

# AS6063

## 2000 TO 6000 MHz SMT0-8 CASCADABLE AMPLIFIER

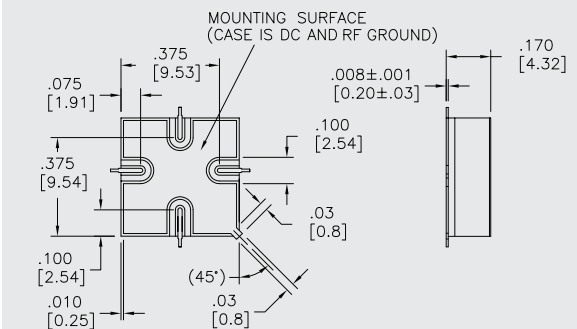
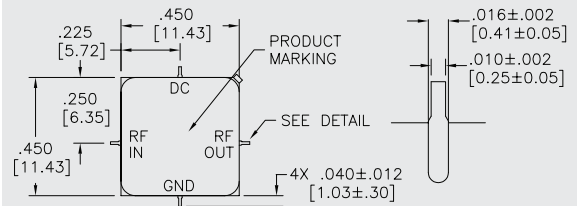
**Typical Values**

<b>High Output Power</b> .....	<b>+19.0 dBm</b>
<b>Medium Gain</b> .....	<b>16.0 dB</b>
<b>High Reverse Isolation</b> .....	<b>35 dB</b>
<b>High Performance Thin Film</b>	
<b>Standard Size SMT0-8</b>	

**AS6063**

### AS6063

**SMT0-8 Package for Amplifiers**



## SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	1.0-6.2 GHz	2.0-6.0 GHz	2.0-6.0 GHz
Small Signal Gain (Min.)	16.0 dB	15.0 dB	14.5 dB
Gain Flatness (Max.)	±0.5 dB	±0.8 dB	±0.9 dB
Noise Figure (Max.)	<4.5 dB	5.0 dB	5.5 dB
SWR (Max.)	Input <1.8:1 Output <1.7:1	2.0:1 1.9:1	2.1:1 2.0:1
Power Output (Min.) @ 1dB comp.	+19.0 <sup>^</sup> dBm	+18.0 <sup>^</sup> dBm	+17.5 <sup>^</sup> dBm
Reverse Isolation	35.0 dB	—	—
DC Current (Max.)	105.0 mA	110.0 mA	115.0 mA

\* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.  
^ 1.0 dBm less above 5200 MHz.

## INTERMODULATION PERFORMANCE

Typical @ 25 °C; 4500 MHz	+12 Volts	+15 Volts
<b>Second Order Harmonic Intercept Point</b> .....	+60 dBm	+56 dBm
<b>Second Order Two Tone Intercept Point</b> .....	+54 dBm	+50 dBm
<b>Third Order Two Tone Intercept Point</b> .....	+29 dBm	+31 dBm

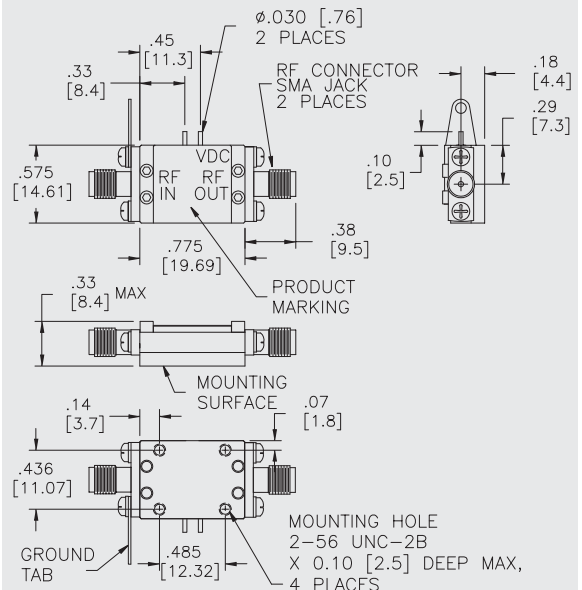
## ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> .....	-62 to +125 °C
<b>Maximum Case Temperature</b> .....	+125 °C
<b>Maximum DC Voltage</b> .....	+17 Volts
<b>Maximum Continuous RF Input Power</b> .....	+20 dBm
<b>Maximum Short Term Input Power (1 Minute Max.)</b> .....	100 Milliwatts
<b>Maximum Peak Power (3 μsec Max.)</b> .....	0.5 Watt
<b>Burn-in Temperature</b> .....	+125 °C
<b>Thermal Resistance<sup>1</sup> (θjC)</b> .....	+14 °C/Watt
<b>Junction Temperature Rise Above Case (TjC)</b> .....	+25.1 °C

<sup>1</sup> Thermal resistance is based on total power dissipation.

