

A2CP12026 6.0 TO 12.0 GHz COUGARPAK® AMPLIFIER

Typical Values	A2CP12026
High Gain	25.0 dB
Low Noise Figure	2.5 dB
Medium Output Level	+21.0 dBm
High Reverse Isolation	50.0 dB
High Performance Thin Film Standard Two-stage CougarPak® Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed		
		0 to 50 °C	-55 to +85 °C	
Frequency (Min.)	5.0-12.0 GHz	6.0-12.0 GHz	6.0-12.0 GHz	6.0-12.0 GHz
Small Signal Gain (Min.)	25.0 dB	24.0 dB	23.5 dB	
Gain Flatness (Max.)	±1.0 dB	±1.5 dB	±1.7 dB	
Noise Figure (Max.)	2.5 dB	3.0 dB	3.5 dB	
SWR (Max.) Input/Output	1.8:1	2.0:1	2.0:1	
Power Output (Min.) @ 1dB comp.				
6.0 - 8.0 GHz	+19.0 dBm	+17.5 dBm	+17.0 dBm	
8.0 - 12.0 GHz	+21.0 dBm	+20.0 dBm	+19.5 dBm	
Reverse Isolation	50.0 dB	—	—	
DC Current (Max.)	130 mA	138 mA	142 mA	

* Measured in a 50-ohm system at +8 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 9.0 GHz	A2CP12026
Second Order Harmonic Intercept Point	+51 dBm
Second Order Two Tone Intercept Point	+45 dBm
Third Order Two Tone Intercept Point	+27 dBm

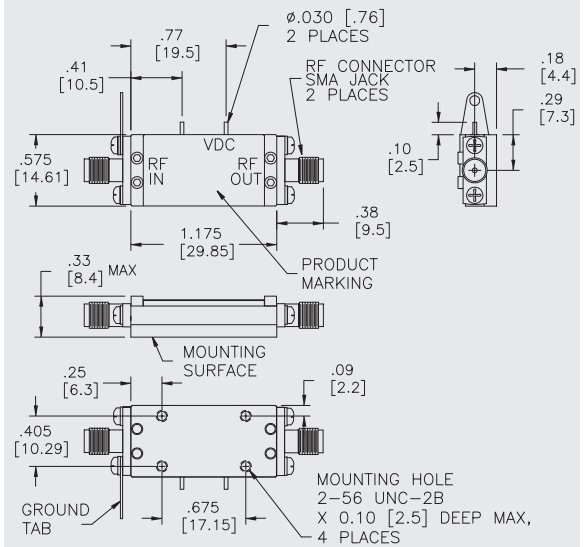
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65 to +150 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+11 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term Input Power (1 Minute Max.)	+23 dBm
Maximum Peak Power (3 μsec Max.)	+27 dBm
Burn-in Temperature	+125 °C
Thermal Resistance ¹ (θjc)	+25.2 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+25.8 °C

¹ Thermal resistance is based on total power dissipation.

