

# AC2327

## 1 TO 2300 MHz TO-8 CASCADABLE AMPLIFIER

**Typical Values**

Low Frequency .....	<b>AC2327</b>
Medium Output Level .....	<b>1 MHz</b>
High Performance Thin Film	<b>+13.5 dBm</b>
Standard Size TO-8	

### SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	1-2300 MHz	1-2300 MHz	1-2300 MHz
Small Signal Gain (Min.)	8.0 dB	7.5 dB	7.0 dB
Gain Flatness (Max.)	±0.4 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	10-1000	5.5 dB	6.0 dB
	1000-2500	7.0 dB	8.5 dB
SWR (Max.)	Input/Output	2.2:1	2.4:1
Power Output (Min.) @ 1dB comp.	+13.5 dBm	+12.5 dBm	+12.0 dBm
DC Current (Max.)	44 mA	48 mA	52 mA

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

### INTERMODULATION PERFORMANCE

Typical @ 25 °C; 1000 MHz

Second Order Harmonic Intercept Point .....	<b>AC2327</b>
Second Order Two Tone Intercept Point .....	<b>+43 dBm</b>
Third Order Two Tone Intercept Point .....	<b>+37 dBm</b>
	<b>+27.5 dBm</b>

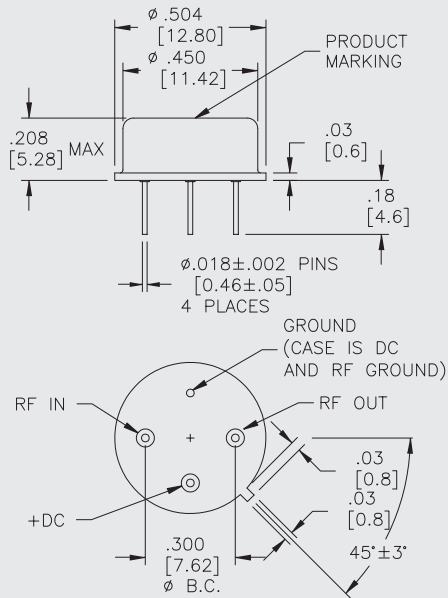
### ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-62 to +125 °C
Maximum Case Temperature .....	+125 °C
Maximum DC Voltage .....	+17 Volts
Maximum Continuous RF Input Power .....	+13 dBm
Maximum Short Term Input Power (1 Minute Max.) .....	50 Milliwatts
Maximum Peak Power (3 µsec Max.) .....	0.5 Watt
Burn-in Temperature .....	+105 °C
Thermal Resistance <sup>1</sup> (θjc) .....	+60 °C/Watt
Junction Temperature Rise Above Case (Tjc) .....	+42 °C

