AS6066

1000 TO 6000 MHz SMTO-8 CASCADABLE AMPLIFIER

Typical Values	AS6066
Medium Gain	**17.5 dB**
High Output Level	**+20.0 dBm**
High Second Order I.P.	**+56 dBm**
High Reverse Isolation	**37 dB**

High Performance Thin Film
Standard Size SMTO-8

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)	**750-6100 MHz**	**1000-6000 MHz**	**1000-6000 MHz**
Small Signal Gain (Min.)	17.5 dB	16.0 dB	15.5 dB
Gain Flatness (Max.)	±0.6 dB	±1.0 dB	±1.4 dB
Noise Figure (Max.)	<4.5 dB	5.5 dB	6.0 dB
SWR (Max.) Input/Output	<1.6:1	2.0:1	2.1:1
Power Output (Min.) @ 1dB comp.	+20.0 dBm	+19.0 dBm	+18.5 dBm
Reverse Isolation	37.0 dB	—	—
DC Current (Max.)	132 mA	140 mA	145 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 3000 MHz	AS6066
Second Order Harmonic Intercept Point	+62 dBm
Second Order Two Tone Intercept Point	+56 dBm
Third Order Two Tone Intercept Point	+30 dBm

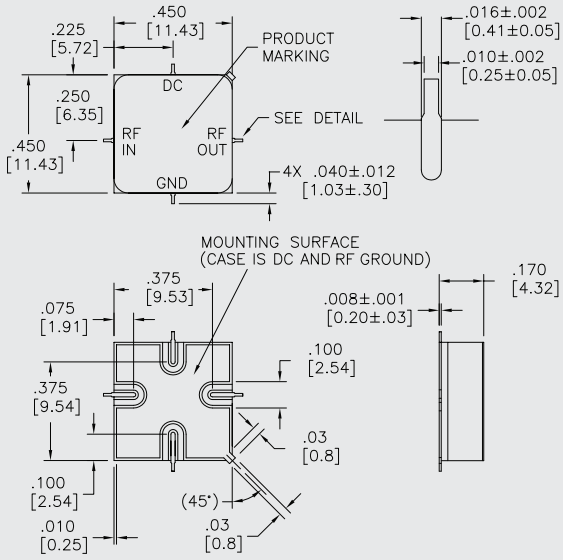
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term Input Power (1 Minute Max.)	250 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+105 °C
Thermal Resistance[1] (θjc)	+17 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+34.5 °C

[1] Thermal resistance is based on total power dissipation.

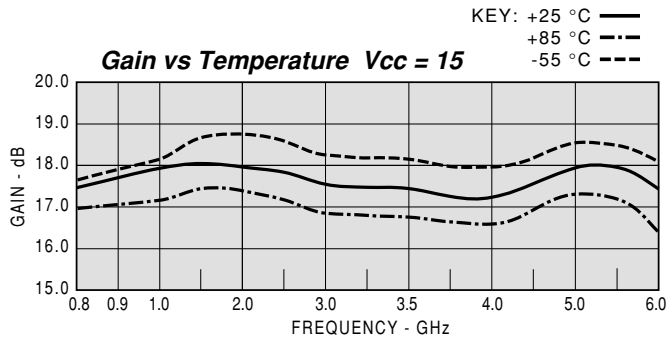
AS6066

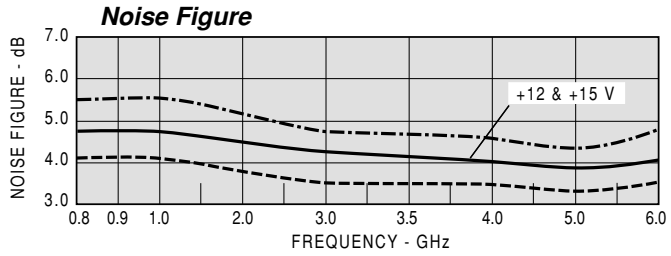
SMTO-8 Package for Amplifiers

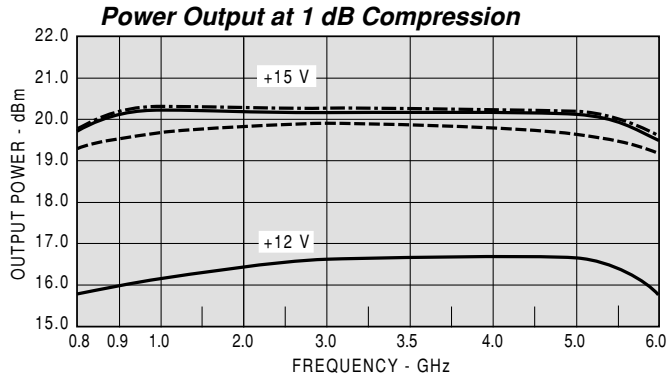


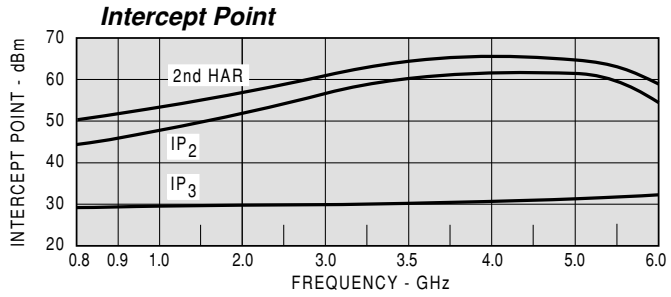
DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AS6066 Vcc=+15V Icc=131.74

