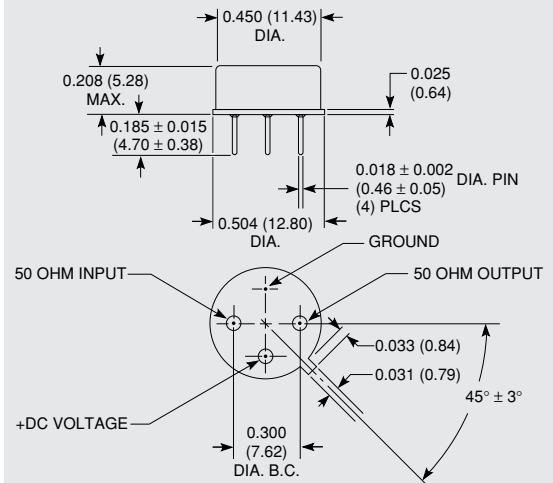
ABSOLUTE MAXIMUM RATINGS

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 Resistance¹ (θjc)	+22° C/Watt
Junction Temperature Rise Above Case (Tjc)	+20.2° C

¹ Thermal resistance is based on total power dissipation.

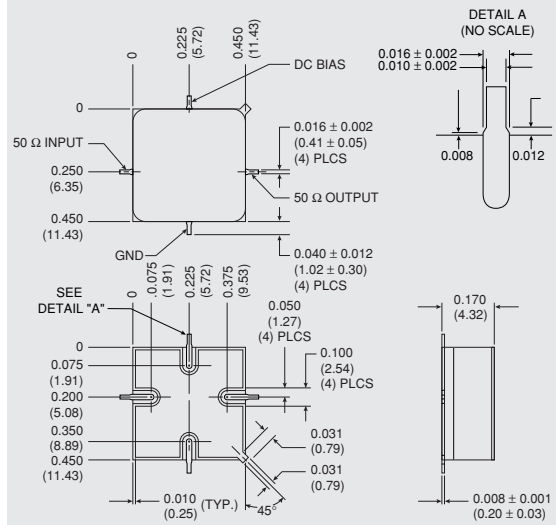
AC1286

TO-8 Package for Amplifiers



AS1286

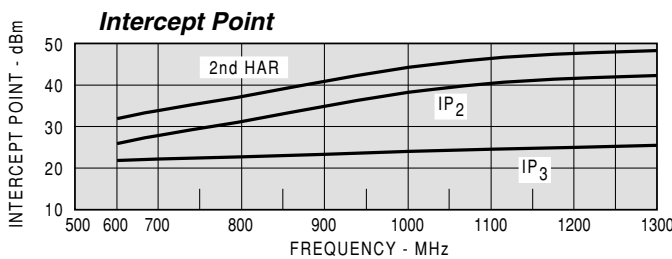
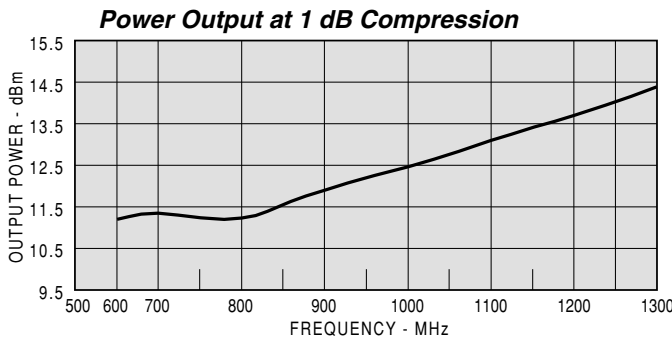
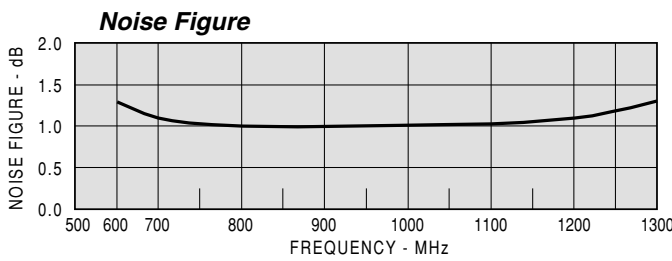
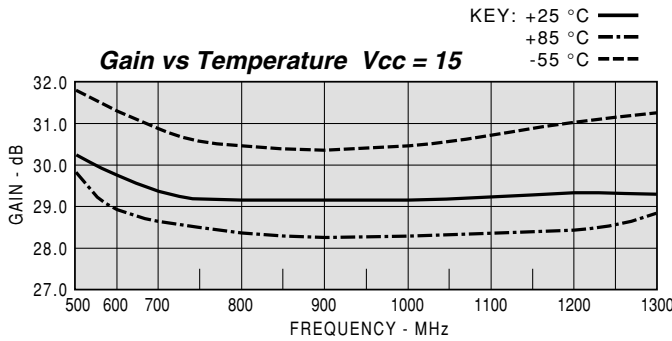
SMT0-8 Package for Amplifiers



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 (MAG, ANG)	S21 (MAG, ANG)	S12 (MAG, ANG)	S22 (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 (MAG, ANG)	S21 (MAG, ANG)	S12 (MAG, ANG)	S22 (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