TELEDYNE MICROWAVE SOLUTIONS
Everywhereyoulook™

12/2016

A2CP6005

2000-6000 MHz COUGARPAK™ LOW NOISE AMPLIFIER

Typical Values	A2CP6005
Noise Figure	0.95 dB
Gain	23.0 dB
Gain Flatness	±0.5 dB
Output Power	+12.5 dBm

High Performance Thin Film
Standard Two-stage CougarPak™ Package

SPECIFICATIONS*

Parameter		Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)		2000-6000 MHz	2000-6000 MHz	2000-6000 MHz
Small Signal Gain (Min.)		23.0 dB	21.5 dB	21.0 dB
Gain Flatness (Max.)		±0.5 dB	±1.1 dB	±0.9 dB
Noise Figure (Max.)		0.95 dB	1.3 dB	1.2 dB
SWR (Max.)	Input	<1.7:1	1.95:1	2.0:1
	Output	<1.5:1	1.9:1	1.95:1
Power Output (Min.) @ 1dB comp.		+12.5 dBm	+10.5 dBm	+10.0 dBm
Reverse Isolation		>40 dB	33 dB	33 dB
DC Current (Max.)		97 mA	110 mA	115 mA

* Measured in a 50-ohm system at +5 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	A2CP6005
Second Order Harmonic Intercept Point	+36 dBm
Second Order Two Tone Intercept Point	+32 dBm
Third Order Two Tone Intercept Point	+24 dBm

ABSOLUTE MAXIMUM RATINGS

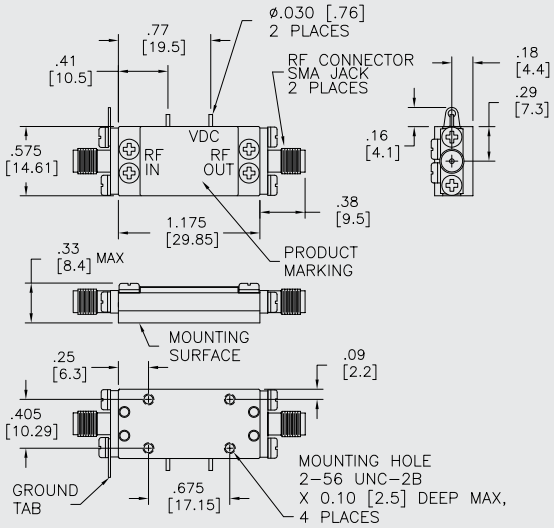
Storage Temperature	-55 to +125 °C
Maximum Case Temperature	+110 °C
Maximum DC Voltage	+8 Volts
Maximum Continuous RF Input Power	+10 dBm
Burn-in Temperature	110 °C
Thermal Resistance[1] (θjc)	105/54 °C/Watt
Junction Temperature Rise Above Case[2] (Tjc)	14/11 °C

[1] Thermal resistance of 1st stage and 2nd stage

[2] Junction Temperature Rise above Case of 1st stage and 2nd stage

A2CP6005

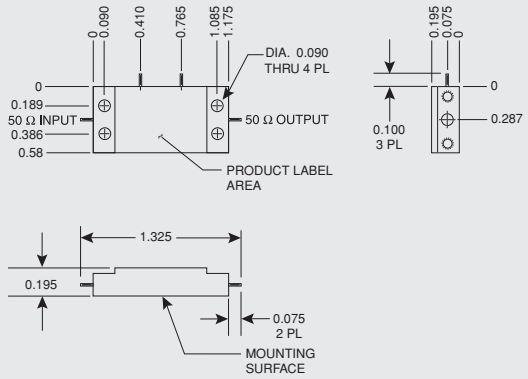
CougarPak™ Connectorized Package (two-stage)



Package only sold with SMA connectors and base mounting plate; both can be removed. Pin package for reference only.

