

AC1529

10 TO 1500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

High Output Power
High Third Order I.P.
High Performance Thin Film
Standart Size TO-8 Package

AC1529

+21.0 dBm
34 dBm

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	10-1600 MHz	10-1500 MHz	10-1500 MHz
Small Signal Gain (Min.)	9.0 dB	8.5 dB	8.0 dB
Gain Flatness (Max.)	< ±0.3 dB	±0.4 dB	±0.5 dB
Noise Figure (Max.)	5.5 dB	7.0 dB	7.5 dB
SWR (Max.) Input/Output	< 1.6:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+21.0 dBm	+19.5 dBm	+19.0 dBm
Reverse Isolation	14.0 dB	—	—
DC Current (Max.)	88.0 mA	93.0 mA	96.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 1.0 dB lower above 1200 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	+12 volts	+15 volts
Second Order Harmonic Intercept Point	+48 dBm	+49 dBm
Second Order Two Tone Intercept Point	+42 dBm	+43 dBm
Third Order Two Tone Intercept Point	+32 dBm	+34 dBm

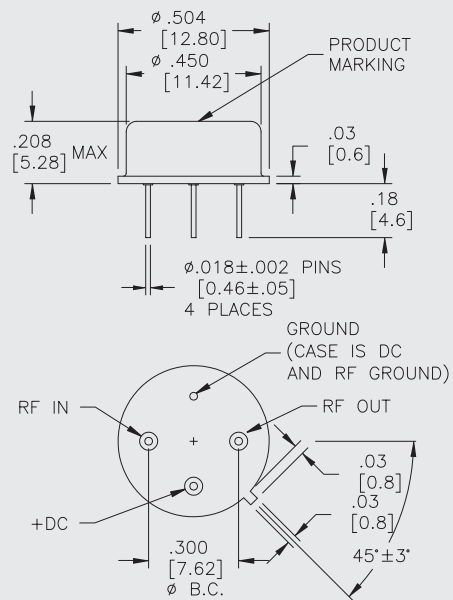
ABSOLUTE MAXIMUM RATINGS

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	+100 °C
Thermal Resistance ¹ (θjc)	+31 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+43 °C

¹ Thermal resistance is based on total power dissipation.

