

AC1526

10 TO 1500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

High Gain - Two Stages	21.5 dB
High Output Level	+15.0 dBm
High Third Order I.P.	+28.0 dBm
High Performance Thin Film	
Standard Size TO-8 Package	

AC1526

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	10-1500 MHz	10-1500 MHz	10-1500 MHz
Small Signal Gain (Min.)	21.5 dB	20.0 dB	19.0 dB
Gain Flatness (Max.)	±0.3 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	3.8^ dB	4.5^ dB	5.0^ dB
SWR (Max.) Input/Output	1.4:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+15.0 dBm	+14.0 dBm	+13.5 dBm
Reverse Isolation	32.0 dB	—	—
DC Current (Max.)	65.0 mA	69.0 mA	71.0 mA

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

^ 0.5 dB higher above 1300 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C

Second Order Harmonic Intercept Point	+51 dBm
Second Order Two Tone Intercept Point	+45 dBm
Third Order Two Tone Intercept Point	+28 dBm

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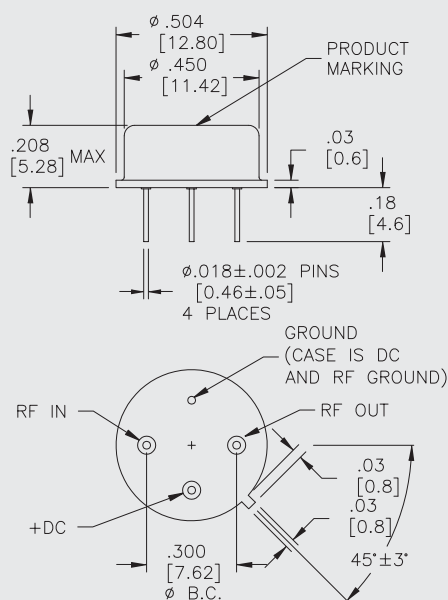
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+18 Volts
Maximum Continuous RF Input Power	+10 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 ¹ (θjc)	+36 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+37.2 °C

¹ Thermal resistance is based on total power dissipation.

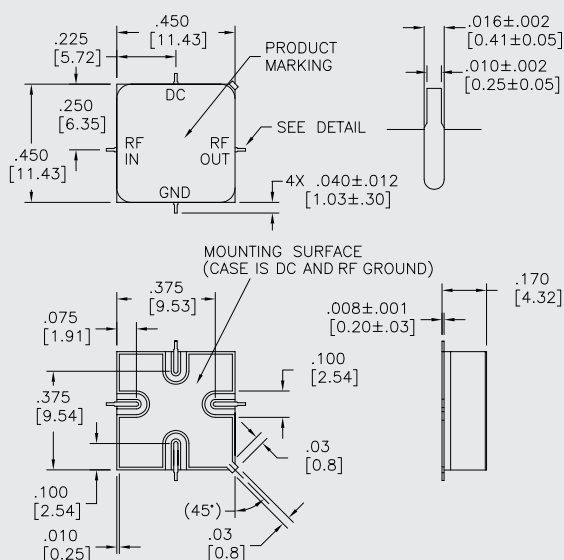
AC1526

TO-8 Package for Amplifiers



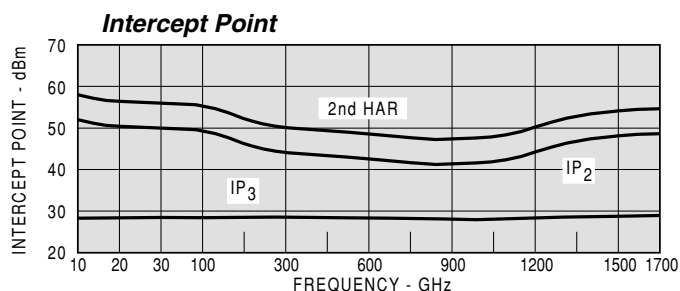
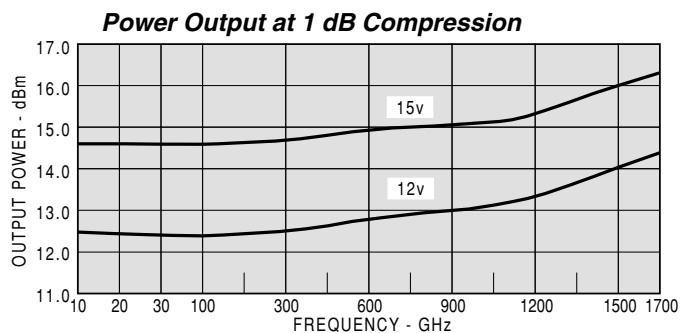
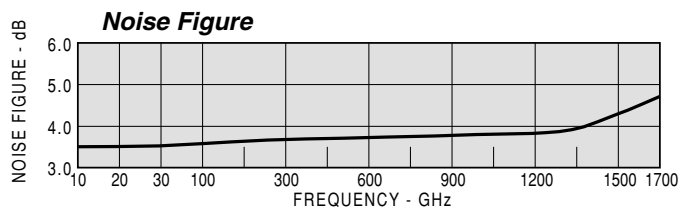
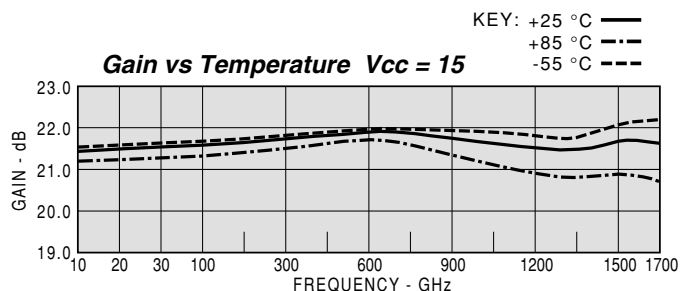
AS1526

SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model: AC1526				Vcc= +15V		Icc= 63.56	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
5	1.18	1.14	21.2		-32.7		
10	1.10	1.06	21.3		-32.6		
20	1.06	1.03	21.5		-32.6		
60	1.06	1.01	21.5	0.953	-32.4		
100	1.06	1.01	21.5	0.661	-32.6		
200	1.06	1.03	21.5	0.610	-32.3		
300	1.07	1.04	21.6	0.590	-32.5		
400	1.08	1.06	21.7	0.599	-32.3		
500	1.09	1.08	21.8	0.617	-32.5		
600	1.10	1.11	21.8	0.621	-32.1		
700	1.12	1.14	21.9	0.633	-32.2		
800	1.15	1.17	21.9	0.631	-32.3		
900	1.17	1.22	21.9	0.638	-32.6		
1000	1.21	1.26	21.8	0.644	-32.1		
1100	1.23	1.32	21.7	0.643	-31.8		
1200	1.24	1.38	21.7	0.661	-31.8		
1300	1.24	1.43	21.5	0.655	-31.6		
1400	1.20	1.44	21.6	0.692	-31.3		
1500	1.21	1.42	21.5	0.725	-30.6		
1600	1.43	1.32	21.6	0.767	-30.1		

Model: AC1526				Vcc= +15V				Icc= 63.56	
FREQ.	S11		S21		S12		S22		
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
5	0.08	-74.6	11.43	28.8	0.023	37.0	0.06	-147.5	
10	0.05	-59.8	11.66	13.0	0.024	20.0	0.03	-164.9	
20	0.03	-38.9	11.82	3.5	0.023	10.0	0.01	168.1	
60	0.03	-17.3	11.92	-10.1	0.024	1.0	0.01	137.3	
100	0.03	-14.5	11.87	-19.8	0.024	-3.0	0.01	135.1	
200	0.03	-18.5	11.90	-41.7	0.024	-11.0	0.01	115.8	
300	0.03	-24.2	11.97	-63.0	0.024	-19.0	0.02	87.9	
400	0.04	-37.6	12.10	-84.6	0.024	-24.0	0.03	58.9	
500	0.04	-45.5	12.27	-106.7	0.024	-30.0	0.04	35.1	
600	0.05	-49.2	12.36	-129.1	0.025	-37.0	0.05	15.4	
700	0.06	-60.0	12.47	-151.8	0.025	-45.0	0.07	-2.8	
800	0.07	-72.6	12.50	-174.6	0.024	-51.0	0.08	-23.6	
900	0.08	-85.1	12.38	162.4	0.024	-59.0	0.10	-45.2	
1000	0.09	-100.7	12.28	139.2	0.025	-67.0	0.11	-63.7	
1100	0.10	-117.4	12.18	116.1	0.026	-75.0	0.14	-82.1	
1200	0.11	-136.1	12.09	92.2	0.026	-83.0	0.16	-102.0	
1300	0.11	-161.9	11.94	68.8	0.026	-91.0	0.18	-122.5	
1400	0.09	160.3	12.05	43.9	0.027	-103.0	0.18	-143.3	
1500	0.10	96.7	11.91	17.7	0.030	-113.0	0.17	-165.3	
1600	0.18	43.1	12.00	-9.7	0.031	-125.0	0.14	171.5	
1700	0.32	1.1	11.69	-41.7	0.035	-142.0	0.07	151.0	

Model: AC1526				Vcc= +12V		Icc= 50.50	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO		
MHZ	IN	OUT	DB	NSEC	DB		
5	1.18	1.14	21.0		-32.8		
10	1.10	1.06	21.1		-32.5		
20	1.08	1.03	21.2		-32.4		
60	1.07	1.01	21.3	0.954	-32.1		
100	1.07	1.01	21.3	0.669	-32.4		
200	1.08	1.02	21.3	0.610	-32.1		
300	1.08	1.04	21.3	0.593	-32.3		
400	1.09	1.05	21.4	0.603	-32.4		
500	1.11	1.07	21.6	0.619	-32.5		
600	1.11	1.09	21.6	0.620	-32.1		
700	1.13	1.12	21.7	0.640	-31.8		
800	1.15	1.15	21.7	0.634	-32.1		
900	1.17	1.19	21.7	0.640	-32.1		
1000	1.20	1.23	21.6	0.646	-31.8		
1100	1.23	1.29	21.5	0.648	-31.4		
1200	1.24	1.34	21.4	0.666	-31.3		
1300	1.23	1.39	21.4	0.663	-31.0		
1400	1.21	1.41	21.5	0.706	-30.6		
1500	1.29	1.39	21.3	0.736	-29.9		
1600	1.56	1.30	21.4	0.795	-29.2		