### ACP6063

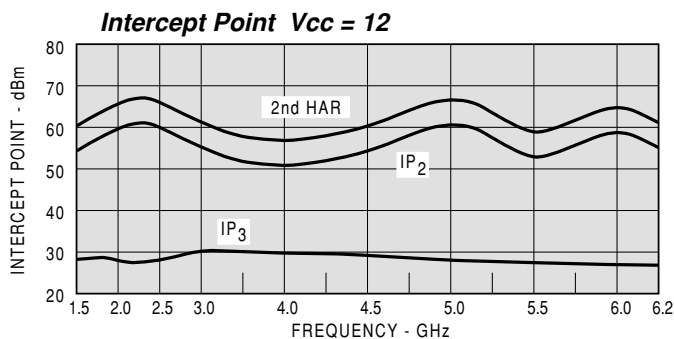
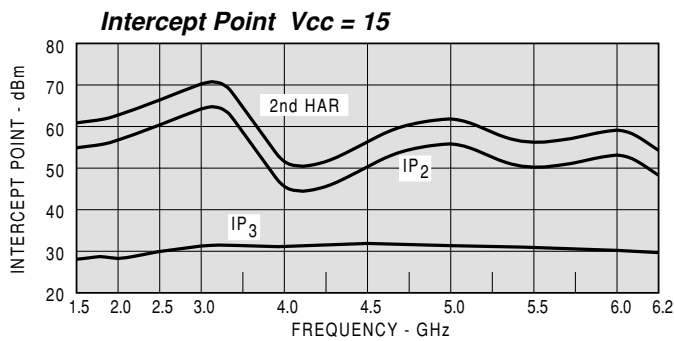
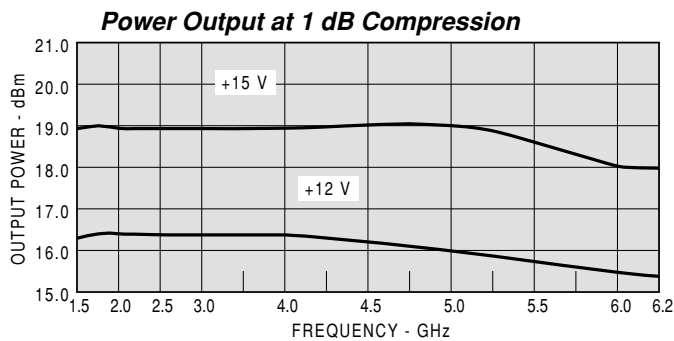
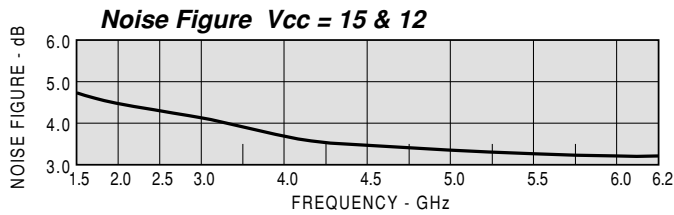
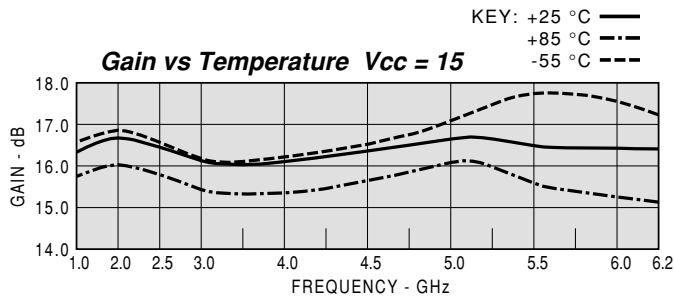
**CougarPak® Connectorized Package  
(one-stage)**