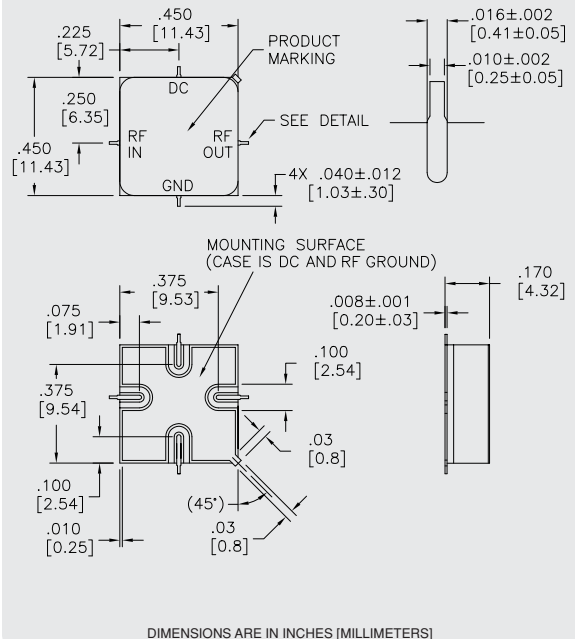
AC1529

TO-8 Package for Amplifiers



AS1529

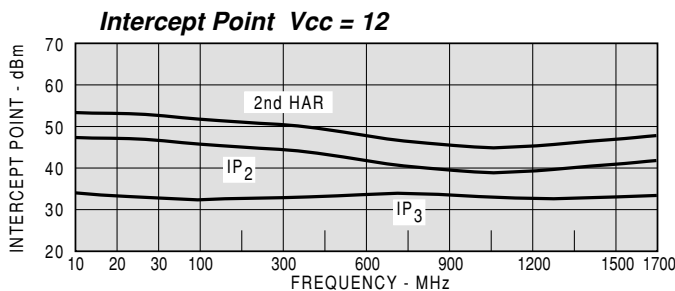
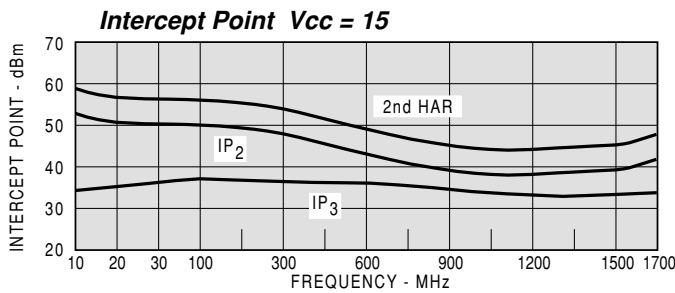
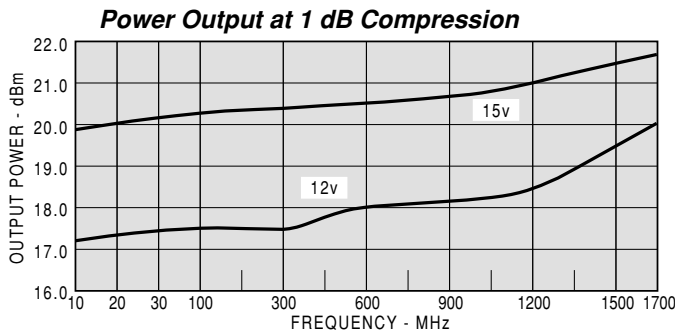
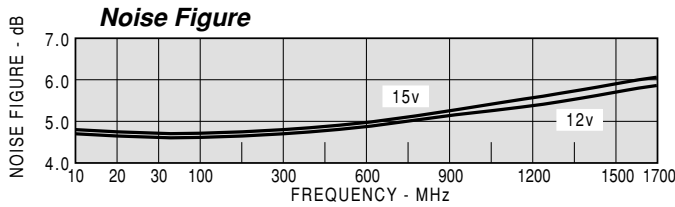
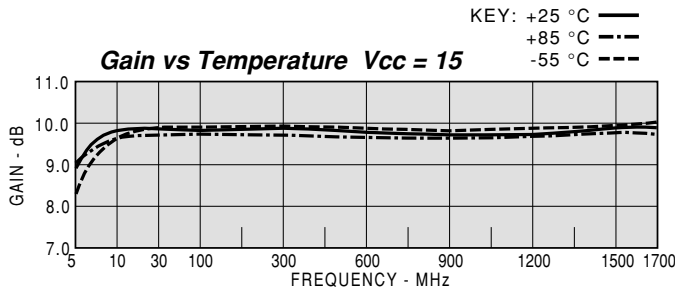
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC1529			Vcc=+15V			Icc=87.66	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
5	2.21	2.23	8.20	-136		-15.5	
10	1.49	1.45	8.99	-160		-14.6	
20	1.25	1.21	9.06	-173	3.5	-14.4	
50	1.16	1.16	9.02	178	0.89	-14.5	
100	1.16	1.15	9.01	170	0.45	-14.5	
200	1.18	1.14	9.02	156	0.37	-14.5	
300	1.20	1.13	9.00	144	0.35	-14.5	
400	1.23	1.13	8.96	131	0.35	-14.5	
500	1.26	1.13	8.96	119	0.34	-14.4	
600	1.30	1.13	8.91	107	0.34	-14.3	
700	1.33	1.13	8.90	95	0.34	-14.2	
800	1.36	1.13	8.88	83	0.34	-14.1	
900	1.40	1.13	8.87	71	0.34	-14.0	
1000	1.44	1.15	8.85	59	0.33	-13.9	
1100	1.46	1.16	8.85	46	0.34	-13.7	
1200	1.49	1.18	8.85	34	0.34	-13.6	
1300	1.51	1.18	8.88	22	0.34	-13.4	
1400	1.52	1.18	8.87	9	0.35	-13.2	
1500	1.55	1.16	8.92	-3	0.35	-13.1	
1600	1.55	1.14	8.91	-16	0.37	-12.8	
1700	1.59	1.10	8.92	-29	0.36	-12.4	

