

AC3579

10 TO 3500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC3579
Ultra Broad Bandwidth	10-3500 MHz
Low Noise Figure	4.8 dB
Medium Output Level	+22.0 dBm
High Performance Thin Film Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	10-3600 MHz	10-3500 MHz	10-3500 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.)	4.8 dB	5.5 dB	6.0 dB
SWR (Max.)	1.6:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+22.0 dBm	+20.5 dBm	+19.5 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.
^ 13.8 dB at 10 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC3579
Second Order Harmonic Intercept Point	+58 dBm
Second Order Two Tone Intercept Point	+52 dBm
Third Order Two Tone Intercept Point	+36 dBm

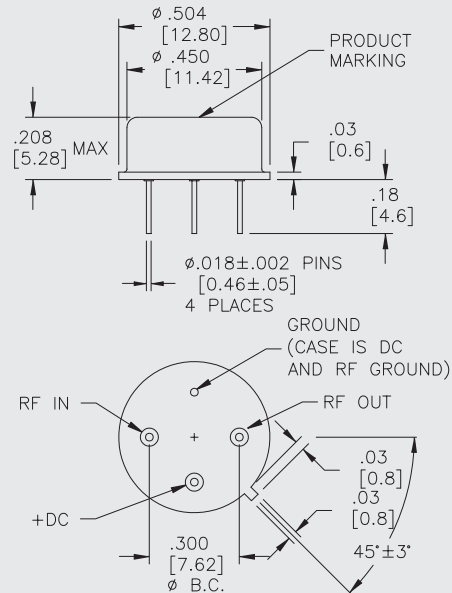
ABSOLUTE MAXIMUM RATINGS

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 Resistance ¹ (θjc)	+37 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+66.8 °C

¹Thermal resistance is based on total power dissipation.

