

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
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.)	117 mA	125 mA	128 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	+28 dBm

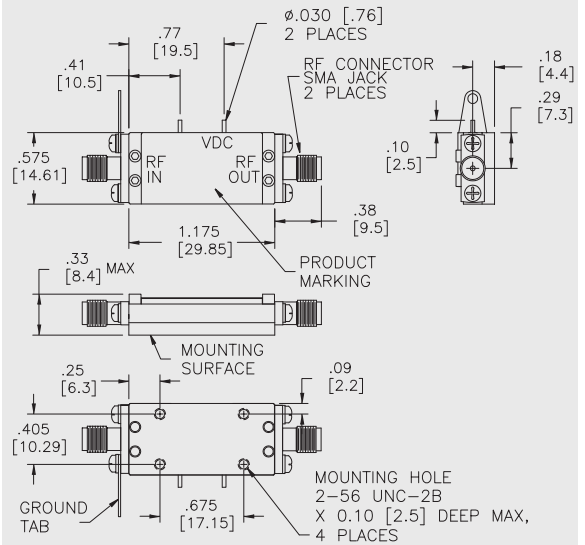
ABSOLUTE MAXIMUM RATINGS

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)	+7.0 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+6.5 °C

¹ Thermal resistance is based on total power dissipation.

A2CP12026

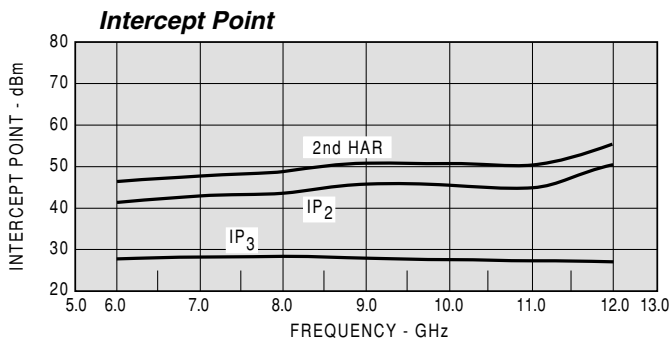
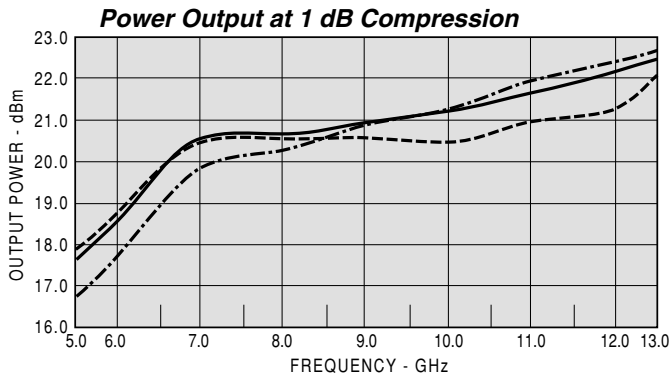
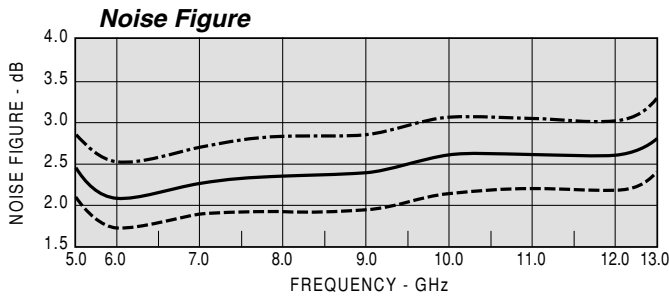
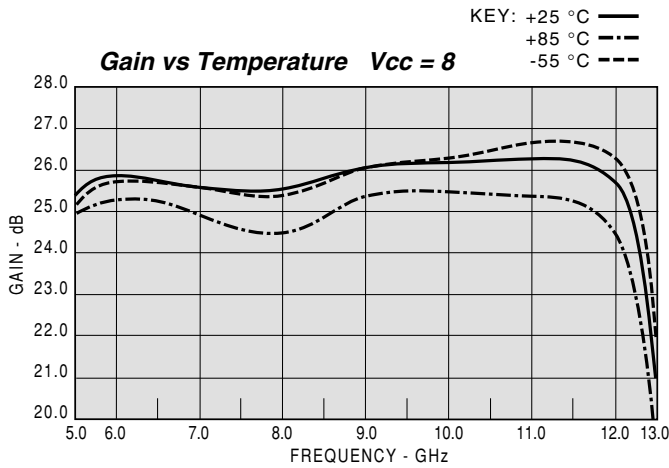
CougarPak® SMA Package (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: A2CP12026 Vcc=+8V Icc=115.8

