

A2CP4122

800 TO 4000 MHz COUGARPAK® AMPLIFIER

Typical Values	A2CP4122
High Gain	37.5 dB
Low Noise Figure	2.2 dB
High Output Level	+21.5 dBm
High Third Order I.P.	+33 dBm
High Reverse Isolation	60 dB
High Performance Thin Film	
Standard Two-stage CougarPak® Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	500-4000 MHz	800-4000 MHz	800-4000 MHz
Small Signal Gain (Min.)	37.5 dB	36.5 dB	35.0 dB
Gain Flatness (Max.)	±0.6 dB	±1.0 dB	±1.2 dB
Noise Figure (Max.)	2.3 dB	3.0 dB	3.5 dB
SWR (Max.)	Input/Output	1.9:1	2.0:1
Power Output (Min.) @ 1dB comp.	+21.5 dBm	+20.0 dBm	+19.0 dBm
Reverse Isolation	60.0 dB	—	—
DC Current (Max.)	207 mA	215 mA	225 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C	A2CP4122
Second Order Harmonic Intercept Point	+53 dBm
Second Order Two Tone Intercept Point	+47 dBm
Third Order Two Tone Intercept Point	+33 dBm

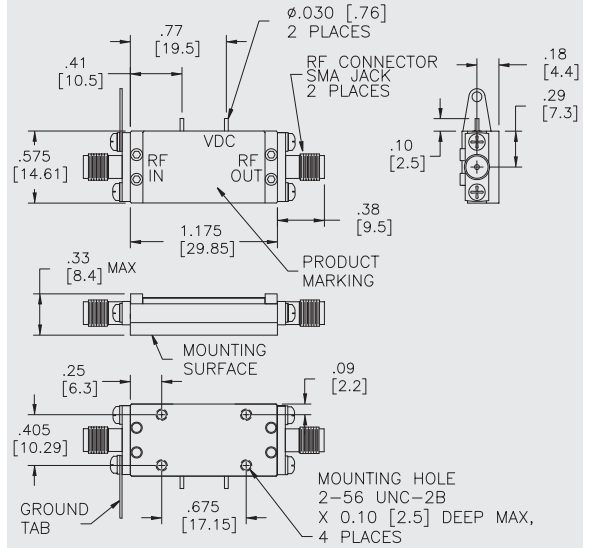
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+85 °C
Thermal Resistance ¹ (θjc)	+41 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+59.4 °C

¹ Thermal resistance is based on total power dissipation.

A2CP4122

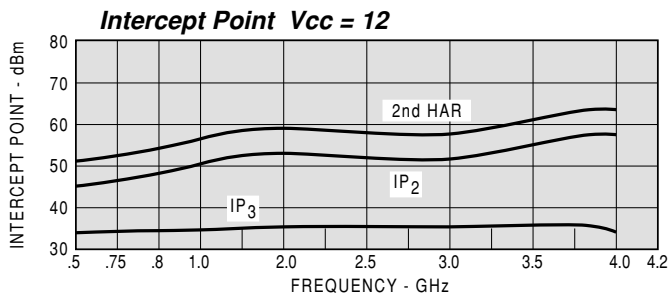
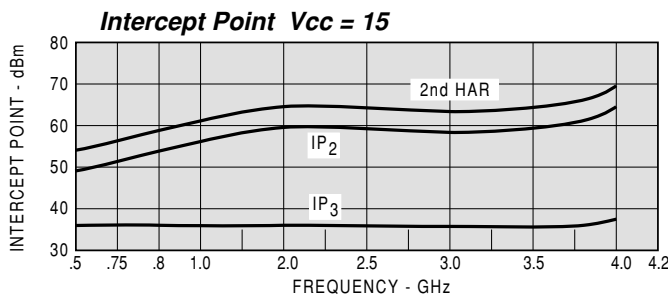
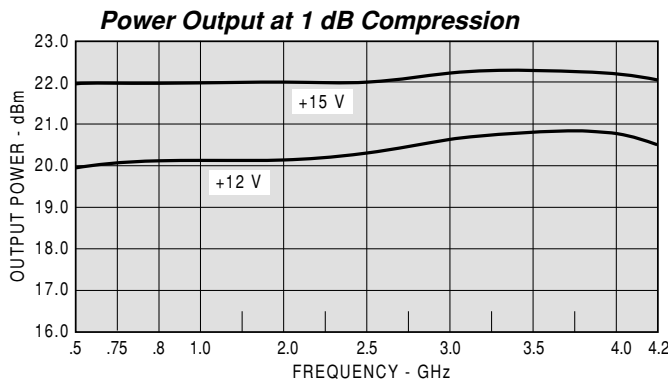
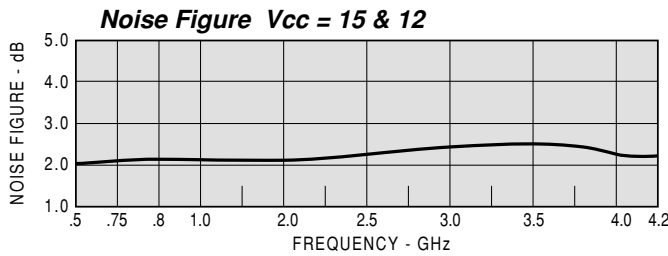
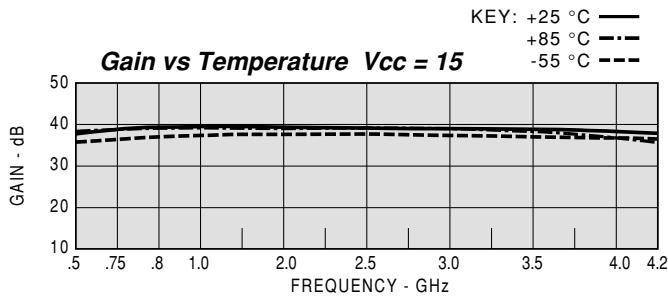
CougarPak® Connectorized Package (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: A2CP4122			Vcc= +15V			Icc= 207.20	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
500	1.21	1.36	38.66	-15		-77.6	
700	1.21	1.16	39.16	-71		-65.9	
900	1.22	1.08	39.29	-116	0.61	-72.3	
1000	1.24	1.08	39.28	-138	0.58	-76.4	
1200	1.26	1.12	39.28	-177	0.55	-64.3	
1400	1.26	1.14	39.27	144	0.53	-65.4	
1600	1.27	1.16	39.17	107	0.51	-65.3	
1800	1.28	1.16	39.08	70	0.51	-74.4	
2000	1.30	1.16	39.07	34	0.52	-67.5	
2200	1.31	1.15	38.85	-2	0.49	-65.0	
2400	1.35	1.14	38.51	-37	0.46	-64.0	
2600	1.36	1.13	38.54	-69	0.46	-67.1	
2800	1.38	1.11	38.85	-105	0.50	-64.0	
3000	1.39	1.11	39.02	-142	0.52	-58.3	
3200	1.34	1.13	39.02	-180	0.53	-57.2	
3400	1.31	1.11	38.83	143	0.51	-60.3	
3600	1.31	1.09	38.69	106	0.51	-56.6	
3800	1.36	1.14	38.55	68	0.53	-60.9	
4000	1.36	1.14	38.31	30	0.53	-53.6	
4200	1.48	1.19	38.03	-12	0.59	-66.1	

