

# AC1586 1200 TO 1700 MHz TO-8 CASCADABLE AMPLIFIER

**Typical Values**

<b>Low Noise Figure</b> .....	<b>AC1586</b>
<b>High Gain</b> .....	1.1 dB
<b>High Performance Thin Film</b>	> 26.0 dB
<b>Standard Size TO-8</b>	

## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	1100-1700 MHz	1200-1700 MHz	1200-1700 MHz
Small Signal Gain (Min.)	> 26.0 dB	25.5 dB	25.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.4 dB	±0.5 dB
Noise Figure (Max.)	1.1 dB	1.3 dB	1.8 dB
SWR (Max.) Input/Output	< 1.6:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+14.0 dBm	+13.0 dBm	+12.5 <sup>^</sup> dBm
DC Current (Max.)	58.0 mA	63.0 mA	68.0 mA

\* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.  
<sup>^</sup> 0.5 dB less at 1200 MHz (-55° C).

## INTERMODULATION PERFORMANCE

**Typical @ 25° C**

<b>Second Order Harmonic Intercept Point</b> .....	<b>AC1586</b>
<b>Second Order Two Tone Intercept Point</b> .....	+51 dBm
<b>Third Order Two Tone Intercept Point</b> .....	+45 dBm
	+27 dBm

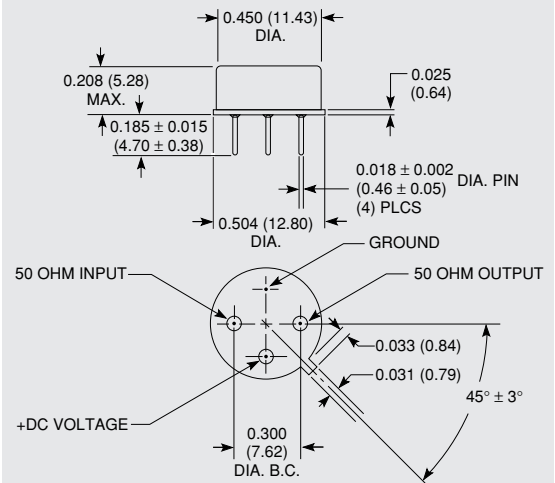
## ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> .....	-62 to 125° C
<b>Maximum Case Temperature</b> .....	+125° C
<b>Maximum DC Voltage</b> .....	+17 Volts
<b>Maximum Continuous RF Input Power</b> .....	+13 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> (θjc)</b> .....	+19° C/Watt
<b>Junction Temperature Rise Above Case (Tjc)</b> .....	+17.5° C