A2CP12026

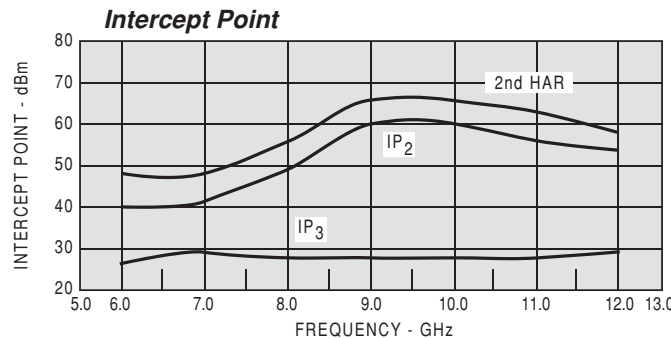
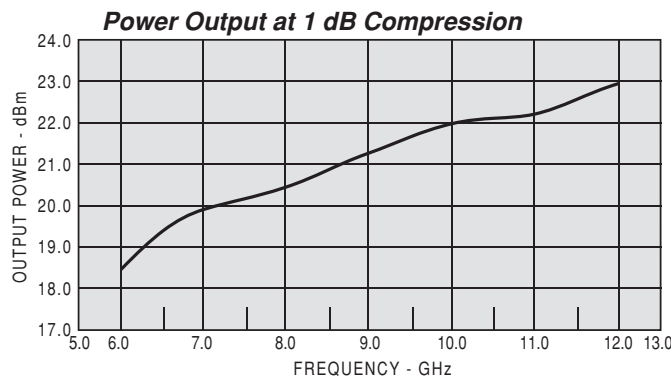
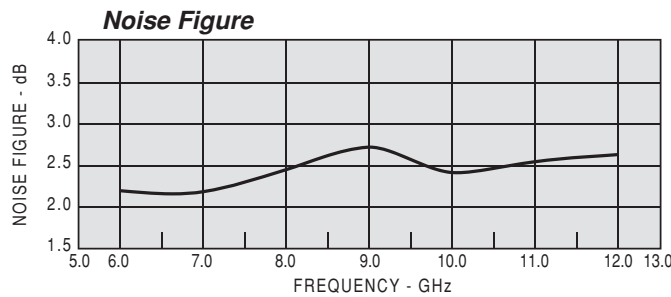
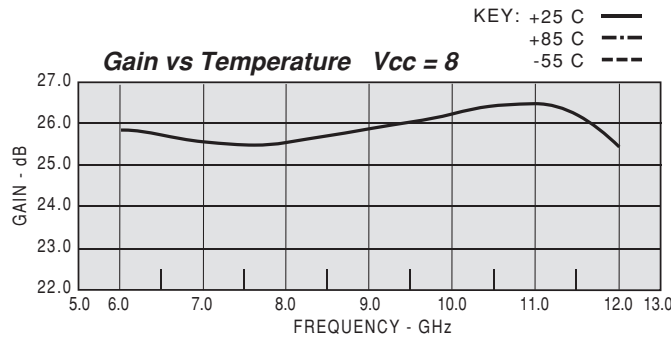
CougarPak® SMA Package (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: A2CP12026		Vcc=+8V				Icc=130	
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
GHZ	IN	OUT	DB	DEG	NSEC	DB	
4.0	7.69	1.98	17.50	65.38	0.56	-60.53	
4.5	5.92	1.88	22.48	-46.22	0.64	-55.49	
5.0	4.90	1.96	24.37	-158.42	0.59	-50.50	
5.5	2.47	1.90	25.26	99.37	0.56	-45.12	
6.0	1.45	1.65	25.86	1.76	0.54	-49.23	
6.5	1.14	1.32	25.97	-94.15	0.53	-45.20	
7.0	1.17	1.44	25.60	174.82	0.48	-45.91	
7.5	1.17	1.54	25.30	87.92	0.48	-43.14	
8.0	1.03	1.45	25.27	3.67	0.47	-42.18	
8.5	1.35	1.29	25.57	-80.79	0.48	-41.85	
9.0	1.68	1.10	25.89	-167.64	0.49	-43.13	
9.5	1.75	1.18	25.85	106.58	0.47	-43.05	
10.0	1.62	1.16	26.23	19.67	0.50	-41.16	
10.5	1.60	1.29	26.37	-69.28	0.50	-39.10	
11.0	1.63	1.47	26.50	-159.96	0.52	-36.80	
11.5	1.47	1.19	26.51	105.60	0.55	-37.19	
12.0	1.39	1.39	25.44	3.80	0.56	-36.18	
12.5	2.32	1.34	22.43	-91.48	0.50	-38.87	
13.0	2.60	1.41	19.79	-178.46	0.49	-37.90	
13.5	2.83	1.86	17.18	93.09	0.47	-38.93	
14.0	3.50	1.88	14.00	7.03	0.47	-39.03	
14.5	3.69	1.89	10.86	-74.10	0.45	-40.19	
15.0	3.25	2.09	7.88	-155.83	0.49	-41.60	
15.5	2.62	2.36	4.39	121.71	0.45	-46.31	
16.0	2.08	2.58	-0.50	46.35	0.34	-46.97	
16.5	2.02	2.62	-3.35	-20.83	0.42	-44.81	
17.0	3.43	2.39	-7.52	-87.67	0.34	-43.30	
17.5	5.06	2.24	-10.92	-135.39	0.24	-37.17	
18.0	2.83	2.06	-4.95	157.05	0.72	-37.76	
18.5	4.18	1.60	-10.06	22.78	0.66	-40.71	
19.0	5.78	1.21	-19.25	-7.02	-0.08	-41.51	
19.5	7.12	1.94	-19.98	-123.31	0.59	-42.24	
20.0	8.60	3.10	-24.74	149.72	0.36	-47.10	

