

AC3547

10 TO 3500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC3547
Low Noise Figure	<3.5 dB
High Output Level	+20.0 dBm
High Third Order I.P.	+33 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.)	11.0 dB	10.0 dB	9.5 dB
Gain Flatness (Max.)	±0.4 dB	±0.7 dB	±0.8 dB
Noise Figure (Max.) 100-3500 MHz	<3.5 dB	4.5 dB	5.0 dB
SWR (Max.) Input/Output	<1.6:1	1.9:1	2.0:1
Power Output (Min.) @ 1dB comp.	+20.0 dBm	+18.5 dBm	+18.0 dBm
DC Current (Max.)	75 mA	95 mA	100 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 100 MHz	AC3547
Second Order Harmonic Intercept Point	+54 dBm
Second Order Two Tone Intercept Point	+48 dBm
Third Order Two Tone Intercept Point	+33 dBm

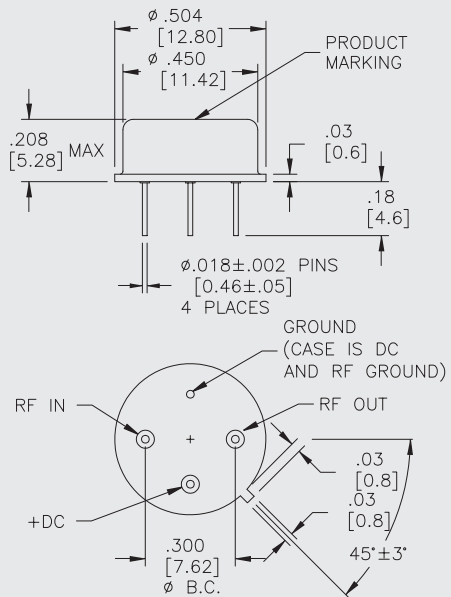
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+23 dBm
Maximum Short Term Input Power (1 Minute Max.)	200 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+105°C
Thermal Resistance ¹ (θjc)	+19.5 C/Watt
Junction Temperature Rise Above Case (Tjc)	+28 C

¹ Thermal resistance is based on total power dissipation.

