

AS5066

1000 TO 5000 MHz SMTO-8 CASCADABLE AMPLIFIER

Typical Values

High Gain	AS5066 19.5 dB
High Output Power	+20.0 dBm
High Reverse Isolation	36 dB
High Performance Thin Film	
Standard Size SMTO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	0.9-5.2 GHz	1.0-5.0 GHz	1.0-5.0 GHz
Small Signal Gain (Min.)	19.5 dB	18.5 dB	17.0 dB
Gain Flatness (Max.)	±0.5 dB	±0.7 dB	±0.85 dB
Noise Figure (Max.)	4.0 dB	4.5 dB	5.0 dB
SWR (Max.)	Input/Output	1.9:1	2.0:1
Power Output (Min.) @ 1dB comp.	+20.0 dBm	+19.0 dBm	+17.5 dBm
Reverse Isolation	36.0 dB	—	—
DC Current (Max.)	160.0 mA	170.0 mA	180.0 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 3000 MHz	+12 Volts	+15 Volts
Second Order Harmonic Intercept Point	+51 dBm	+66 dBm
Second Order Two Tone Intercept Point	+46 dBm	+60 dBm
Third Order Two Tone Intercept Point	+29 dBm	+35 dBm

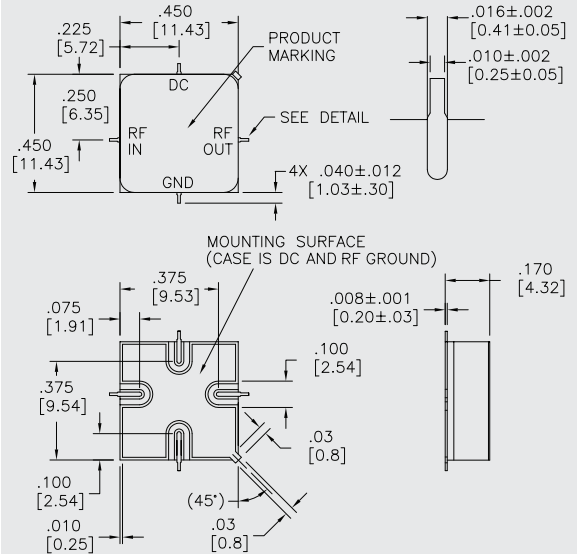
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+105 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+17 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+105 °C
Thermal Resistance ¹ (θjc)	+21.4 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+51.3 °C

¹ Thermal resistance is based on total power dissipation.