Model: A2CP4122

Vcc=+15V

Icc= 207.20

FREQ		S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
500	0.09	-75.5	85.72	-14.9	0.000	-39.4	0.15	68.0	
700	0.09	-82.6	90.76	-70.6	0.001	-114.4	0.07	49.1	
900	0.10	-93.2	92.13	-116.5	0.000	-30.8	0.04	71.0	
1000	0.11	-98.4	92.01	-137.5	0.000	31.5	0.04	89.2	
1200	0.11	-111.8	92.03	-177.2	0.001	-169.9	0.05	98.1	
1400	0.12	-124.4	91.94	144.3	0.001	156.3	0.06	100.7	
1600	0.12	-133.8	90.91	107.3	0.001	60.9	0.07	96.4	
1800	0.12	-140.3	89.99	70.4	0.000	23.7	0.08	92.9	
2000	0.13	-144.7	89.82	33.8	0.000	-164.0	0.07	93.1	
2200	0.14	-145.7	87.62	-2.20	0.001	-145.9	0.07	94.7	
2400	0.15	-152.2	84.27	-36.8	0.001	-167.0	0.07	95.9	
2600	0.15	-157.3	84.52	-69.4	0.000	99.5	0.06	96.2	
2800	0.16	-162.5	87.61	-104.5	0.001	-141.5	0.05	104.5	
3000	0.16	-168.1	89.33	-141.8	0.001	96.4	0.05	120.9	
3200	0.15	-176.4	89.29	-179.7	0.001	-7.6	0.06	117.9	
3400	0.14	-173.5	87.36	143.5	0.001	163.8	0.05	128.2	
3600	0.13	-164.5	86.04	106.2	0.001	24.3	0.04	151.9	
3800	0.15	-171.1	84.62	68.3	0.001	112.3	0.06	148.4	
4000	0.15	-177.2	82.33	29.9	0.002	-146.5	0.07	148.7	
4200	0.19	168.2	79.69	-11.80	0.000	161.6	0.09	157.5	
4400	0.20	146.7	73.83	-56.60	0.001	58.1	0.12	-168.3	

Model: A2CP4122

Vcc= +12V

Icc= 195.56

FREQ			SWR			GAIN			PHASE			GROUP DELAY		REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB				DB					
500	1.38	1.31	37.57	-16		-71.6									
700	1.38	1.13	38.06	-70		-70.9									
900	1.40	1.07	38.23	-116	0.61	-70.4									
1000	1.42	1.09	38.22	-137	0.58	-67.1									
1200	1.43	1.13	38.24	-176	0.54	-81.0									
1400	1.44	1.17	38.24	146	0.53	-63.9									
1600	1.46	1.20	38.15	109	0.51	-70.8									
1800	1.47	1.20	38.08	72	0.51	-66.3									
2000	1.49	1.23	38.05	36	0.51	-70.5									
2200	1.50	1.25	37.81	0	0.48	-72.5									
2400	1.51	1.25	37.52	-34	0.46	-68.0									
2600	1.51	1.27	37.65	-67	0.47	-68.7									
2800	1.52	1.27	37.89	-102	0.49	-60.7									
3000	1.53	1.28	38.01	-140	0.52	-56.1									
3200	1.46	1.27	38.04	-177	0.53	-68.5									
3400	1.39	1.24	37.87	147	0.50	-61.5									
3600	1.40	1.20	37.76	110	0.49	-69.9									
3800	1.42	1.20	37.79	72	0.54	-58.3									
4000	1.51	1.19	37.69	34	0.53	-70.6									
4200	1.60	1.18	37.45	-8	0.59	-63.2									