

AC4079 100 TO 4000 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

Ultra Broad Bandwidth	100-4000 MHz
Low Noise Figure	4.8 dB
High Output Level	+22.0 dBm

**High Performance Thin Film
Standard Size TO-8 Package**

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	100-4000 MHz	100-4000 MHz	100-4000 MHz
Small Signal Gain (Min.)	8.3 dB	7.5 dB	7.0 dB
Gain Flatness (Max.)	±0.3 dB	±0.5 dB	±0.8 dB
Noise Figure (Max.) 200-4000 MHz	4.8 dB	5.5 dB	6.0 dB
SWR (Max.) Input/Output	1.4:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+22.0 dBm	+20.5 dBm	+20.0 dBm
DC Current (Max.)	115.0 mA	120.0 mA	126.0 mA

* Measured in a 50-ohm system at +15.0 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

(Typical @ 25° C)

Second Order Harmonic Intercept Point	+61 dBm
Second Order Two Tone Intercept Point	+55 dBm
Third Order Two Tone Intercept Point	+35 dBm

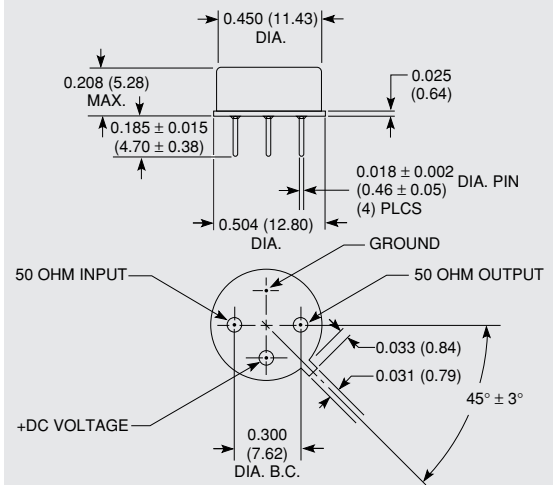
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125° C
Maximum Case Temperature	+105° C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+15 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.25 Watt
Burn-in Temperature	+85° C
Thermal Resistance¹ (θjc)	+37° C/Watt
Junction Temperature Rise Above Case (Tjc)	+66.8° C

¹ Thermal resistance is based on total power dissipation.