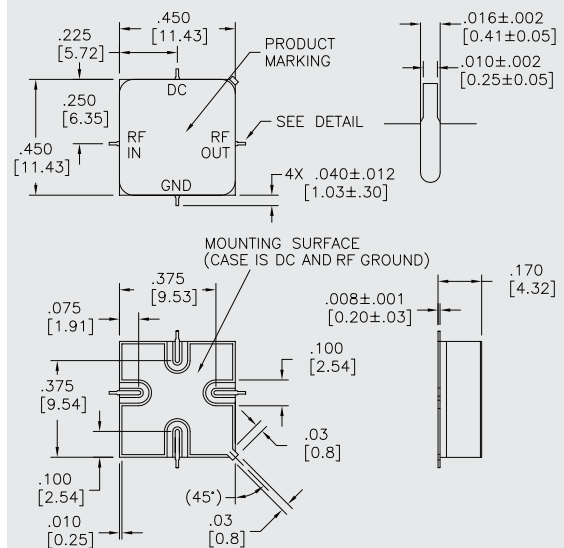
AC3579

TO-8 Package for Amplifiers



AS3579

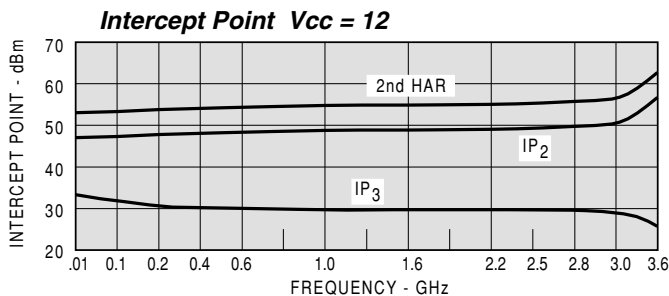
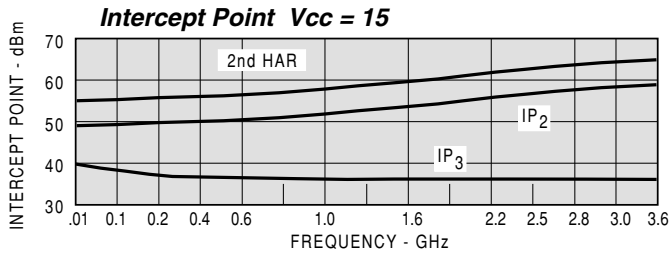
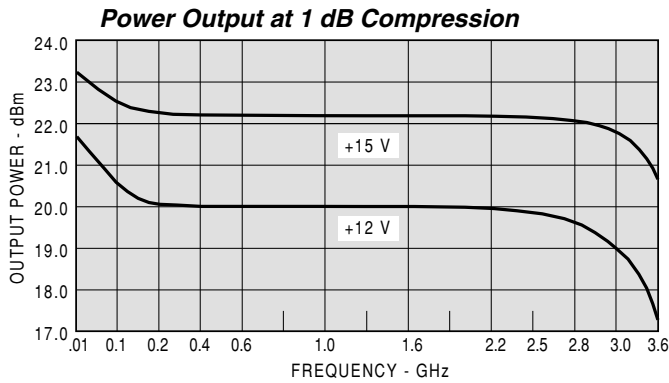
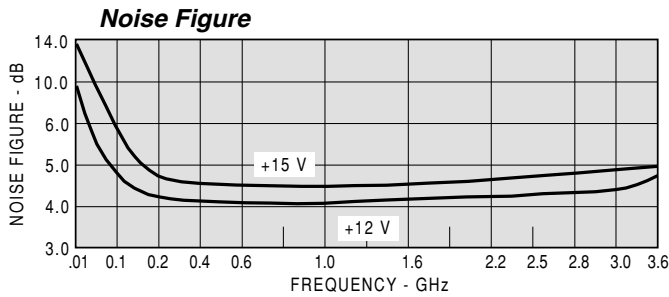
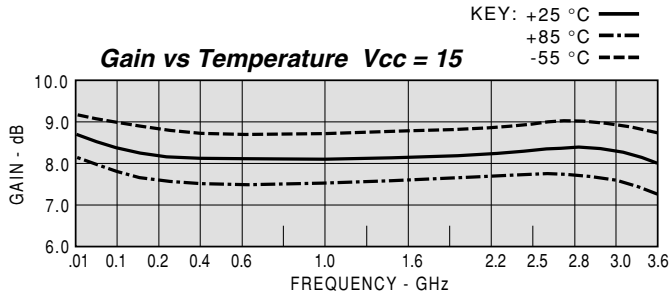
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



MODEL: AC3579 Vcc = +15V Icc = 115.46 mA

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.56	1.44	8.7		-15.8
100	1.29	1.18	8.4		-15.7
250	1.28	1.14	8.2	0.226	-15.6
500	1.26	1.16	8.1	0.196	-15.7
750	1.25	1.19	8.1	0.205	-15.8
1000	1.20	1.22	8.3	0.210	-15.8
1250	1.19	1.23	8.2	0.208	-15.9
1500	1.18	1.23	8.3	0.211	-15.9
1750	1.19	1.20	8.3	0.214	-16.1
2000	1.20	1.18	8.3	0.195	-16.3
2250	1.19	1.16	8.3	0.217	-16.4
2500	1.20	1.16	8.4	0.216	-16.6
2750	1.12	1.17	8.4	0.239	-16.5
3000	1.10	1.13	8.4	0.230	-16.9
3250	1.04	1.08	8.0	0.225	-17.4
3500	1.14	1.07	8.2	0.224	-17.8
3600	1.29	1.05	8.2	0.236	-18.1