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AS6063			Vcc= +15V			Icc = 104.95	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
900	2.03	1.23	16.45	-43	0.57	-38.2	
1000	1.92	1.17	16.61	-62	0.52	-38.5	
1500	1.56	1.16	16.97	-142	0.42	-38.1	
2000	1.40	1.15	17.08	147	0.39	-38.5	
2500	1.34	1.19	16.82	80	0.36	-38.7	
3000	1.36	1.26	16.49	16	0.35	-38.6	
3200	1.35	1.31	16.50	-9	0.38	-38.9	
3400	1.35	1.27	16.38	-34	0.35	-38.7	
3600	1.38	1.31	16.23	-58	0.33	-39.6	
3800	1.40	1.40	16.13	-83	0.34	-39.3	
4000	1.45	1.33	16.29	-107	0.34	-37.6	
4200	1.55	1.30	16.19	-132	0.33	-37.5	
4400	1.66	1.35	16.29	-157	0.35	-36.5	
4600	1.70	1.43	16.55	178	0.38	-36.4	
4800	1.76	1.37	16.86	152	0.39	-35.8	
5000	1.80	1.30	17.15	124	0.41	-35.0	
5200	1.71	1.48	17.17	95	0.41	-34.2	
5400	1.54	1.53	16.95	68	0.36	-33.6	
5600	1.44	1.37	16.99	38	0.38	-33.1	
5800	1.45	1.48	16.71	6	0.46	-32.6	
6000	1.67	1.70	16.4	-23	0.39	-32.0	

Model: AS6063			Vcc=15V				Icc = 104.95	
FREQ	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
900	0.34	168.8	6.65	-43.4	0.012	-30.1	0.10	70.7
1000	0.31	158.5	6.77	-62.0	0.012	-39.2	0.08	71.0
1500	0.22	115.0	7.05	-142.1	0.012	-71.9	0.07	81.2
2000	0.17	91.6	7.14	147.1	0.012	-113.5	0.07	44.2
2500	0.14	60.1	6.93	80.2	0.012	-147.0	0.09	-9.2
2600	0.15	55.3	6.89	67.0	0.011	-154.9	0.09	-21.2
2800	0.16	43.7	6.80	42.0	0.011	-166.0	0.10	-52.8
3000	0.15	29.1	6.67	16.4	0.012	177.6	0.12	-72.6
3200	0.15	10.9	6.68	-9.3	0.011	165.6	0.13	-85.8
3400	0.15	-11.8	6.59	-33.7	0.012	145.6	0.12	-114.3
3600	0.16	-35.8	6.48	-57.9	0.010	134.4	0.14	-136.0
3800	0.17	-57.6	6.41	-82.6	0.011	126.2	0.17	-151.5
4000	0.18	-82.2	6.53	-106.6	0.013	110.0	0.14	-169.1
4200	0.22	-106.2	6.45	-131.6	0.013	95.1	0.13	168.8
4400	0.25	-122.9	6.53	-156.5	0.015	78.0	0.15	143.8
4600	0.26	-140.9	6.72	178.2	0.015	61.6	0.18	124.6
4800	0.28	-158.7	6.96	152.3	0.016	43.2	0.15	108.1
5000	0.28	-174.3	7.20	124.1	0.018	28.8	0.13	71.8
5200	0.26	172.6	7.22	94.9	0.019	8.3	0.19	39.2
5400	0.21	160.2	7.04	67.9	0.021	-5.9	0.21	21.3
5600	0.18	148.8	7.07	38.0	0.022	-25.9	0.15	-6.9
5800	0.18	154.9	6.84	6.3	0.023	-44.0	0.19	-75.8
6000	0.25	165.9	6.61	-23.4	0.025	-60.4	0.26	-104.1

Model: AS6063			Vcc= +12V			Icc = 94.35	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
900	2.00	1.21	16.29	-45	0.57	-38.8	
1000	1.91	1.18	16.43	-64	0.52	-38.2	
1500	1.58	1.25	16.74	-144	0.42	-38.2	
2000	1.41	1.25	16.81	145	0.39	-38.8	
2500	1.35	1.30	16.52	78	0.36	-38.4	
2600	1.38	1.31	16.48	65	0.37	-38.2	
2800	1.40	1.32	16.32	40	0.33	-38.9	
3000	1.38	1.35	16.22	14	0.35	-39.0	
3200	1.37	1.41	16.29	-12	0.39	-38.8	
3400	1.37	1.35	16.18	-36	0.34	-38.4	
3600	1.39	1.37	16.00	-61	0.32	-39.6	
3800	1.41	1.43	15.90	-86	0.35	-38.5	
4000	1.47	1.36	16.04	-111	0.35	-37.2	
4200	1.55	1.32	15.91	-136	0.35	-37.4	
4400	1.65	1.32	15.93	-162	0.36	-36.3	
4600	1.70	1.37	16.06	173	0.38	-35.3	
4800	1.75	1.31	16.23	147	0.38	-35.5	
5000	1.78	1.18	16.38	119	0.39	-34.4	
5200	1.73	1.27	16.35	91	0.40	-33.4	
5400	1.61	1.30	16.11	63	0.37	-32.6	
5600	1.56	1.18	16.09	34	0.39	-32.5	
5800	1.62	1.29	15.95	5	0.43	-31.0	
6000	1.85	1.59	15.86	-27	0.45	-30.5	