

# AR1526

## 10 TO 1500 MHz TO-8B CASCADABLE AMPLIFIER

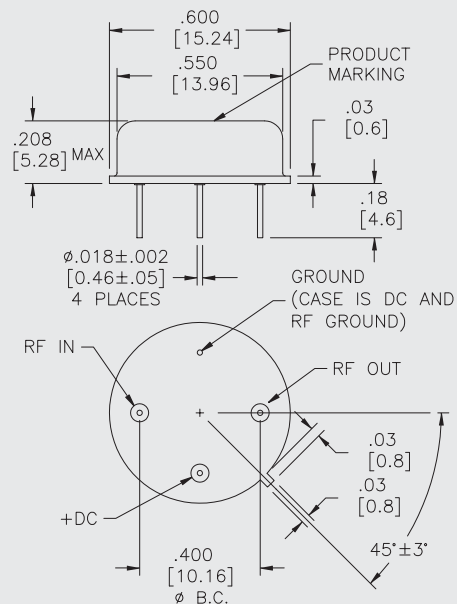
**Typical Values**

<b>High Gain</b> .....	<b>29.0 dB</b>
<b>Medium Output Level</b> .....	<b>+14.5 dBm</b>
<b>High Reverse Isolation</b> .....	<b>46 dB</b>
<b>High Performance Thin Film</b>	
<b>TO-8B Package</b>	

**AR1526**

### AR1526

#### TO-8B Package for Amplifiers



## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
<b>Frequency (Min.)</b>	<b>10-1600 MHz</b>	<b>10-1500 MHz</b>	<b>10-1500 MHz</b>
<b>Small Signal Gain (Min.)</b>	29.0 dB	27.5 dB	27.0 dB
<b>Gain Flatness (Max.)</b>	±0.6 dB	±1.0 dB	±1.2 dB
<b>Noise Figure (Max.)</b>	4.0 dB	5.0 dB	5.5 dB
<b>SWR (Max.)</b> Input/Output	1.3:1	1.7:1	1.8:1
<b>Power Output (Min.)</b> @ 1dB comp.	+14.5 dBm	+13.5 dBm	+13.0 dBm
<b>Reverse Isolation</b>	46.0 dB	—	—
<b>DC Current (Max.)</b>	80.0 mA	88.0 mA	93.0 mA

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

## INTERMODULATION PERFORMANCE

**Typical @ 25 °C**

<b>Second Order Harmonic Intercept Point</b> .....	<b>+48 dBm</b>
<b>Second Order Two Tone Intercept Point</b> .....	<b>+42 dBm</b>
<b>Third Order Two Tone Intercept Point</b> .....	<b>+27 dBm</b>

**+15 Volts**

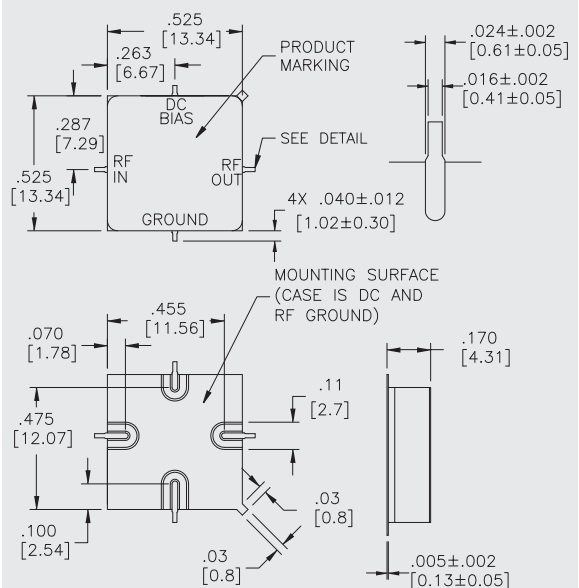
## ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> .....	<b>-65 to +150 °C</b>
<b>Maximum Case Temperature</b> .....	<b>+125 °C</b>
<b>Maximum DC Voltage</b> .....	<b>+17 Volts</b>
<b>Maximum Continuous RF Input Power</b> .....	<b>+13 dBm</b>
<b>Maximum Short Term Input Power (1 Minute Max.)</b> .....	<b>50 Milliwatts</b>
<b>Maximum Peak Power (3 μsec Max.)</b> .....	<b>0.5 Watt</b>
<b>Burn-in Temperature</b> .....	<b>+125 °C</b>
<b>Thermal Resistance<sup>1</sup> (θjc)</b> .....	<b>+34 °C/Watt</b>
<b>Junction Temperature Rise Above Case (Tjc)</b> .....	<b>+38.7 °C</b>