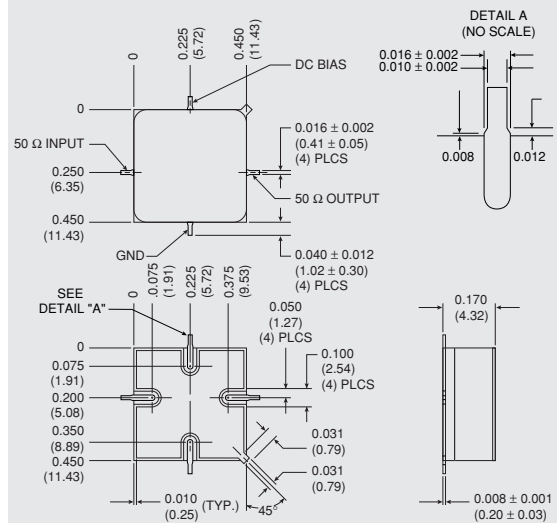
AC4079

TO-8 Package for Amplifiers



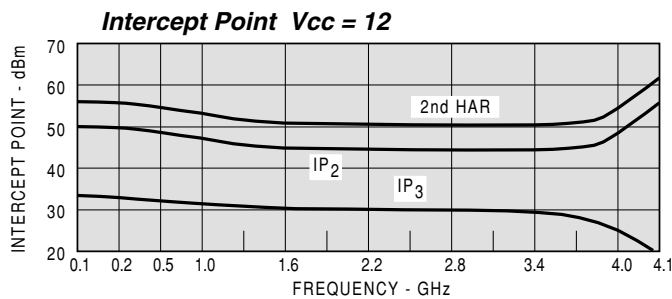
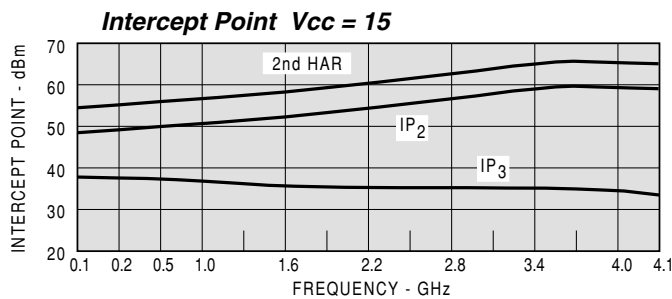
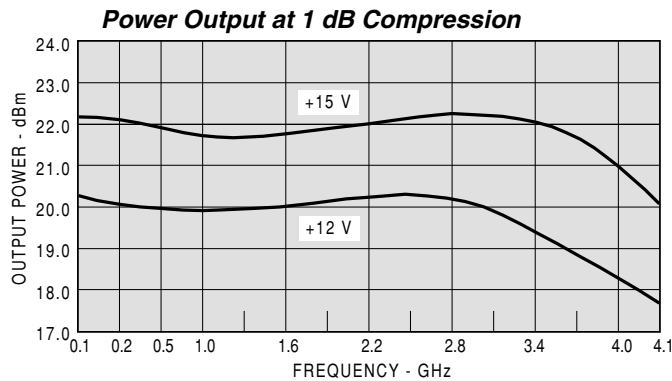
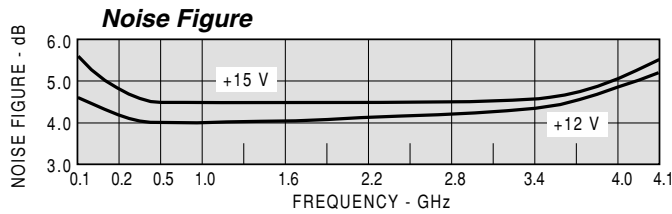
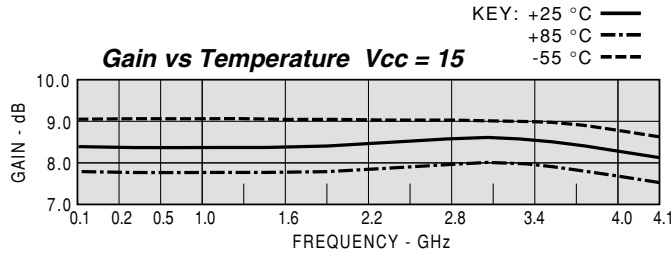
AS4079

SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

MODEL: AC4079			Vcc = +15V		Icc = 114.18 mA	
FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB	
50	1.30	1.25	8.5		-16.1	
100	1.30	1.21	8.3		-15.9	
400	1.32	1.19	8.4	0.212	-15.9	
700	1.25	1.22	8.4	0.197	-16.0	
1000	1.20	1.23	8.4	0.208	-16.0	
1300	1.21	1.23	8.3	0.204	-16.1	
1600	1.18	1.22	8.3	0.209	-16.4	
1900	1.22	1.21	8.3	0.200	-16.4	
2200	1.25	1.25	8.5	0.201	-16.6	
2500	1.24	1.30	8.7	0.212	-16.7	
2800	1.24	1.36	8.6	0.228	-16.7	
3100	1.20	1.38	8.9	0.225	-16.9	
3400	1.14	1.36	8.8	0.225	-17.0	
3700	1.11	1.29	8.5	0.231	-17.2	
4000	1.22	1.18	8.2	0.244	-17.3	
4100	1.31	1.14	8.3	0.243	-17.3	

