TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

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 Package

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 (Min.) @ 1dB comp.	+21.0 dBm	+20.0 dBm	+19.5 dBm
Reverse Isolation	17.0 dB	—	—
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

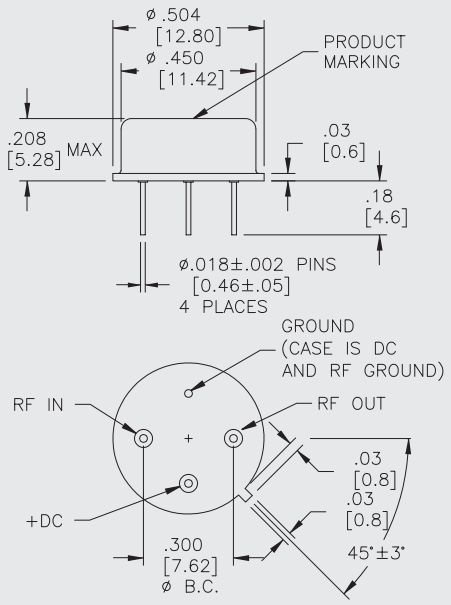
ABSOLUTE MAXIMUM RATINGS

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
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.

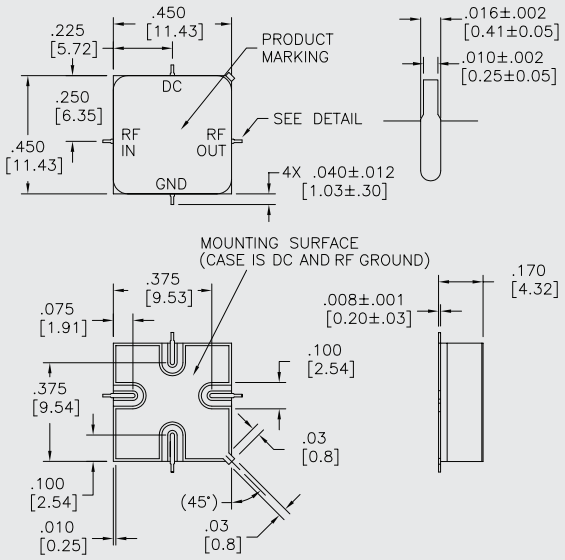
AC2577

TO-8 Package for Amplifiers



AS2577

SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TELEDYNE MICROWAVE SOLUTIONS
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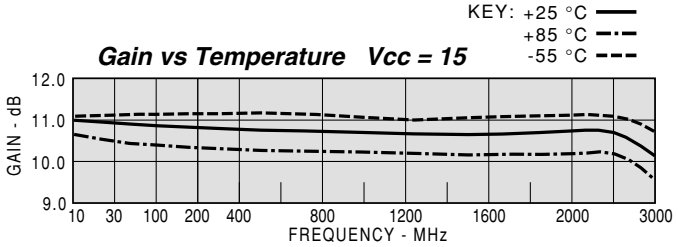
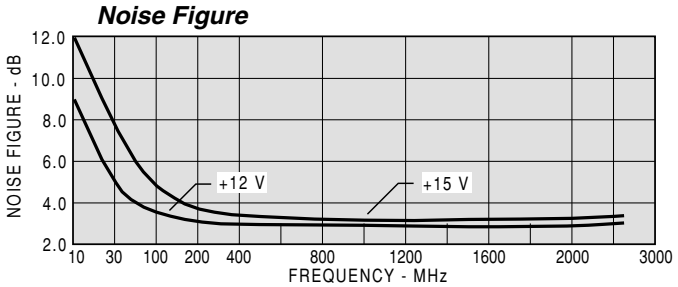
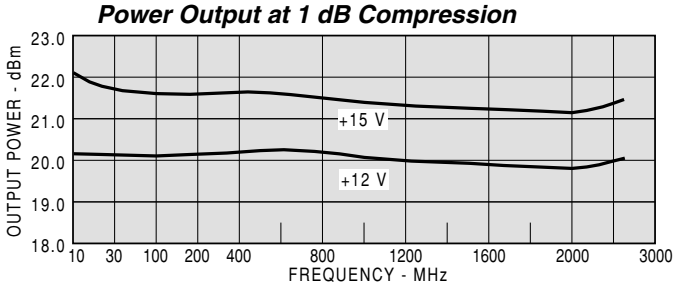
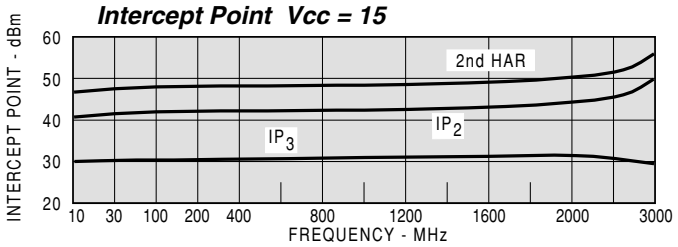
AC2577