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

### ARS1526

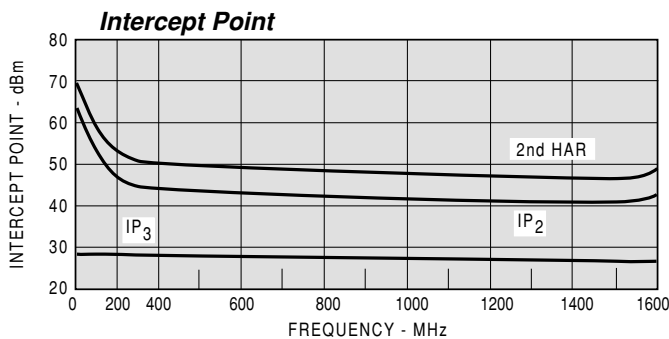
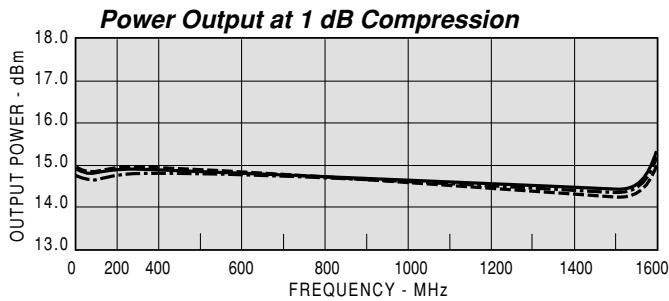
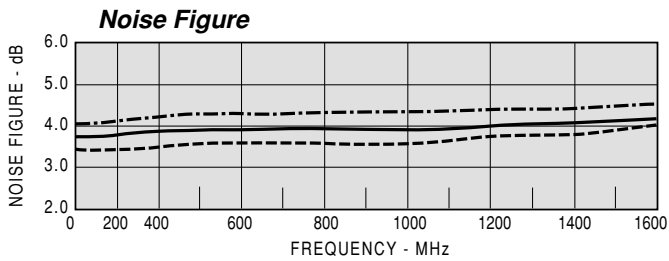
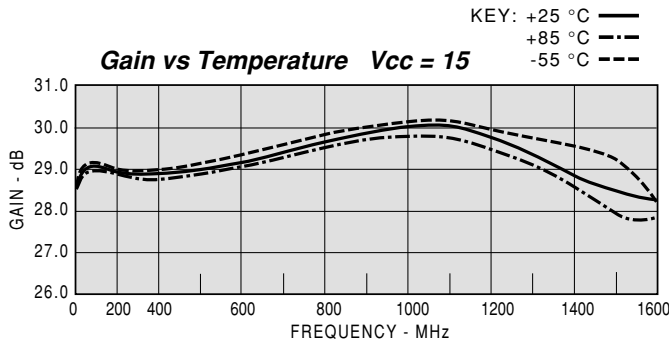
#### SMT0-8B Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AR1526				Vcc= +15V		Icc= 80.5	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
5	1.42	1.30	28.46	-140		-46.9	
10	1.24	1.19	28.81	-162		-45.9	
50	1.16	1.13	29.02	171	1.90	-45.9	
100	1.17	1.12	28.98	155	0.88	-46.9	
200	1.18	1.11	28.89	127	0.77	-47.0	
300	1.20	1.11	28.82	100	0.74	-45.9	
400	1.22	1.09	28.85	74	0.73	-46.0	
500	1.22	1.07	28.95	48	0.73	-45.8	
600	1.21	1.05	29.12	22	0.73	-45.9	
700	1.20	1.04	29.36	-6	0.75	-47.0	
800	1.17	1.05	29.64	-33	0.77	-46.6	
900	1.14	1.07	29.90	-62	0.80	-48.2	
1000	1.11	1.09	30.07	-92	0.83	-47.2	
1100	1.09	1.10	30.04	-123	0.86	-45.4	
1200	1.11	1.07	29.82	-154	0.86	-46.8	
1300	1.16	1.03	29.38	176	0.84	-46.3	
1400	1.23	1.06	28.88	146	0.81	-46.5	
1500	1.33	1.14	28.48	119	0.77	-45.3	
1600	1.52	1.24	28.23	90	0.79	-46.1	

Model: AR1526		LINEAR S-PARAMETERS						Vcc= +15V		Icc= 80.5	
FREQ.	S11	S21				S12		S22			
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
5	0.18	-104.3	26.50	-140.4	0.005	57.2	0.13	-140.5	0.13	-140.5	
10	0.11	-128.5	27.57	-161.9	0.005	29.4	0.09	-160.7	0.09	-160.7	
50	0.08	176.9	28.25	170.6	0.005	0.5	0.06	172.4	0.06	172.4	
100	0.08	152.2	28.13	154.8	0.005	1.2	0.06	162.3	0.06	162.3	
200	0.08	119.0	27.82	127.0	0.004	-12.9	0.05	144.4	0.05	144.4	
300	0.09	91.2	27.62	100.5	0.005	-21.8	0.05	126.1	0.05	126.1	
400	0.10	70.7	27.70	74.3	0.005	-11.8	0.04	103.1	0.04	103.1	
500	0.10	53.8	28.02	47.9	0.005	-15.8	0.04	78.6	0.04	78.6	
600	0.10	38.2	28.58	21.5	0.005	-26.6	0.02	49.1	0.02	49.1	
700	0.09	26.8	29.38	-5.6	0.004	-37.8	0.02	-6.0	0.02	-6.0	
800	0.08	17.7	30.34	-33.5	0.005	-50.9	0.03	-60.4	0.03	-60.4	
900	0.07	11.4	31.26	-62.4	0.004	-56.8	0.03	-95.7	0.03	-95.7	
1000	0.05	14.2	31.88	-92.5	0.004	-61.3	0.04	-126.2	0.04	-126.2	
1100	0.04	32.4	31.77	-123.3	0.005	-74.2	0.05	-153.2	0.05	-153.2	
1200	0.05	54.6	30.98	-154.2	0.005	-79.1	0.03	171.0	0.03	171.0	
1300	0.07	61.6	29.45	175.6	0.005	-93.3	0.01	103.3	0.01	103.3	
1400	0.10	67.9	27.79	146.4	0.005	-104.0	0.03	-27.6	0.03	-27.6	
1500	0.14	68.0	26.54	118.5	0.005	-118.1	0.07	-61.9	0.07	-61.9	
1600	0.21	62.3	25.79	90.2	0.005	-128.3	0.11	-82.8	0.11	-82.8	