Model: AC1529			Vcc=+15V			Icc=87.66		
FREQ.	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.38	-79.6	2.57	-136.5	0.169	49.2	0.38	167.9
10	0.20	-102.7	2.81	-159.9	0.187	23.5	0.18	140.9
20	0.11	-124.3	2.84	-172.5	0.189	10.1	0.09	143.1
50	0.08	-144.9	2.83	177.8	0.187	1.6	0.08	157.8
100	0.08	-151.6	2.82	169.8	0.188	-3.4	0.07	153.9
200	0.08	-152.1	2.82	156.5	0.188	-10.1	0.07	139.5
300	0.09	-151.2	2.82	143.9	0.189	-16.0	0.06	125.1
400	0.10	-149.9	2.81	131.5	0.189	-22.0	0.06	108.9
500	0.11	-150.6	2.81	119.3	0.191	-27.9	0.06	93.2
600	0.13	-151.3	2.79	107.1	0.193	-34.0	0.06	78.2
700	0.14	-151.9	2.79	95.0	0.195	-39.9	0.06	61.6
800	0.15	-153.6	2.78	82.8	0.197	-46.1	0.06	41.5
900	0.17	-155.3	2.78	70.7	0.199	-52.2	0.06	19.5
1000	0.18	-158.5	2.77	58.7	0.202	-58.5	0.07	0.8
1100	0.19	-162.9	2.77	46.4	0.207	-64.7	0.08	-15.1
1200	0.20	-169.4	2.77	34.2	0.208	-71.5	0.08	-27.5
1300	0.20	-176.6	2.78	21.8	0.213	-78.0	0.08	-41.2
1400	0.21	-174.0	2.78	9.3	0.219	-84.8	0.08	-54.1
1500	0.21	-164.0	2.79	-3.3	0.221	-92.6	0.07	-65.9
1600	0.22	-152.0	2.79	-16.5	0.228	-99.4	0.06	-80.3
1700	0.23	-135.4	2.79	-29.4	0.240	-107.3	0.05	-93.0

Model: AC1529			Vcc=+12V			Icc=74.89	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
5	2.20	2.22	8.16	-136		-15.4	
10	1.49	1.44	8.95	-160		-14.6	
20	1.25	1.20	9.02	-173	3.5	-14.4	
50	1.16	1.16	8.99	178	0.89	-14.5	
100	1.16	1.14	8.98	170	0.45	-14.5	
200	1.18	1.13	8.98	156	0.37	-14.5	
300	1.21	1.12	8.96	144	0.35	-14.4	
400	1.24	1.12	8.91	131	0.34	-14.4	
500	1.27	1.12	8.91	119	0.34	-14.3	
600	1.31	1.11	8.88	107	0.34	-14.3	
700	1.35	1.10	8.85	95	0.34	-14.2	
800	1.38	1.10	8.83	82	0.34	-14.0	
900	1.42	1.10	8.80	70	0.33	-14.0	
1000	1.45	1.11	8.77	58	0.34	-13.8	
1100	1.48	1.13	8.78	46	0.34	-13.6	
1200	1.50	1.14	8.78	34	0.34	-13.5	
1300	1.52	1.14	8.80	21	0.34	-13.3	
1400	1.54	1.14	8.79	9	0.35	-13.1	
1500	1.56	1.12	8.84	-4	0.35	-13.0	
1600	1.57	1.10	8.82	-17	0.36	-12.7	
1700	1.60	1.07	8.82	-30	0.36	-12.3	