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

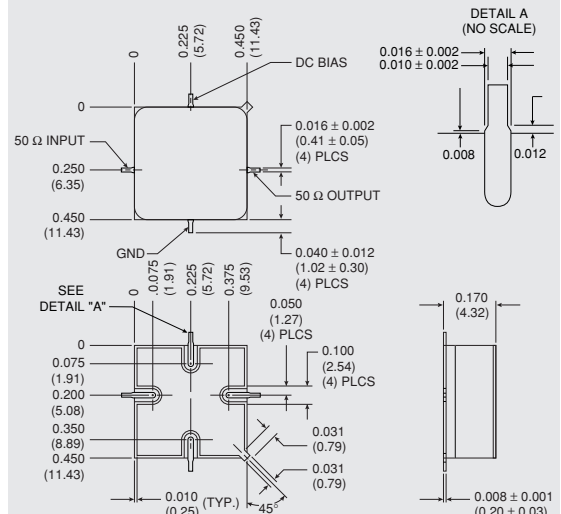
### AC1586

#### TO-8 Package for Amplifiers



### AS1586

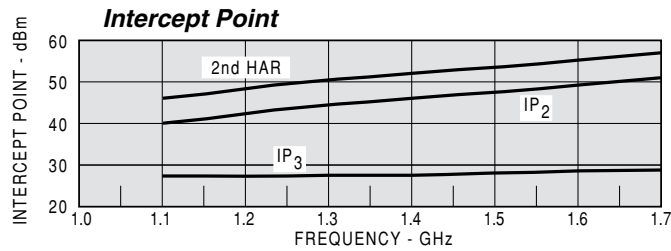
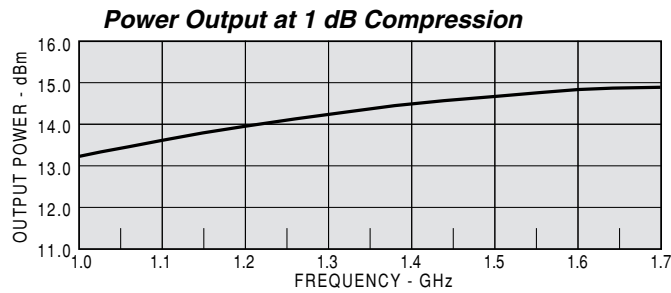
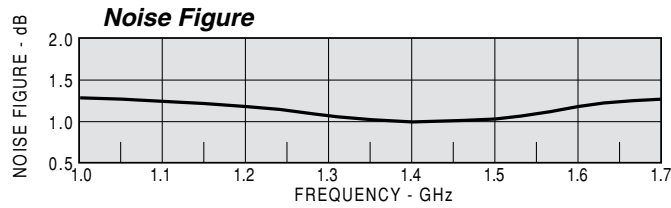
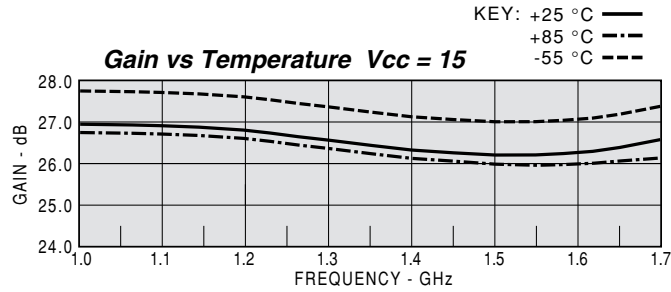
#### SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)



## TYPICAL PERFORMANCE



## TYPICAL AUTOMATIC TEST DATA

Model: AC1586 Vcc=+15V Icc=58.75

FREQ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
1000	1.48	1.49	26.98	-158	0.65	-45.6
1050	1.34	1.49	26.87	-169	0.64	-44.0
1100	1.23	1.47	26.78	180	0.61	-45.5
1150	1.17	1.46	26.65	169	0.60	-44.2
1200	1.14	1.44	26.55	158	0.59	-43.9
1250	1.16	1.43	26.45	148	0.59	-43.2
1300	1.19	1.41	26.33	137	0.58	-42.2
1350	1.23	1.39	26.27	127	0.56	-42.7
1400	1.25	1.37	26.26	117	0.58	-42.9
1450	1.26	1.35	26.20	106	0.59	-42.6
1500	1.26	1.32	26.15	96	0.56	-41.2
1550	1.24	1.30	26.18	86	0.58	-43.6
1600	1.19	1.29	26.26	75	0.60	-42.1
1650	1.13	1.26	26.33	64	0.62	-42.5
1700	1.06	1.24	26.42	52	0.65	-41.5
1750	1.06	1.21	26.54	40	0.66	-42.0
1800	1.20	1.19	26.71	27	0.71	-42.5
1850	1.39	1.18	26.84	13	0.80	-43.4
1900	1.68	1.19	26.84	-2	0.84	-41.6

Model: AC1586 Vcc=+15V Icc=58.75

LINEAR S-PARAMETERS

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1000	0.19	21.5	22.34	-157.7	0.005	91.0	0.20	15.0
1050	0.14	7.2	22.06	-169.1	0.006	86.9	0.20	7.2
1100	0.10	-11.6	21.82	179.9	0.005	69.8	0.19	-0.7
1150	0.08	-37.3	21.50	169.1	0.006	75.0	0.19	-7.8
1200	0.07	-73.5	21.25	158.5	0.006	59.2	0.18	-15.1
1250	0.07	-105.5	21.02	147.8	0.007	61.2	0.18	-22.4
1300	0.09	-127.5	20.73	137.5	0.008	59.2	0.17	-29.1
1350	0.10	-141.9	20.57	127.4	0.007	50.1	0.16	-35.7
1400	0.11	-151.9	20.56	117.0	0.007	47.8	0.16	-42.7
1450	0.12	-160.7	20.42	106.4	0.007	44.2	0.15	-49.3
1500	0.11	-170.0	20.29	96.3	0.009	36.5	0.14	-56.0
1550	0.11	-177.0	20.36	85.9	0.007	31.5	0.13	-63.4
1600	0.09	178.1	20.55	75.1	0.008	21.4	0.12	-70.9
1650	0.06	176.4	20.73	63.9	0.008	15.4	0.11	-79.3
1700	0.03	-172.9	20.94	52.2	0.008	8.8	0.11	-92.1
1750	0.03	-58.4	21.22	40.3	0.008	2.2	0.09	-106.3
1800	0.09	-47.1	21.65	27.4	0.007	-9.7	0.09	-127.7
1850	0.16	-51.5	21.97	13.1	0.007	-22.3	0.08	-155.9
1900	0.25	-58.9	21.98	-2.0	0.008	-38.1	0.09	169.5