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

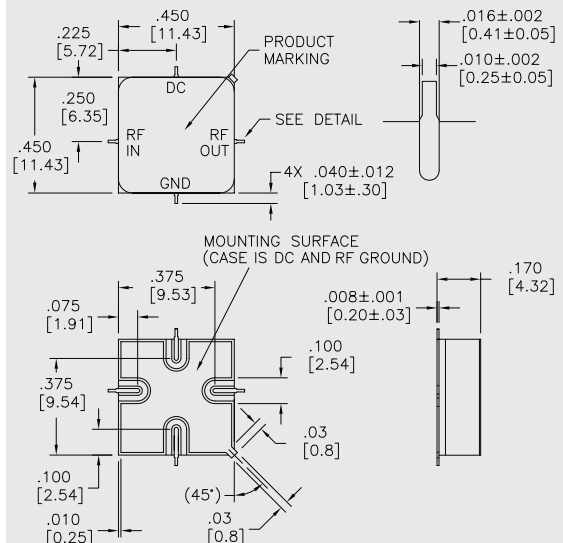
### AC2327

#### TO-8 Package for Amplifiers



### AS2327

#### SMT0-8 Package for Amplifiers

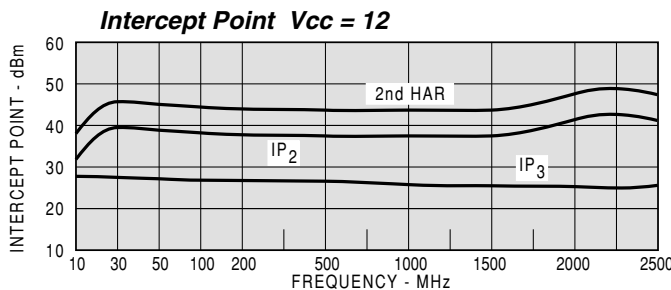
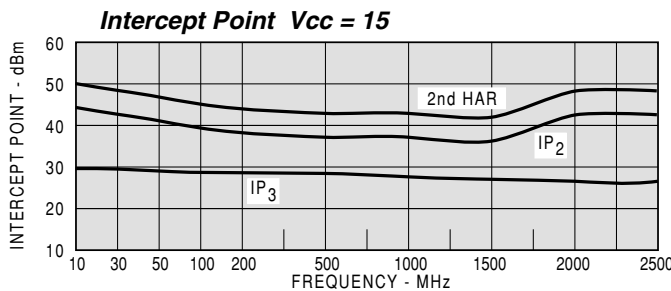
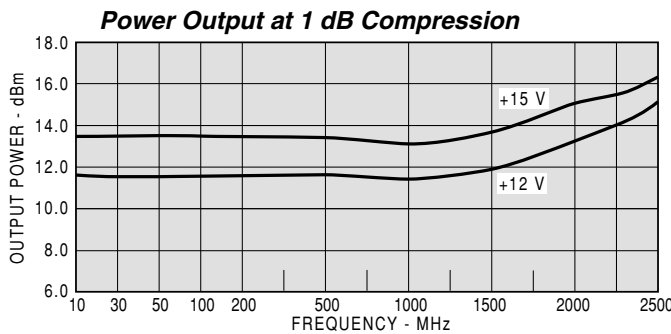
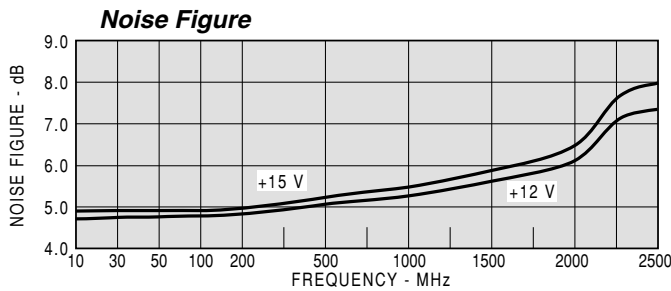
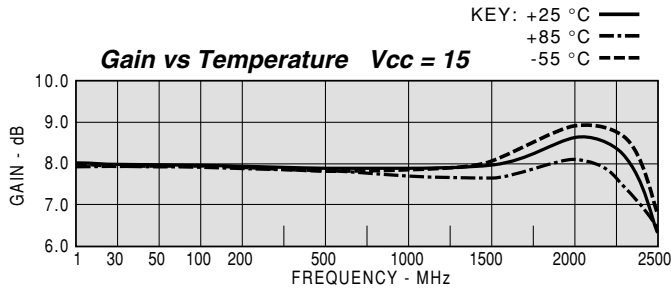


If DC is present on RF input/output, this model requires additional external blocking capacitors.

DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AC2327 Vcc= +15V Icc= 45.29

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
1	1.34	1.63	7.78	-163		-15.7
5	1.10	1.43	8.02	-177		-15.4
10	1.09	1.42	8.02	-180		-15.4
30	1.08	1.42	8.01	177	0.38	-15.4
50	1.08	1.42	7.98	174	0.36	-15.5
100	1.08	1.41	7.96	168	0.34	-15.5
300	1.14	1.35	7.89	145	0.31	-15.6
500	1.22	1.25	7.85	122	0.32	-15.6
700	1.34	1.14	7.84	99	0.31	-15.7
900	1.50	1.10	7.81	76	0.31	-15.8
1100	1.65	1.21	7.79	53	0.32	-15.9
1300	1.79	1.38	7.79	30	0.33	-16.0
1500	1.89	1.54	7.80	6	0.32	-16.0
1700	1.89	1.71	7.97	-18	0.33	-15.9
1900	1.71	1.81	8.38	-45	0.40	-15.5
2100	1.43	1.75	8.73	-75	0.46	-14.7
2300	1.66	1.54	8.17	-110	0.49	-14.2
2400	2.06	1.40	7.51	-130	0.54	-14.5

