

AC548 5 TO 500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC548
High Third Order I.P.	+35 dBm
Low Noise Figure	< 3.7 dB
Medium Output Power	+19.0 dBm
High Performance Thin Film	
Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	5-600 MHz	5-500 MHz	5-500 MHz
Small Signal Gain (Min.)	12.5 dB	11.5 dB	11.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.4 dB	±0.6 dB
Noise Figure (Max.)	< 3.7 dB	4.5 dB	5.0 dB
SWR (Max.)	Input < 1.5:1 Output < 1.3:1	1.9:1 1.4:1	2.0:1 1.5:1
Power Output (Min.) @ 1dB comp.	+19.0 dBm	+17.8 dBm	+17.0 dBm
DC Current (Max.)	58 mA	61 mA	64 mA

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

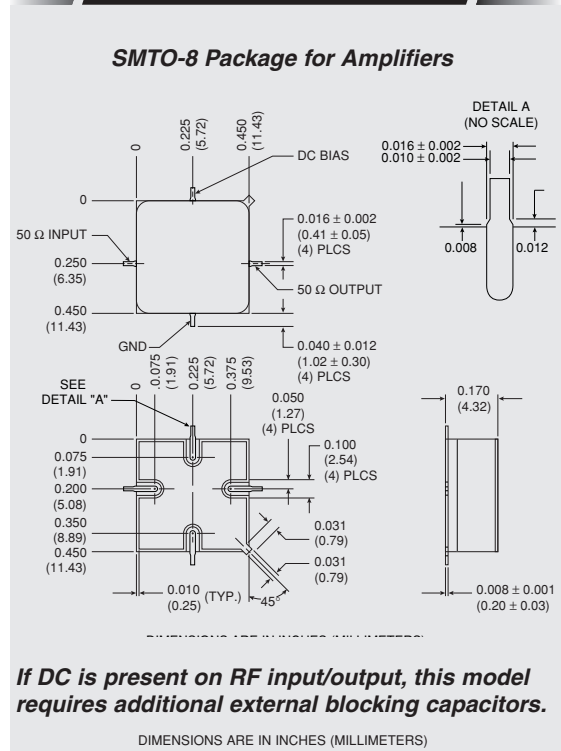
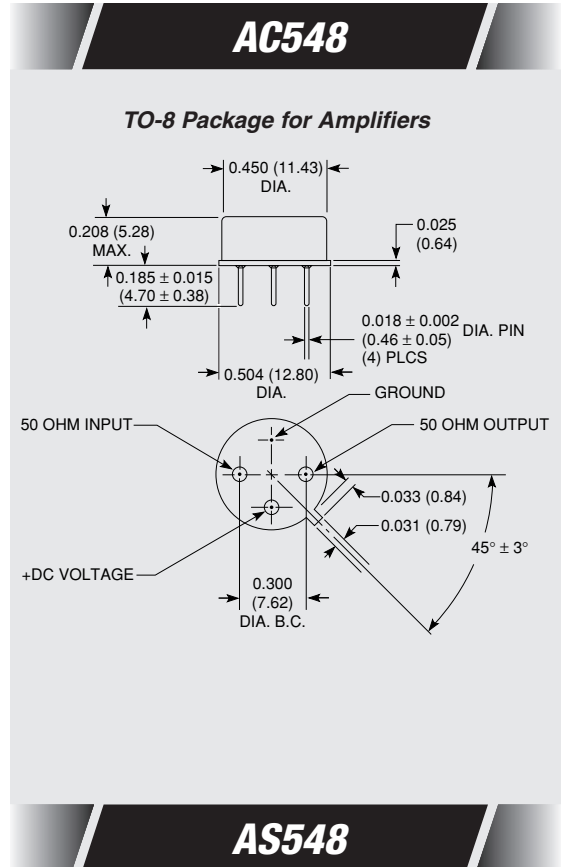
INTERMODULATION PERFORMANCE

Typical @ 25° C; 200 MHz	AC548
Second Order Harmonic Intercept Point	+54 dBm
Second Order Two Tone Intercept Point	+48 dBm
Third Order Two Tone Intercept Point	+35 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	+105° C
Thermal Resistance ¹ (θjc)	+34.2° C/Watt
Junction Temperature Rise Above Case (Tjc)	+31.3° C

¹ Thermal resistance is based on total power dissipation.

