AC2577 10 TO 2500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	*AC2577*
High Output Power	***+21.0 dBm***
Low Noise Figure	***3.3 dB***
High Third Order Intercept	***+30.0 dBm***

High Performance Thin Film
Standard Size TO-8

SPECIFICATIONS

Parameter	Typical	Guaranteed* 0 to 50° C	Guaranteed* -55 to +85° C
Frequency (Min.)	**10-2700 MHz**	**10-2500 MHz**	**10-2500 MHz**
Small Signal Gain (Min.)	10.8 dB	10.0 dB	9.5 dB
Gain Flatness (Max.)	±0.25 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.) 200-2500 MHz	3.3 dB	4.0^ dB	4.5^ dB
SWR (Max.) Input/Output	< 1.5:1	1.7:1	1.8:1
Power Output @ 1dB comp. (Min.)	+21.0 dBm	+20.0 dBm	+19.5 dBm
DC Current (Max.)	100.0 mA	115.0 mA	120.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 0.5 dB higher at 200 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25° C	*AC2577*
Second Order Harmonic Intercept Point	+48 dBm
Second Order Two Tone Intercept Point	+42 dBm
Third Order Two Tone Intercept Point	+30 dBm

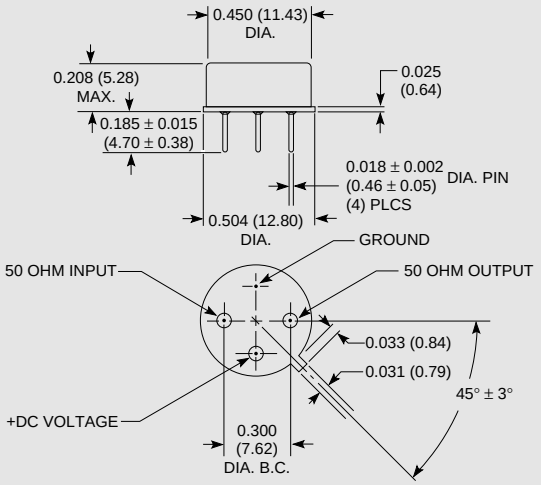
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to 125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+18 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
Q Series Burn-in Temperature	+100° C
Thermal Resistance[1] (θjc)	+27° C/Watt
Junction Temperature Rise Above Case (Tjc)	+41.9° C

[1]Thermal resistance is based on total power dissipation.

AC2577

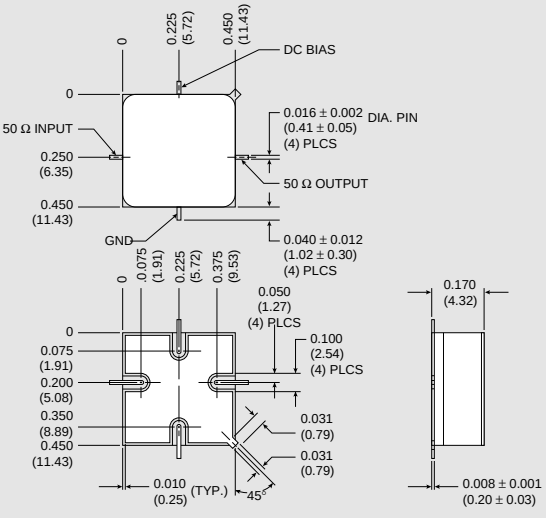
TO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)