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
800	2.05	1.32	17.26	-21.00	0.57	-36.50
1000	1.83	1.36	17.55	-57.00	0.49	-39.20
1500	1.56	1.46	17.88	-130.00	0.39	-39.20
2000	1.45	1.54	17.56	164.00	0.35	-37.50
2500	1.26	1.51	17.42	107.00	0.31	-35.90
3000	1.44	1.71	17.24	47.00	0.32	-36.00
3500	1.59	1.82	17.01	-10.00	0.31	-37.70
4000	1.69	1.91	16.68	-65.00	0.31	-36.10
4500	1.56	1.78	17.09	-122.00	0.32	-37.10
5000	1.31	1.68	17.60	175.00	0.36	-37.10
5500	1.14	1.53	17.78	109.00	0.37	-36.00
6000	1.14	1.34	17.48	35.00	0.41	-31.90

LINEAR S-PARAMETERS

Model: AS6066 Vcc=+15V Icc=131.74

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
800	0.34	-172.20	7.30	-21.00	0.02	-15.10	0.14	132.50
1000	0.29	168.70	7.54	-56.60	0.01	-33.40	0.15	138.60
1500	0.22	122.80	7.84	-130.40	0.01	-58.10	0.19	106.10
2000	0.18	77.60	7.55	164.10	0.01	-100.60	0.21	59.00
2500	0.11	46.40	7.43	107.30	0.02	-105.30	0.20	6.90
3000	0.18	21.60	7.28	46.70	0.02	-145.90	0.26	-29.00
3500	0.23	-12.00	7.09	-10.10	0.01	-172.30	0.29	-66.50
4000	0.26	-44.60	6.82	-65.20	0.02	161.50	0.31	-105.10
4500	0.22	-81.30	7.15	-122.10	0.01	112.60	0.28	-155.40
5000	0.14	-127.90	7.58	175.10	0.01	57.70	0.25	140.30
5500	0.07	-170.00	7.75	108.90	0.02	30.00	0.21	80.50
6000	0.07	171.20	7.48	35.10	0.03	-14.00	0.15	36.60

Model: AS6066 Vcc=+12V Icc=121.47

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
800	2.02	1.39	17.03	-19.00	0.56	-37.80
1000	1.79	1.50	17.32	-55.00	0.49	-39.20
1500	1.50	1.60	17.75	-128.00	0.39	-39.50
2000	1.38	1.66	17.75	167.00	0.35	-38.40
2500	1.35	1.78	17.55	106.00	0.34	-37.10
3000	1.44	1.97	17.15	47.00	0.32	-35.80
3500	1.59	2.15	17.02	-9.00	0.31	-36.80
4000	1.68	2.17	16.67	-67.00	0.32	-36.50
4500	1.59	2.00	16.72	-125.00	0.32	-32.50
5000	1.39	1.75	16.90	175.00	0.34	-34.80
5500	1.25	1.60	17.14	112.00	0.35	-33.30
6000	1.22	1.47	17.52	36.00	0.44	-31.00

LINEAR S-PARAMETERS

Model: AS6066 Vcc=+12V Icc=121.47

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
800	0.34	-167.80	7.10	-19.40	0.01	-15.40	0.16	152.20
1000	0.28	173.10	7.35	-54.90	0.01	-20.90	0.20	149.30
1500	0.20	130.10	7.72	-127.90	0.01	-57.10	0.23	116.80
2000	0.16	92.20	7.72	167.30	0.01	-95.60	0.25	78.40
2500	0.15	55.40	7.54	105.60	0.01	-109.50	0.28	32.20
3000	0.18	24.20	7.21	47.00	0.02	-137.40	0.33	-10.70
3500	0.23	-7.80	7.10	-9.40	0.01	-165.30	0.37	-49.50
4000	0.25	-40.20	6.82	-66.80	0.02	152.80	0.37	-89.20
4500	0.23	-74.10	6.86	-124.70	0.02	130.70	0.33	-135.60
5000	0.16	-109.40	7.00	174.60	0.02	71.50	0.27	169.70
5500	0.11	-154.40	7.20	112.10	0.02	39.30	0.23	116.70
6000	0.10	162.00	7.51	36.20	0.03	-16.50	0.19	74.50