MODEL: AC3579 Vcc = +15V Icc = 115.46 mA

LINEAR S-PARAMETERS

FREQ. MHZ	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.22	-56.3	2.72	-157.0	0.163	23	0.18	145.1
100	0.13	-3.4	2.63	173.0	0.163	-2	0.08	147.2
250	0.12	-13.8	2.56	161.0	0.166	-12	0.07	133.2
500	0.11	-14.0	2.54	143.2	0.163	-25	0.07	110.0
750	0.11	-20.8	2.55	124.9	0.163	-37	0.09	91.5
1000	0.09	-20.5	2.59	106.0	0.162	-50	0.10	75.3
1250	0.09	-29.0	2.58	87.3	0.160	-62	0.10	57.4
1500	0.08	-37.2	2.60	68.1	0.159	-75	0.10	36.3
1750	0.09	-48.7	2.60	49.0	0.156	-88	0.09	15.6
2000	0.09	-65.2	2.61	31.3	0.153	-101	0.08	-10.2
2250	0.09	-77.4	2.61	12	0.151	-115	0.07	-38.5
2500	0.09	-91.9	2.62	-7.4	0.148	-128	0.07	-67.9
2750	0.06	-97.9	2.64	-29.8	0.149	-142	0.08	-102.3
3000	0.05	-116.4	2.62	-49.5	0.143	-157	0.06	-130.9
3250	0.02	71.1	2.62	-70.6	0.135	-171	0.04	-143.4
3500	0.07	11.0	2.57	-900.4	0.129	176	0.03	-155.6
3600	0.13	7.0	2.57	-98.0	0.124	171	0.02	-167.5

MODEL: AC3579 Vcc = +12V Icc = 107.08 mA

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.55	1.44	8.8		-16.0
100	1.26	1.25	8.5		-16.1
250	1.28	1.21	8.3	0.224	-15.9
500	1.25	1.23	8.2	0.198	-16.0
750	1.24	1.27	8.3	0.205	-16.0
1000	1.20	1.30	8.4	0.207	-16.0
1250	1.20	1.31	8.3	0.207	-16.2
1500	1.21	1.31	8.4	0.212	-16.2
1750	1.18	1.28	8.4	0.210	-16.3
2000	1.22	1.24	8.4	0.196	-16.4
2250	1.23	1.21	8.4	0.221	-16.5
2500	1.24	1.18	8.5	0.212	-16.6
2750	1.18	1.16	8.6	0.241	-16.5
3000	1.17	1.10	8.5	0.226	-16.7
3250	1.06	1.08	8.3	0.235	-17.0
3500	1.12	1.07	8.3	0.226	-17.4
3600	1.24	1.06	8.4	0.230	-17.5

MODEL: AC3579 Vcc = +12V Icc = 107.08 mA

LINEAR S-PARAMETERS

FREQ. MHZ	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.22	-55.5	2.74	157.7	0.159	22	0.18	153.9
100	0.11	-3.0	2.66	173.3	0.157	-1	0.11	155.4
250	0.12	-8.8	2.60	161.0	0.160	-11	0.10	141.6
500	0.11	-12.5	2.58	143.0	0.158	-24	0.10	119.2
750	0.11	-19.3	2.59	124.8	0.158	36	0.12	100.4
1000	0.09	-19.2	2.63	105.9	0.158	-48	0.13	83.0
1250	0.09	-26.9	2.61	97.4	0.155	-60	0.13	65.9
1500	0.10	-30.7	2.63	68.5	0.155	-73	0.13	47.2
1750	0.08	-44.4	2.63	49.4	0.153	-86	0.12	29.7
2000	0.10	-60.1	2.64	31.7	0.152	-99	0.11	9.3
2250	0.10	-77.9	2.64	12.1	0.150	-112	0.09	-13.7
2500	0.11	-97.5	2.67	-7.1	0.148	-125	0.08	-38.0
2750	0.08	-109.4	2.68	-28.7	0.150	-139	0.08	-70.2
3000	0.08	-123.8	2.67	-49.0	0.147	-154	0.05	-88.6
3250	0.03	154.2	2.59	-70.1	0.124	-169	0.04	-81.9
3500	0.05	25.5	2.60	-90.6	0.135	178	0.03	-100.7
3600	0.11	14.4	2.63	-98.6	0.132	172	0.03	-88.8