AS2577

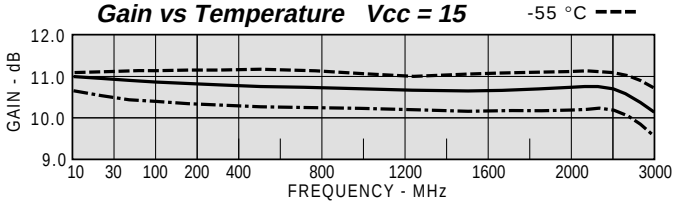
SMTO-8 Package for Amplifiers



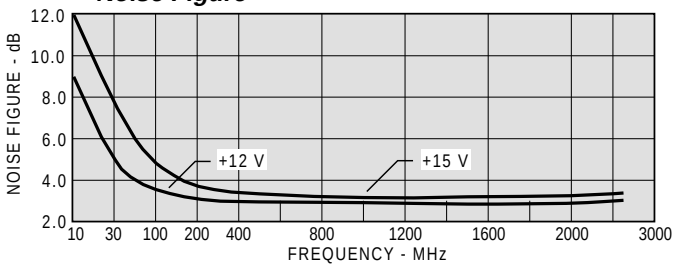
TYPICAL PERFORMANCE

KEY: +25 °C
+85 °C
-55 °C

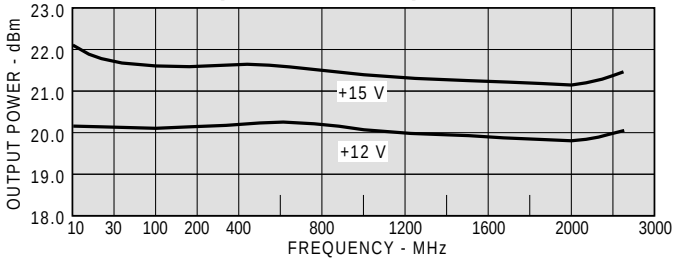
Gain vs Temperature Vcc = 15



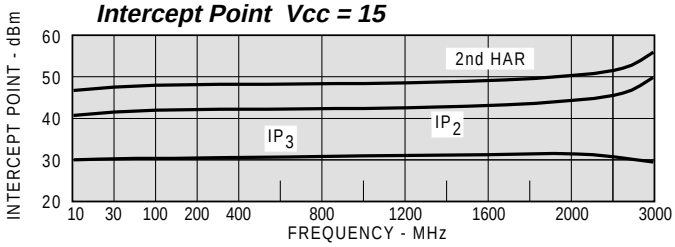
Noise Figure



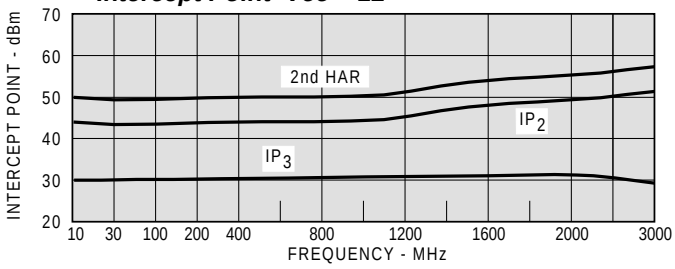
Power Output at 1 dB Compression



Intercept Point Vcc = 15



Intercept Point Vcc = 12



TYPICAL AUTOMATIC TEST DATA

MODEL:AC2577 Vcc=+15V Icc= 98.75 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10.0	1.62	1.52	11.1		-17.0
50.0	1.10	1.49	11.1		-17.2
100.0	1.06	1.47	11.0	.372	-17.1
300.0	1.05	1.39	10.8	.215	-16.9
500.0	1.07	1.41	10.8	.210	-17.0
700.0	1.10	1.41	10.8	.212	-17.0
900.0	1.12	1.40	10.8	.209	-17.0
1100.0	1.13	1.38	10.8	.208	-17.0
1300.0	1.14	1.35	10.8	.212	-16.9
1500.0	1.15	1.31	10.8	.212	-16.9
1700.0	1.16	1.26	10.9	.212	-16.8
1900.0	1.16	1.23	10.9	.218	-16.7
2100.0	1.15	1.21	10.9	.221	-16.6
2300.0	1.13	1.21	11.0	.227	-16.6
2500.0	1.09	1.22	11.0	.233	-16.5
2700.0	1.07	1.28	10.9	.255	-16.3