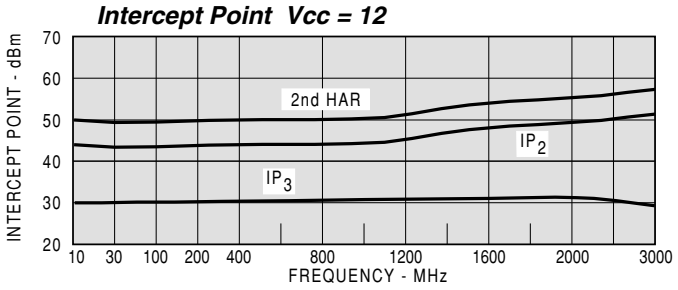
TYPICAL PERFORMANCE











TYPICAL AUTOMATIC TEST DATA

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

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.62	1.52	11.1		-17.0
50	1.10	1.49	11.1		-17.2
100	1.06	1.47	11.0	0.372	-17.1
300	1.05	1.39	10.8	0.215	-16.9
500	1.07	1.41	10.8	0.210	-17.0
700	1.10	1.41	10.8	0.212	-17.0
900	1.12	1.40	10.8	0.209	-17.0
1100	1.13	1.38	10.8	0.208	-17.0
1300	1.14	1.35	10.8	0.212	-16.9
1500	1.15	1.31	10.8	0.212	-16.9
1700	1.16	1.26	10.9	0.212	-16.8
1900	1.16	1.23	10.9	0.218	-16.7
2100	1.15	1.21	10.9	0.221	-16.6
2300	1.13	1.21	11.0	0.227	-16.6
2500	1.09	1.22	11.0	0.233	-16.5
2700	1.07	1.28	10.9	0.255	-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	0.24	-92.5	3.60	-155.6	0.141	18	0.21	175.5
50	0.05	-138.8	3.57	-179.3	0.138	2	0.20	174.8
100	0.03	-175.9	3.53	174.8	0.139	0	0.19	166.3
300	0.02	145.5	3.45	162.2	0.142	-7	0.16	154.7
500	0.03	121.7	3.46	149.9	0.141	-13	0.17	141.0
700	0.05	100.7	3.45	137.6	0.141	-18	0.17	127.5
900	0.06	83.6	3.45	125.4	0.141	-24	0.17	113.6
1100	0.06	65.5	3.46	113.3	0.141	-29	0.16	99.7
1300	0.07	47.5	3.47	100.9	0.142	-34	0.15	84.9
1500	0.07	27.8	3.49	88.5	0.143	-41	0.13	69.9
1700	0.07	6.0	3.50	76.1	0.145	-47	0.12	53.0
1900	0.07	-13.4	3.49	63.2	0.146	-53	0.10	31.9
2100	0.07	-29.6	3.51	50.3	0.148	-60	0.09	9.2
2300	0.06	-44.8	3.55	36.8	0.148	-68	0.10	-21.3
2500	0.04	-39.4	3.53	22.8	0.149	-75	0.10	-43.6
2700	0.04	-7.3	3.51	7.4	0.152	-83	0.12	-64.6

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

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.59	1.55	10.9		-17.1
50	1.09	1.52	10.9		-17.3
100	1.04	1.49	10.8	0.372	-17.2
300	1.02	1.42	10.6	0.215	-17.0
500	1.05	1.43	10.6	0.210	-17.1
700	1.07	1.44	10.6	0.212	-17.1
900	1.09	1.42	10.6	0.210	-17.0
1100	1.11	1.40	10.6	0.206	-17.0
1300	1.12	1.38	10.7	0.213	-16.9
1500	1.13	1.34	10.7	0.211	-16.7
1700	1.14	1.29	10.7	0.211	-16.6
1900	1.14	1.25	10.7	0.219	-16.5
2100	1.14	1.23	10.8	0.220	-16.3
2300	1.11	1.21	10.9	0.227	-16.2
2500	1.06	1.21	10.9	0.238	-16.1
2700	1.04	1.25	10.9	0.256	-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	0.23	-88.6	3.51	-156.2	0.139	18	0.21	177.5
50	0.04	-122.9	3.50	-179.9	0.137	2	0.21	174.2
100	0.02	-163.3	3.46	173.5	0.138	-1	0.20	165.5
300	0.01	129.3	3.39	157.9	0.141	-11	0.17	152.2
500	0.02	103.3	3.40	142.8	0.140	-19	0.18	136.5
700	0.03	81.6	3.39	127.6	0.140	-27	0.18	121.2
900	0.04	62.4	3.39	112.5	0.141	-35	0.17	105.8
1100	0.05	41.3	3.41	97.6	0.142	-43	0.17	90.5
1300	0.06	20.0	3.42	82.3	0.144	-51	0.16	74.5
1500	0.06	-3.4	3.44	67.1	0.146	-60	0.14	59.0
1700	0.07	-28.2	3.44	51.9	0.148	-69	0.13	42.5
1900	0.07	-50.6	3.44	36.1	0.150	-79	0.11	22.8
2100	0.06	-71.0	3.47	20.2	0.153	-89	0.10	1.9
2300	0.05	-94.2	3.52	3.9	0.155	-99	0.09	-27.4
2500	0.03	-93.1	3.50	-13.3	0.157	-108	0.09	-51.3
2700	0.02	-23.6	3.51	-31.7	0.162	-120	0.11	-78.4