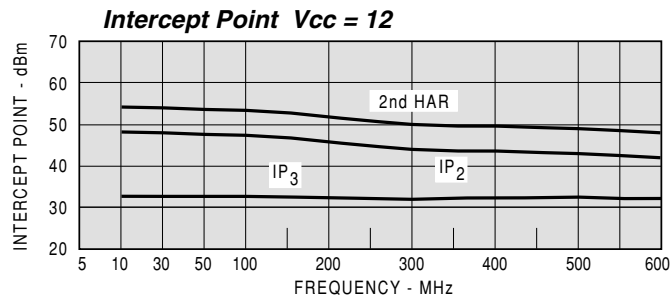
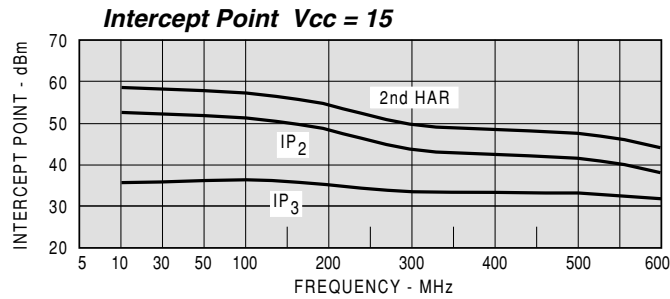
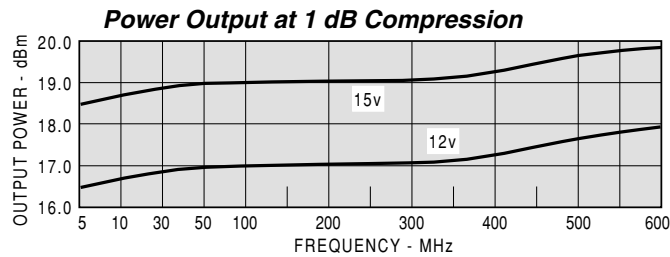
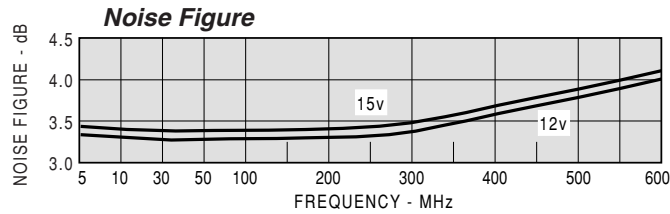
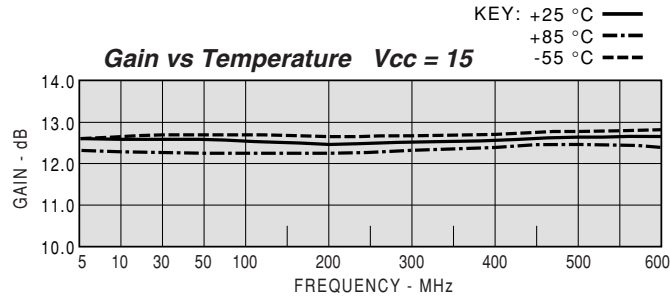


If DC is present on RF input/output, this model requires additional external blocking capacitors.

DIMENSIONS ARE IN INCHES (MILLIMETERS)



TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model: AC548		Vcc=+15V			Icc=57.69	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	
MHZ	IN	OUT	DB	NSEC	DB	
5	1.32	1.17	12.7			-19.1
10	1.14	1.07	12.7			-18.3
20	1.07	1.04	12.7	1.664		-18.2
50	1.04	1.06	12.6	0.722		-18.2
100	1.04	1.11	12.6	0.505		-18.2
200	1.07	1.20	12.5	0.465		-18.2
300	1.13	1.27	12.5	0.458		-18.2
400	1.23	1.30	12.5	0.461		-18.2
500	1.40	1.27	12.5	0.477		-18.2
600	1.64	1.19	12.4	0.497		-18.1

Model: AC548		Vcc=+15V						Icc=57.69	
FREQ.	S11		S21		S12		S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
5	0.14	-82.1	4.30	-163.7	0.111	-174.0	0.08	-19.2	
10	0.07	-84.4	4.30	-173.1	0.121	-178.0	0.03	-25.8	
20	0.04	-84.9	4.30	-179.1	0.123	-179.0	0.02	2.3	
50	0.02	-86.4	4.29	-173.1	0.124	-174.0	0.03	40.7	
100	0.02	-92.7	4.26	-164.0	0.123	-166.0	0.05	52.2	
200	0.03	-112.5	4.23	-147.3	0.123	-152.0	0.09	46.1	
300	0.06	-132.6	4.21	-130.8	0.123	-139.0	0.12	34.4	
400	0.10	-154.1	4.21	-114.2	0.123	-125.0	0.13	21.6	
500	0.17	-174.6	4.21	-97.0	0.124	-111.0	0.12	8.8	
600	0.24	-165.9	4.17	-79.1	0.124	-97.0	0.09	-3.0	
700	0.33	-146.9	4.08	-60.7	0.122	-81.0	0.03	1.1	

Model: AC548		Vcc=+12V			Icc=45.79	
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO	
MHZ	IN	OUT	DB	NSEC	DB	
5	1.31	1.18	12.6			-19.1
10	1.14	1.07	12.6			-18.3
20	1.07	1.05	12.6	1.660		-18.2
50	1.04	1.06	12.6	0.718		-18.2
100	1.04	1.10	12.6	0.507		-18.2
200	1.07	1.18	12.5	0.465		-18.2
300	1.13	1.24	12.5	0.458		-18.2
400	1.24	1.25	12.5	0.462		-18.2
500	1.41	1.21	12.5	0.481		-18.2
600	1.66	1.12	12.4	0.499		-18.2

Model: AC548		Vcc=+12V						Icc=45.79	
FREQ.	S11		S21		S12		S22		
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
5	0.13	-81.5	4.28	-163.7	0.111	-174.0	0.08	-16.9	
10	0.07	-82.9	4.28	-173.1	0.121	-178.0	0.04	-21.3	
20	0.04	-81.3	4.28	-179.1	0.123	-179.0	0.02	1.1	
50	0.02	-80.2	4.27	-173.1	0.123	-173.0	0.03	32.0	
100	0.02	-87.2	4.25	-164.0	0.123	-166.0	0.05	45.4	
200	0.03	-108.8	4.22	-147.2	0.122	-152.0	0.08	42.0	
300	0.06	-131.0	4.20	-130.8	0.122	-138.0	0.11	31.5	
400	0.11	-152.9	4.20	-114.1	0.123	-123.0	0.11	19.5	
500	0.17	-173.6	4.20	-96.8	0.123	-109.0	0.09	7.7	
600	0.25	-166.1	4.16	-78.8	0.123	-94.0	0.06	0.0	
700	0.34	-146.8	4.06	-60.3	0.120	-78.0	0.02	79.8	