FREQ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
5.0	2.66	2.13	25.31	177.62	0.35	-61.34
5.5	1.79	1.90	25.52	118.31	0.32	-56.97
6.0	1.45	1.48	25.66	63.76	0.30	-64.10
6.5	1.46	1.16	25.53	11.28	0.28	-56.18
7.0	1.44	1.08	25.48	-37.96	0.27	-56.34
7.5	1.25	1.10	25.38	-86.06	0.26	-54.67
8.0	1.04	1.09	25.53	-131.78	0.26	-53.09
8.5	1.20	1.06	25.90	-179.04	0.26	-55.79
9.0	1.33	1.26	26.15	131.61	0.28	-51.85
9.5	1.37	1.58	26.20	82.46	0.28	-50.52
10.0	1.48	1.75	26.25	33.03	0.27	-49.70
10.5	1.61	1.84	26.20	-17.41	0.29	-45.29
11.0	1.80	1.90	26.04	-69.02	0.29	-46.25
11.5	1.58	1.50	26.12	-122.41	0.30	-49.48
12.0	1.30	1.15	25.76	176.76	0.36	-44.18
12.5	2.07	1.26	23.69	114.88	0.32	-43.75
13.0	2.89	1.59	20.87	59.61	0.32	-45.04

Model: A2CP12026 Vcc=+8V Icc=115.53

LINEAR S-PARAMETERS

FREQ.	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.0	0.47	103.54	18.95	177.60	0.00	-10.36	0.37	-160.48
5.5	0.29	84.57	19.33	118.32	0.00	40.09	0.31	160.63
6.0	0.19	84.10	19.69	63.79	0.00	-81.51	0.19	118.87
6.5	0.18	87.98	19.35	11.27	0.00	-118.49	0.07	94.98
7.0	0.18	78.35	19.19	-38.05	0.00	-166.62	0.04	147.89
7.5	0.12	55.22	18.97	-85.96	0.00	178.41	0.05	155.56
8.0	0.02	46.98	19.35	-131.64	0.00	150.61	0.04	163.09
8.5	0.09	175.04	20.19	-179.07	0.00	82.41	0.03	-90.48
9.0	0.14	158.61	20.66	131.68	0.00	63.74	0.12	-88.07
9.5	0.16	148.10	20.78	82.63	0.00	17.09	0.22	-121.00
10.0	0.20	142.95	20.95	33.09	0.00	-56.56	0.27	-145.37
10.5	0.25	138.18	20.85	-16.98	0.00	-95.90	0.31	-176.54
11.0	0.29	115.16	20.44	-68.83	0.00	-153.63	0.31	147.88
11.5	0.22	87.00	20.71	-122.31	0.00	158.95	0.18	110.20
12.0	0.13	-167.24	19.61	176.23	0.01	102.01	0.09	137.39
12.5	0.35	179.03	15.41	114.95	0.00	43.36	0.12	-173.79
13.0	0.49	165.86	11.11	59.90	0.00	7.48	0.23	-158.74
13.5	0.49	160.15	9.06	11.30	0.00	45.23	0.28	-166.41