

# AC1526

## 10 TO 1500 MHz TO-8 CASCADABLE AMPLIFIER

**Typical Values**

<b>High Gain - Two Stages</b> .....	<b>AC1526</b> 21.5 dB
<b>High Output Level</b> .....	+15.0 dBm
<b>High Third Order I.P.</b> .....	+28.0 dBm
<b>High Performance Thin Film</b>	
<b>Standard Size TO-8 Package</b>	

### 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**

<b>Second Order Harmonic Intercept Point</b> .....	<b>AC1526</b> +51 dBm
<b>Second Order Two Tone Intercept Point</b> .....	+45 dBm
<b>Third Order Two Tone Intercept Point</b> .....	+28 dBm

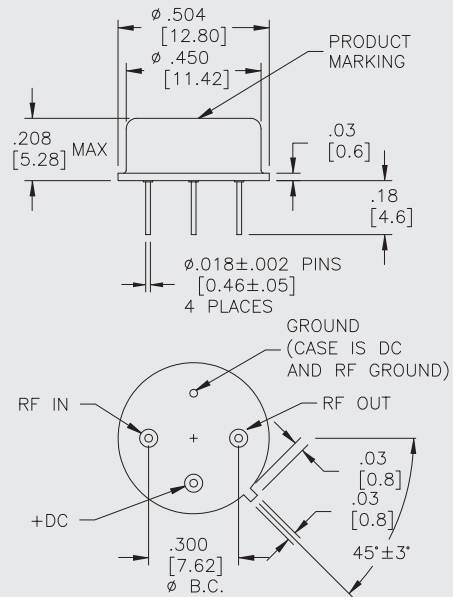
### ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> .....	-62 to +125 °C
<b>Maximum Case Temperature</b> .....	+125 °C
<b>Maximum DC Voltage</b> .....	+18 Volts
<b>Maximum Continuous RF Input Power</b> .....	+10 dBm
<b>Maximum Short Term Input Power (1 Minute Max.)</b> .....	50 Milliwatts
<b>Maximum Peak Power (3 μsec Max.)</b> .....	0.5 Watt
<b>Burn-in Temperature</b> .....	+125 °C
<b>Thermal Resistance<sup>1</sup> (θ<sub>jc</sub>)</b> .....	+36 °C/Watt
<b>Junction Temperature Rise Above Case (T<sub>jc</sub>)</b> .....	+37.2 °C

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

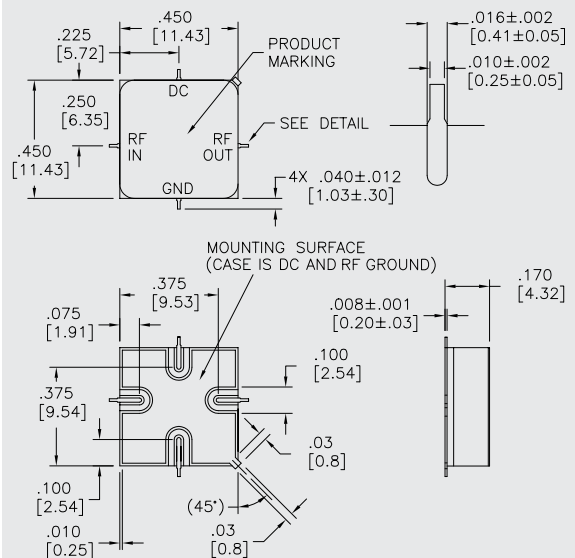
### AC1526

#### TO-8 Package for Amplifiers



### AS1526

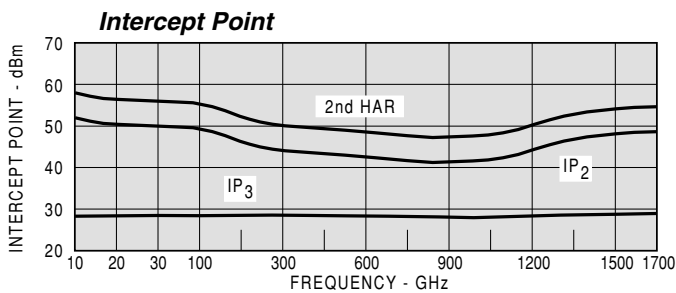
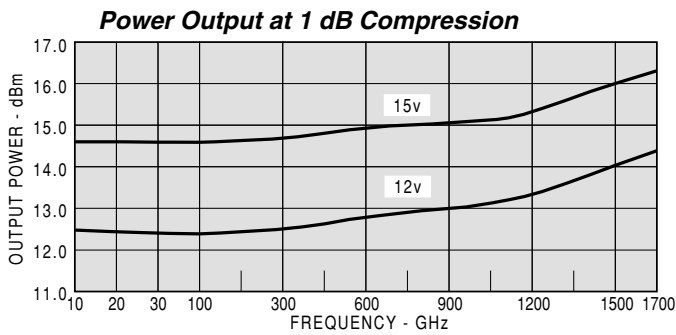
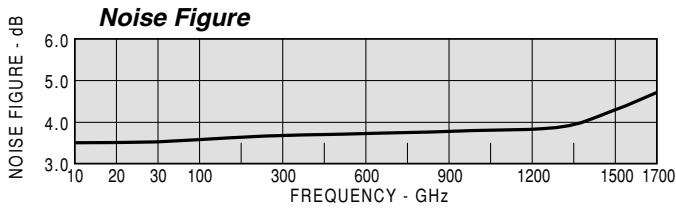
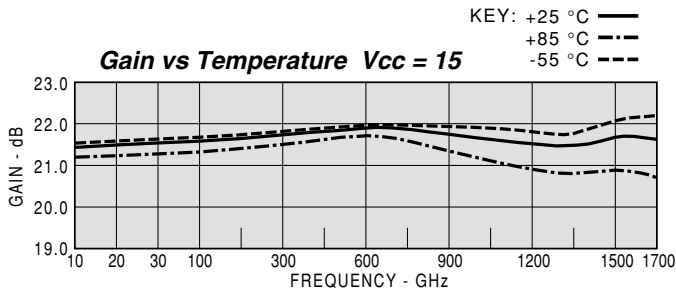
#### SMT0-8 Package for Amplifiers



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	DB	DB
MHZ	IN	OUT	DB	NSEC			
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	DB	DB
MHZ	IN	OUT	DB	NSEC			
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	