Model: AC2327 Vcc +15V Icc= 45.29

FREQ MHZ	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1	0.14	-100.3	2.43	-163.2	0.164	22.6	0.24	-128.2
5	0.04	-138.9	2.49	-177.2	0.170	4.3	0.17	-167.6
10	0.04	-157.6	2.52	-179.6	0.170	1.6	0.17	-174.6
30	0.04	-166.4	2.51	176.9	0.169	-1.3	0.17	179.3
50	0.04	-164.7	2.51	174.3	0.169	-3.0	0.17	177.1
100	0.04	-154.5	2.50	168.2	0.168	-6.3	0.17	172.3
300	0.06	-130.1	2.48	145.2	0.167	-19.1	0.15	158.0
500	0.10	-123.6	2.47	122.1	0.166	-31.6	0.11	147.5
700	0.15	-124.0	2.47	99.2	0.164	-43.9	0.07	148.4
900	0.20	-129.4	2.46	76.3	0.163	-56.3	0.05	-165.6
1100	0.24	-137.1	2.45	52.9	0.160	-68.8	0.10	-136.3
1300	0.28	-149.7	2.45	29.7	0.158	-81.3	0.16	-139.3
1500	0.31	-165.8	2.45	6.30	0.159	-93.2	0.21	-154.5
1700	0.31	176.8	2.50	-17.9	0.160	-105.9	0.26	-169.8
1900	0.26	153.0	2.62	-44.7	0.168	-119.8	0.29	173.3
2100	0.18	97.2	2.73	-74.8	0.184	-135.2	0.27	151.5
2300	0.25	0.70	2.56	-110.4	0.194	-156.0	0.21	129.7
2500	0.46	-55.4	2.08	-147.5	0.188	-176.6	0.13	123.8

Model: AC2327 Vcc= +12V Icc= 36.22

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
1	1.34	1.62	7.70	-163		-15.7
5	1.09	1.42	7.92	-177		-15.4
10	1.08	1.41	7.93	-180		-15.4
30	1.07	1.41	7.93	177	0.34	-15.4
50	1.07	1.40	7.91	174	0.38	-15.4
100	1.08	1.40	7.87	168	0.34	-15.5
300	1.14	1.34	7.79	145	0.33	-15.5
500	1.23	1.25	7.75	122	0.33	-15.6
700	1.36	1.16	7.74	99	0.32	-15.6
900	1.53	1.13	7.72	75	0.32	-15.7
1100	1.67	1.24	7.70	52	0.33	-15.8
1300	1.81	1.40	7.69	29	0.33	-15.8
1500	1.90	1.56	7.71	5	0.31	-15.7
1700	1.89	1.73	7.90	-19	0.34	-15.5
1900	1.69	1.80	8.29	-47	0.40	-14.9
2100	1.43	1.71	8.6	-78	0.47	-14.1
2300	1.78	1.47	7.90	-114	0.50	-13.7
2500	2.85	1.21	5.90	-150	0.46	-14.1

Model: AC2327 Vcc= +12V Icc= 36.22

FREQ MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1	0.14	-100.3	2.43	-163.2	0.164	22.6	0.24	-128.2
5	0.04	-138.9	2.49	-177.2	0.170	4.3	0.17	-167.6
10	0.04	-155.1	2.49	-179.6	0.170	1.6	0.17	-174.3
30	0.03	-163.9	2.49	176.9	0.170	-1.2	0.17	179.4
50	0.04	-161.9	2.49	174.2	0.169	-3.0	0.17	176.9
100	0.04	-149.2	2.47	168.2	0.169	-6.4	0.17	173.0
300	0.07	-126.4	2.45	144.8	0.168	-18.6	0.14	160.1
500	0.10	-122.5	2.44	121.7	0.166	-31.0	0.11	152.0
700	0.15	-124.7	2.44	98.7	0.165	-43.3	0.07	158.2
900	0.21	-131.0	2.43	75.5	0.164	-55.3	0.06	-166.5
1100	0.25	-139.4	2.43	52.1	0.162	-67.8	0.11	-144.7
1300	0.29	-151.9	2.42	28.7	0.162	-80.0	0.17	-147.5
1500	0.31	-169.0	2.43	5.20	0.164	-91.5	0.22	-161.4
1700	0.31	172.5	2.48	-19.5	0.168	-104.2	0.27	-176.9
1900	0.26	146.4	2.60	-46.6	0.179	-118.7	0.29	165.5
2100	0.18	84.6	2.69	-77.5	0.197	-135.3	0.26	141.7
2300	0.28	-5.90	2.48	-113.6	0.206	-157.5	0.19	118.1
2500	0.48	-58.2	1.97	-149.9	0.197	-178.3	0.10	114.2