LINEAR S-PARAMETERS

MODEL:AC2577 Vcc=+15V Icc= 98.75 mA

FREQ.	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	.24	-92.5	3.60	-155.6	.141	18	.21	175.5
50	.05	-138.8	3.57	-179.3	.138	2	.20	174.8
100	.03	-175.9	3.53	174.8	.139	0	.19	166.3
300	.02	145.5	3.45	162.2	.142	-7	.16	154.7
500	.03	121.7	3.46	149.9	.141	-13	.17	141.0
700	.05	100.7	3.45	137.6	.141	-18	.17	127.5
900	.06	83.6	3.45	125.4	.141	-24	.17	113.6
1100	.06	65.5	3.46	113.3	.141	-29	.16	99.7
1300	.07	47.5	3.47	100.9	.142	-34	.15	84.9
1500	.07	27.8	3.49	88.5	.143	-41	.13	69.9
1700	.07	6.0	3.50	76.1	.145	-47	.12	53.0
1900	.07	-13.4	3.49	63.2	.146	-53	.10	31.9
2100	.07	-29.6	3.51	50.3	.148	-60	.09	9.2
2300	.06	-44.8	3.55	36.8	.148	-68	.10	-21.3
2500	.04	-39.4	3.53	22.8	.149	-75	.10	-43.6
2700	.04	-7.3	3.51	7.4	.152	-83	.12	-64.6

MODEL:AC2577 Vcc=+12V Icc= 82.70 mA

FREQUENCY MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10.0	1.59	1.55	10.9		-17.1
50.0	1.09	1.52	10.9		-17.3
100.0	1.04	1.49	10.8	.372	-17.2
300.0	1.02	1.42	10.6	.215	-17.0
500.0	1.05	1.43	10.6	.210	-17.1
700.0	1.07	1.44	10.6	.212	-17.1
900.0	1.09	1.42	10.6	.210	-17.0
1100.0	1.11	1.40	10.6	.206	-17.0
1300.0	1.12	1.38	10.7	.213	-16.9
1500.0	1.13	1.34	10.7	.211	-16.7
1700.0	1.14	1.29	10.7	.211	-16.6
1900.0	1.14	1.25	10.7	.219	-16.5
2100.0	1.14	1.23	10.8	.220	-16.3
2300.0	1.11	1.21	10.9	.227	-16.2
2500.0	1.06	1.21	10.9	.238	-16.1
2700.0	1.04	1.25	10.9	.256	-15.8

LINEAR S-PARAMETERS

MODEL:AC2577 Vcc=+12V Icc= 82.70 mA

FREQ.	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	.23	-88.6	3.51	-156.2	.139	18	.21	177.5
50	.04	-122.9	3.50	-179.9	.137	2	.21	174.2
100	.02	-163.3	3.46	173.5	.138	-1	.20	165.5
300	.01	129.3	3.39	157.9	.141	-11	.17	152.2
500	.02	103.3	3.40	142.8	.140	-19	.18	136.5
700	.03	81.6	3.39	127.6	.140	-27	.18	121.2
900	.04	62.4	3.39	112.5	.141	-35	.17	105.8
1100	.05	41.3	3.41	97.6	.142	-43	.17	90.5
1300	.06	20.0	3.42	82.3	.144	-51	.16	74.5
1500	.06	-3.4	3.44	67.1	.146	-60	.14	59.0
1700	.07	-28.2	3.44	51.9	.148	-69	.13	42.5
1900	.07	-50.6	3.44	36.1	.150	-79	.11	22.8
2100	.06	-71.0	3.47	20.2	.153	-89	.10	1.9
2300	.05	-94.2	3.52	3.9	.155	-99	.09	-27.4
2500	.03	-93.1	3.50	-13.3	.157	-108	.09	-51.3
2700	.02	-23.6	3.51	-31.7	.162	-120	.11	-78.4