MODEL: AC4079			LINEAR S-PARAMETERS				Vcc = +15V		Icc = 114.18 mA	
FREQ. MHZ	S11		S21		S12		S22			
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG		
50	0.13	-16.0	2.66	-179.9	0.157	2	0.11	160.8		
100	0.13	-3.3	2.61	173.4	0.160	-1	0.10	149.0		
400	0.14	-15.4	2.63	150.3	0.160	-19	0.09	124.5		
700	0.11	-23.9	2.62	129.4	0.159	-33	0.10	95.3		
1000	0.09	-35.2	2.62	107.0	0.158	-47	0.10	70.6		
1300	0.09	-56.5	2.61	84.5	0.156	-61	0.10	44.3		
1600	0.08	-73.4	2.61	61.9	0.152	-75	0.10	15.3		
1900	0.10	-82.8	2.59	40.5	0.152	91	0.09	-21.2		
2200	0.11	-100.8	2.67	19.0	0.148	-105	0.11	61.3		
2500	0.11	-117.1	2.72	-4.0	0.146	-120	0.13	94.0		
2800	0.11	-137.8	2.69	-28.3	0.146	-136	0.15	-121.6		
3100	0.09	-147.0	2.79	-52.8	0.142	-151	0.16	-143.6		
3400	0.07	-137.4	2.76	-77.0	0.141	-167	0.15	-164.3		
3700	0.05	-106.7	2.67	-101.9	0.138	179	0.13	-179.6		
4000	0.10	-60.5	2.57	-127.9	0.136	163	0.08	165.6		
4100	0.13	-53.9	2.61	-137.7	0.136	158	0.07	155.2		

MODEL: AC4079			Vcc = +12V		Icc = 106.74 mA	
FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB	
50	1.31	1.33	8.6		-16.5	
100	1.28	1.28	8.4		-16.3	
400	1.28	1.26	8.5	0.212	-16.2	
700	1.22	1.29	8.5	0.195	-16.3	
1000	1.21	1.30	8.5	0.209	-16.3	
1300	1.21	1.29	8.4	0.205	-16.3	
1600	1.20	1.27	8.4	0.208	-16.5	
1900	1.24	1.24	8.4	0.196	-16.6	
2200	1.24	1.25	8.7	0.204	-16.7	
2500	1.27	1.28	8.8	0.208	-16.6	
2800	1.28	1.32	8.7	0.228	-16.5	
3100	1.22	1.35	9.0	0.222	-16.6	
3400	1.19	1.33	9.0	0.228	-16.6	
3700	1.11	1.27	8.6	0.230	-16.6	
4000	1.21	1.20	8.3	0.244	-16.6	
4100	1.27	1.18	8.4	0.258	-16.6	

MODEL: AC4079			LINEAR S-PARAMETERS				Vcc = +12V		Icc = 106.74 mA	
FREQ. MHZ	S11		S21		S12		S22			
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG		
50	0.13	-21.3	2.68	-179.6	0.150	2	0.14	166.1		
100	0.12	-5.7	2.62	173.6	0.154	-1	0.12	155.8		
400	0.12	-15.2	2.66	15.7	0.154	-18	0.12	132.4		
700	0.10	-21.5	2.66	129.6	0.153	-31	0.13	104.4		
1000	0.09	-33.9	2.65	107.3	0.153	-45	0.13	80.4		
1300	0.09	-50.1	2.64	85.0	0.152	-58	0.13	54.6		
1600	0.09	-69.1	2.64	62.4	0.150	-73	0.12	28.8		
1900	0.11	-80.2	2.63	41.4	0.148	-87	0.11	-3.6		
2200	0.11	-100.3	2.71	19.5	0.146	-102	0.11	-42.6		
2500	0.12	-116.2	2.74	-3.2	0.148	-117	0.12	-77.8		
2800	0.12	-128.8	2.72	-27.9	0.149	-132	0.14	-107.7		
3100	0.10	-144.3	2.83	-51.3	0.149	-148	0.15	-130.5		
3400	0.08	-156.9	2.81	-76.5	0.147	-164	0.14	-149.0		
3700	0.05	-141.4	2.70	-101.2	0.146	-179	0.12	-160.3		
4000	0.10	-64.7	2.59	-127.0	0.147	166	0.09	-165.1		
4100	0.12	-58.2	2.64	-136.6	0.147	161	0.08	-138.8		