A2CP6005

CougarPak™ Pin Package (two-stage)



DIMENSIONS ARE IN INCHES [MILLIMETERS]

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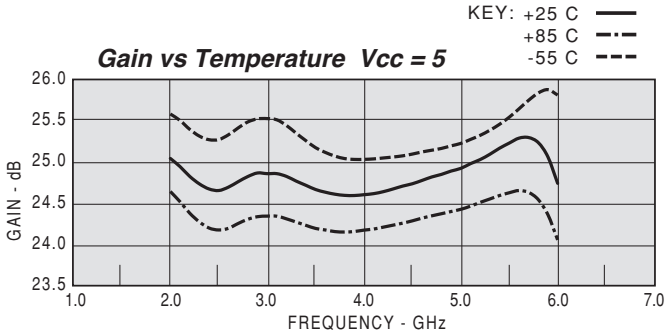
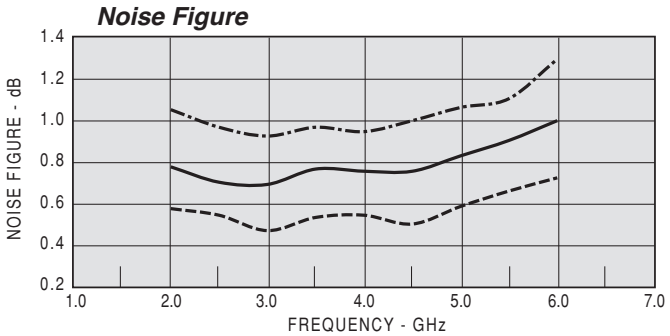
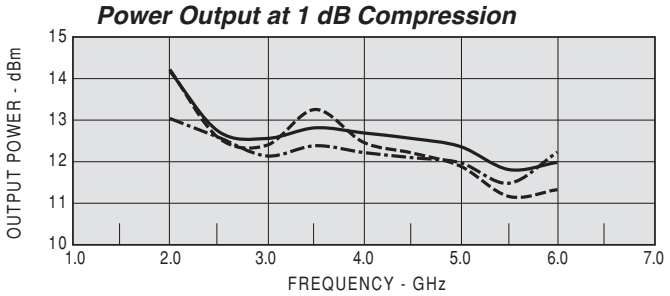
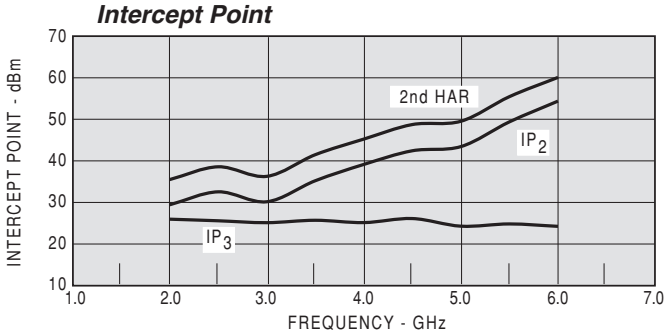
TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: A2CP6005 @ +25°C Vcc=+5V Icc=96.75

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
2,000	1.30	1.55	25.06	170.64	00.43	-47.67
2,200	1.41	1.31	24.85	141.11	00.40	-46.80
2,400	1.50	1.15	24.70	113.48	00.38	-47.66
2,600	1.57	1.05	24.73	86.75	00.37	-47.39
2,800	1.61	1.09	24.85	59.48	00.38	-46.25
3,000	1.61	1.20	24.88	31.60	00.39	-46.35
3,200	1.61	1.31	24.85	04.07	00.38	-46.15
3,400	1.60	1.40	24.75	-22.98	00.37	-46.97
3,600	1.58	1.46	24.67	-49.60	00.37	-47.38
3,800	1.59	1.48	24.63	-76.12	00.37	-47.26
4,000	1.59	1.44	24.64	-102.79	00.37	-49.69
4,200	1.60	1.36	24.67	-129.73	00.37	-47.70
4,400	1.61	1.24	24.74	-157.11	00.38	-48.37
4,600	1.61	1.11	24.80	174.97	00.39	-47.96
4,800	1.60	1.06	24.87	146.50	00.40	-46.56
5,000	1.61	1.19	24.94	117.48	00.41	-44.77
5,200	1.63	1.33	25.04	87.56	00.42	-43.61
5,400	1.65	1.45	25.17	56.45	00.44	-41.95
5,600	1.66	1.48	25.29	23.33	00.47	-40.39
5,800	1.60	1.35	25.24	-12.37	00.51	-38.87
6,000	1.41	1.06	24.77	-50.57	00.54	-37.78

NF (dB)

Freq (MHz)	-55°C	25°C	+85°C
2,000	0.60	0.79	1.05
2,500	0.57	0.72	0.97
3,000	0.50	0.71	0.93
3,500	0.56	0.78	0.97
4,000	0.57	0.77	0.95
4,500	0.53	0.77	1.00
5,000	0.61	0.84	1.06
5,500	0.68	0.91	1.10
6,000	0.74	1.00	1.28