Model: A2CP12026		LINEAR S-PARAMETERS							
		Vcc=+8V				Icc=130			
FREQ.	S11	S21		S12		S22			
GHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG.	
4.0	0.77	-44.04	7.52	65.68	0.000	-72.59	0.33	54.62	
4.5	0.71	-113.54	13.29	-46.28	0.002	146.93	0.30	-7.64	
5.0	0.66	172.44	16.55	-158.35	0.002	60.01	0.32	-65.92	
5.5	0.42	94.45	18.31	99.43	0.004	-75.38	0.31	-124.99	
6.0	0.19	22.29	19.69	1.79	0.004	-148.98	0.24	175.97	
6.5	0.06	-79.78	19.92	-94.20	0.006	104.88	0.14	142.31	
7.0	0.08	121.61	19.03	174.84	0.006	9.07	0.18	130.36	
7.5	0.08	36.82	18.44	87.96	0.008	-51.75	0.21	76.15	
8.0	0.01	-152.18	18.37	3.43	0.007	-127.98	0.19	22.26	
8.5	0.15	91.69	18.99	-80.87	0.008	129.77	0.13	-25.61	
9.0	0.25	23.82	19.73	-167.57	0.009	60.18	0.05	-48.97	
9.5	0.27	-30.86	19.60	106.60	0.009	-21.98	0.09	-14.60	
10.0	0.24	-76.35	20.50	19.68	0.011	-110.89	0.08	-58.42	
10.5	0.23	-109.51	20.77	-69.12	0.011	159.89	0.13	-56.16	
11.0	0.24	-148.85	21.18	-160.01	0.015	77.53	0.19	-119.50	
11.5	0.19	142.33	21.18	105.59	0.014	-16.91	0.09	177.37	
12.0	0.15	-74.19	18.75	3.92	0.017	-119.55	0.17	-147.16	
12.5	0.40	-169.06	13.20	-91.54	0.012	147.83	0.15	161.98	
13.0	0.44	137.59	9.78	-178.49	0.013	63.53	0.17	173.87	
13.5	0.48	103.71	7.21	92.99	0.010	-16.65	0.30	137.14	
14.0	0.55	66.10	5.00	7.18	0.009	-88.35	0.31	99.16	
14.5	0.57	24.38	3.50	-74.28	0.012	-159.46	0.31	76.07	
15.0	0.53	-17.05	2.49	-155.66	0.008	149.95	0.35	56.31	
15.5	0.45	-61.24	1.66	121.55	0.007	64.38	0.40	31.53	
16.0	0.35	-120.39	0.95	46.41	0.007	54.06	0.44	4.28	
16.5	0.34	134.04	0.68	-20.94	0.006	49.90	0.45	-25.20	
17.0	0.55	29.14	0.42	-87.17	0.006	4.73	0.41	-55.82	
17.5	0.67	-48.72	0.28	-136.10	0.011	-40.66	0.39	-86.11	
18.0	0.48	-103.45	0.56	156.90	0.012	-123.46	0.34	-122.45	
18.5	0.61	-130.69	0.32	22.74	0.009	-161.90	0.23	-163.05	
19.0	0.71	177.54	0.11	-8.71	0.009	123.59	0.10	134.96	
19.5	0.75	127.10	0.10	-123.66	0.006	121.15	0.32	-80.79	
20.0	0.80	78.59	0.07	142.46	0.009	78.84	0.51	-163.51	