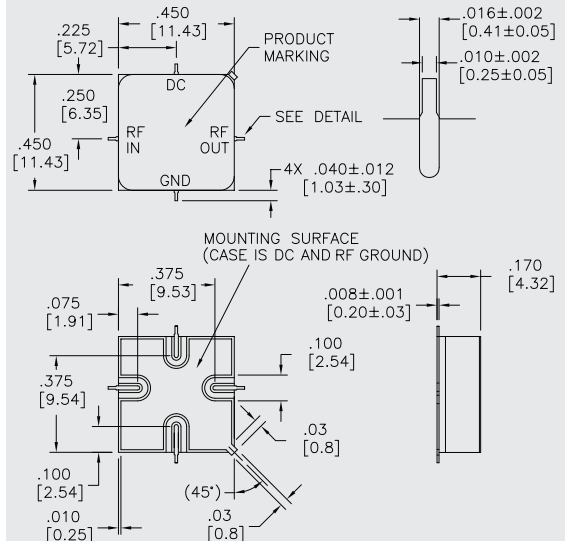
AC3547

TO-8 Package for Amplifiers



AS3547

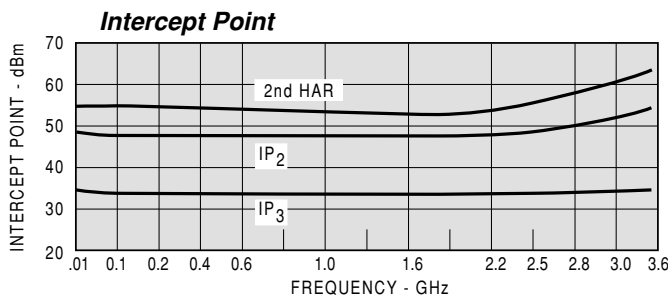
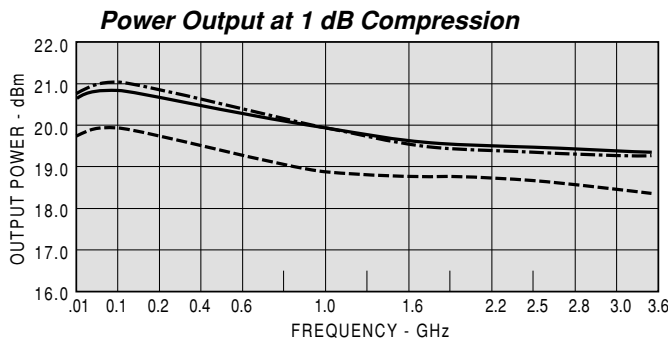
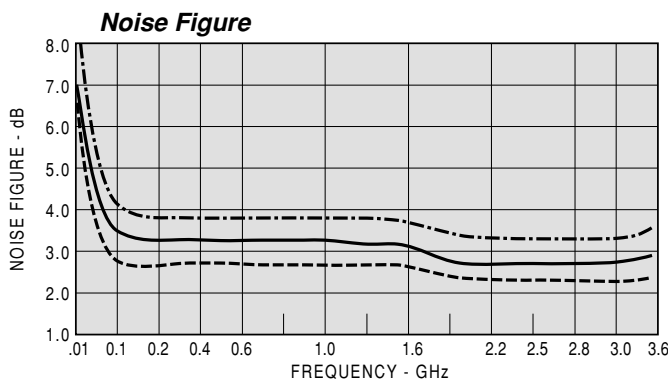
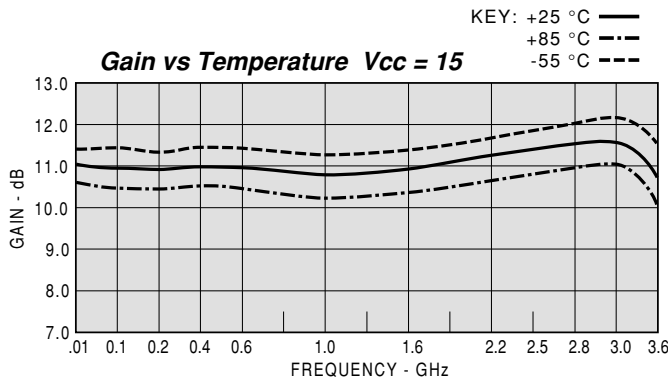
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC3547			Vcc=+15V			Icc=73.04	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
10	1.76	1.09	11.10	-160.00		-17.90	
20	1.62	1.08	11.17	-172.00		-18.10	
30	1.60	1.09	11.13	-176.00	1.20	-18.10	
40	1.60	1.09	11.11	-179.00	0.70	-18.20	
50	1.60	1.09	11.11	179.00	0.52	-18.20	
100	1.61	1.08	10.96	172.00	0.40	-18.10	
200	1.62	1.06	10.98	167.00	0.15	-18.00	
400	1.59	1.04	11.05	149.00	0.24	-18.20	
600	1.61	1.01	11.02	133.00	0.22	-18.30	
800	1.64	1.05	10.96	117.00	0.22	-18.40	
1000	1.69	1.13	10.80	101.00	0.22	-18.50	
1200	1.75	1.21	10.66	87.00	0.20	-18.60	
1400	1.75	1.25	10.77	72.00	0.21	-19.00	
1600	1.75	1.32	10.85	56.00	0.22	-19.50	
1800	1.76	1.43	10.90	40.00	0.22	-19.80	
2000	1.73	1.52	11.02	24.00	0.23	-19.90	
2200	1.68	1.59	11.13	7.00	0.23	-20.20	
2400	1.60	1.64	11.24	-10.00	0.23	-20.70	
2600	1.48	1.65	11.32	-27.00	0.24	-21.10	
2800	1.32	1.59	11.47	-46.00	0.26	-21.20	
3000	1.17	1.50	11.53	-66.00	0.29	-21.50	
3200	1.16	1.41	11.51	-88.00	0.31	-21.60	
3400	1.36	1.39	11.27	-112.00	0.33	-21.50	
3600	1.68	1.57	10.69	-136.00	0.33	-21.20	