AS5066

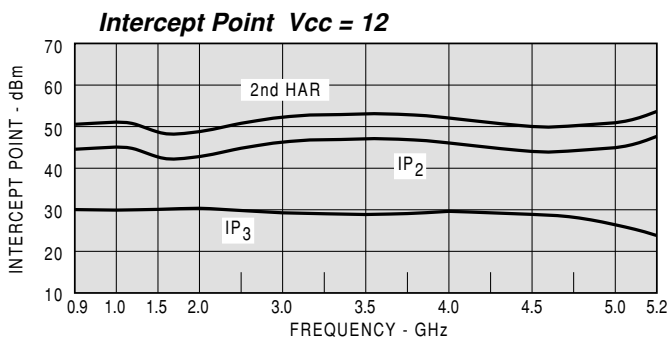
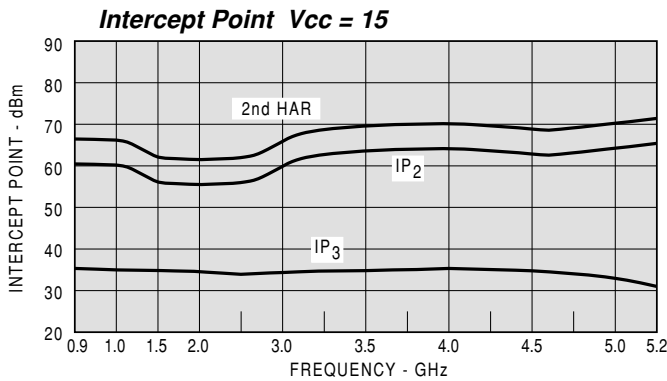
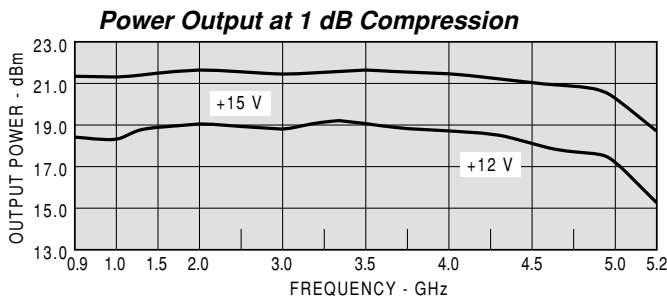
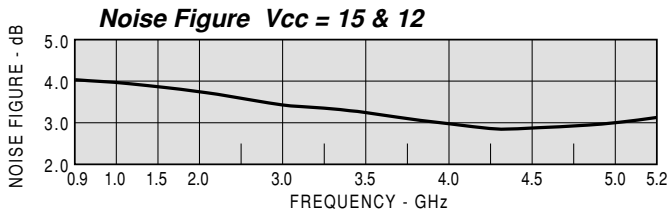
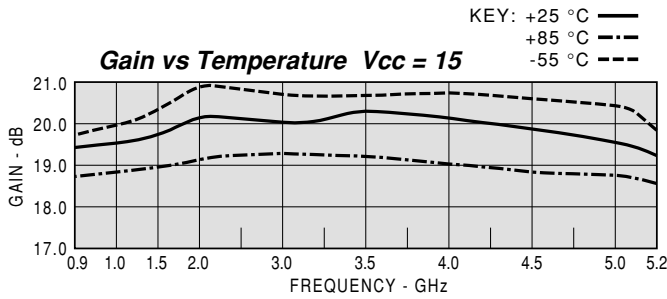
SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AS5066			Vcc= +15V			Icc= 159.20	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
900	1.41	1.15	19.28	-57	0.46	-35.0	
1000	1.34	1.17	19.43	-72	0.43	-36.3	
1200	1.26	1.22	19.72	-102	0.41	-36.6	
1400	1.20	1.26	19.91	-130	0.39	-35.4	
1600	1.22	1.29	20.04	-157	0.38	-36.0	
1800	1.27	1.29	20.14	177	0.37	-37.2	
2000	1.33	1.28	20.20	151	0.35	-37.2	
2200	1.40	1.25	20.20	125	0.35	-36.5	
2400	1.50	1.23	20.27	100	0.37	-38.7	
2600	1.61	1.17	20.23	75	0.35	-37.6	
2800	1.68	1.10	20.19	50	0.35	-37.4	
3000	1.73	1.02	20.25	25	0.35	-38.0	
3200	1.76	1.05	20.29	-1	0.36	-37.5	
3400	1.77	1.14	20.44	-27	0.37	-38.4	
3600	1.76	1.23	20.55	-53	0.40	-37.9	
3800	1.61	1.34	20.53	-81	0.38	-37.9	
4000	1.54	1.45	20.23	-112	0.43	-36.0	
4200	1.45	1.48	19.71	-139	0.40	-35.8	
4400	1.30	1.47	19.10	-165	0.35	-35.6	
4600	1.29	1.49	18.73	165	0.46	-37.7	
4800	1.35	1.49	18.67	142	0.44	-32.0	
5000	1.36	1.29	19.41	111	0.56	-32.6	
5200	1.90	1.17	18.88	68	0.55	-29.8	