Model: AC3547			LINEAR S-PARAMETERS						Icc=73.04	
			Vcc=+15V							
FREQ.	S11		S21		S12		S22		MAG	ANG
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG		
10	0.28	-29.40	3.59	-160.30	0.13	12.40	0.04	144.20	0.04	177.00
20	0.24	-16.10	3.62	-172.10	0.13	4.80	0.04	177.00	0.04	175.90
30	0.23	-11.20	3.60	-176.30	0.12	2.70	0.04	170.00	0.04	165.40
40	0.23	-9.30	3.59	-178.80	0.12	1.20	0.04	131.40	0.04	136.30
50	0.23	-7.50	3.59	-179.30	0.12	0.30	0.04	165.40	0.04	166.30
100	0.23	-5.40	3.53	172.10	0.13	-2.40	0.04	131.40	0.04	166.30
200	0.24	-15.80	3.54	166.60	0.13	-10.00	0.03	-166.30	0.02	160.20
400	0.23	-23.50	3.57	149.20	0.12	-18.90	0.02	172.50	0.03	-57.40
600	0.23	-33.40	3.56	133.10	0.12	-28.40	0.00	172.50	0.03	-57.40
800	0.24	-44.00	3.53	117.10	0.12	-37.80	0.03	-57.40	0.06	-69.30
1000	0.26	-55.00	3.47	101.10	0.12	-47.50	0.06	-69.30	0.11	-91.00
1200	0.27	-67.70	3.41	86.60	0.12	-57.40	0.10	-91.00	0.11	-103.20
1400	0.27	-81.00	3.46	71.80	0.11	-67.30	0.11	-103.20	0.18	-114.90
1600	0.27	-91.60	3.49	56.20	0.11	-76.80	0.14	-105.90	0.21	-125.50
1800	0.27	-103.10	3.51	40.10	0.10	-85.10	0.18	-114.90	0.23	-136.30
2000	0.27	-114.70	3.56	23.60	0.10	-93.90	0.21	-125.50	0.24	-147.70
2200	0.25	-125.20	3.60	7.20	0.10	-102.60	0.23	-136.30	0.24	-161.40
2400	0.23	-137.40	3.65	-9.60	0.09	-111.50	0.24	-147.70	0.23	-178.00
2600	0.19	-151.00	3.68	-27.20	0.09	-119.50	0.24	-161.40	0.20	160.90
2800	0.14	-169.30	3.74	-45.90	0.09	-127.20	0.23	-178.00	0.17	128.50
3000	0.08	155.10	3.77	-66.40	0.08	-134.90	0.20	160.90	0.16	80.30
3200	0.08	73.80	3.76	-88.40	0.08	-142.30	0.17	128.50	0.16	80.30
3400	0.15	30.70	3.66	-112.10	0.08	-148.10	0.16	80.30	0.22	34.20
3600	0.25	10.40	3.42	-136.20	0.09	-153.70	0.22	34.20		

Model: AC3547			Vcc=+12V			Icc=69.37	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
10	1.85	1.30	10.48	-161.00		-18.90	
20	1.73	1.33	10.55	-172.00		-19.10	
30	1.71	1.34	10.51	-177.00	1.20	-19.20	
40	1.71	1.34	10.51	-179.00	0.69	-19.20	
50	1.71	1.35	10.50	179.00	0.52	-19.10	
100	1.73	1.31	10.35	172.00	0.39	-19.10	
200	1.73	1.30	10.38	166.00	0.16	-19.10	
400	1.71	1.28	10.44	149.00	0.24	-19.10	
600	1.71	1.24	10.40	133.00	0.22	-19.10	
800	1.73	1.18	10.33	117.00	0.22	-19.10	
1000	1.77	1.10	10.21	101.00	0.22	-19.00	
1200	1.82	1.09	10.10	86.00	0.21	-19.00	
1400	1.82	1.09	10.23	71.00	0.21	-19.20	
1600	1.82	1.08	10.32	55.00	0.22	-19.30	
1800	1.82	1.13	10.42	39.00	0.23	-19.30	
2000	1.79	1.19	10.53	22.00	0.23	-19.10	
2200	1.73	1.23	10.63	6.00	0.23	-18.90	
2400	1.64	1.24	10.76	-12.00	0.24	-18.90	
2600	1.51	1.21	10.84	-30.00	0.25	-18.80	
2800	1.35	1.13	10.92	-49.00	0.27	-18.40	
3000	1.27	1.04	10.91	-70.00	0.29	-18.30	
3200	1.36	1.13	10.70	-91.00	0.30	-18.20	
3400	1.60	1.30	10.23	-114.00	0.32	-18.00	
3600	1.94	1.50	9.55	-138.00	0.33	-17.80	