LINEAR S-PARAMETERS

Model: AS5066			Vcc= +15V			Icc= 159.20		
FREQ.	S11	S21	S12	S22				
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
900	0.17	-162.9	9.20	-56.8	0.018	-29.0	0.07	-104.3
1000	0.15	-168.4	9.37	-72.5	0.015	-38.9	0.08	-125.1
1200	0.12	-173.5	9.68	-101.7	0.015	-54.1	0.10	-156.1
1400	0.09	-175.4	9.90	-129.8	0.017	-59.2	0.12	178.1
1600	0.10	-170.1	10.04	-156.8	0.016	-77.2	0.13	156.4
1800	0.12	-171.4	10.16	-177.0	0.014	-87.0	0.13	135.5
2000	0.14	-171.4	10.23	151.3	0.014	-95.0	0.12	115.5
2200	0.17	175.8	10.23	125.4	0.015	-115.0	0.11	95.2
2400	0.20	160.0	10.31	99.7	0.012	-122.6	0.10	74.8
2600	0.23	148.4	10.26	74.6	0.013	-136.6	0.08	58.6
2800	0.25	134.6	10.22	49.7	0.014	-153.5	0.05	38.4
3000	0.27	120.5	10.29	24.5	0.013	-167.9	0.01	-15.1
3200	0.28	103.1	10.34	-0.9	0.013	-175.3	0.03	-151.3
3400	0.28	88.4	10.52	-26.8	0.012	164.2	0.07	-177.2
3600	0.27	72.6	10.65	-53.3	0.013	148.5	0.10	151.7
3800	0.23	49.8	10.63	-81.4	0.013	133.4	0.15	131.8
4000	0.21	29.7	10.27	-111.6	0.016	125.7	0.18	114.3
4200	0.18	8.0	9.67	-139.3	0.016	104.2	0.19	89.7
4400	0.13	-28.5	9.01	-164.8	0.017	92.3	0.19	67.7
4600	0.13	-83.2	8.64	165.1	0.013	89.2	0.20	62.3
4800	0.15	-75.7	8.58	141.8	0.025	58.9	0.20	13.9
5000	0.15	-93.3	9.34	110.8	0.024	41.4	0.13	-17.1
5200	0.31	-79.0	8.79	67.8	0.032	37.1	0.08	50.5
5400	0.43	-127.9	8.84	25.4	0.041	-2.8	0.11	-60.2

Model: AS5066			Vcc= +12V			Icc= 146.18	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
900	1.41	1.20	18.93	-58	0.46	-36.7	
1000	1.35	1.24	19.09	-73	0.42	-37.5	
1200	1.27	1.32	19.40	-102	0.41	-37.8	
1400	1.21	1.38	19.60	-130	0.39	-35.5	
1600	1.23	1.44	19.76	-157	0.38	-36.9	
1800	1.29	1.47	19.90	177	0.38	-37.2	
2000	1.36	1.48	20.01	151	0.35	-36.2	
2200	1.43	1.49	20.04	125	0.34	-36.2	
2400	1.53	1.48	20.16	98	0.37	-36.5	
2600	1.67	1.44	20.08	73	0.37	-36.0	
2800	1.75	1.37	19.97	48	0.34	-35.5	
3000	1.81	1.30	20.10	22	0.36	-36.7	
3200	1.85	1.23	20.15	-3	0.39	-35.9	
3400	1.86	1.15	20.09	-29	0.34	-35.3	
3600	1.83	1.07	20.05	-57	0.37	-35.2	
3800	1.68	1.03	20.08	-84	0.38	-34.8	
4000	1.60	1.09	19.85	-113	0.41	-33.3	
4200	1.50	1.12	19.48	-141	0.42	-32.2	
4400	1.36	1.13	19.01	-169	0.38	-32.5	
4600	1.31	1.16	18.54	160	0.48	-34.4	
4800	1.34	1.25	18.16	136	0.43	-29.4	
5000	1.34	1.18	18.59	104	0.51	-29.8	
5200	1.96	1.10	17.80	61	0.56	-27.6	