

DESCRIPTION

AMCOM's AM000520LN-P1 is a broadband Low Noise Amplifier module. It is designed for general purpose applications. It operates from 1 MHz to 500 MHz with Noise Figure of 2.0 dB and small signal gain of 30 dB min, 32dB type. The module uses SMA connectors for input and output. This amplifier module is compact at 1.25" (L) x 1.25" (W) x 0.563" (H).



FEATURES

- Frequency Range: 1 - 500MHz
- Gain: 30dB min, 32dB Typ.
- P_{1dB}: +13dBm
- IP3: +25dBm
- Noise Figure: 2.0dB
- Reverse Voltage Protected
- Input Limiter Protected
- SMA Connector

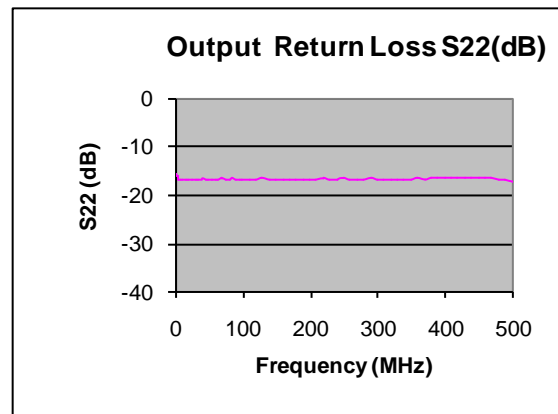
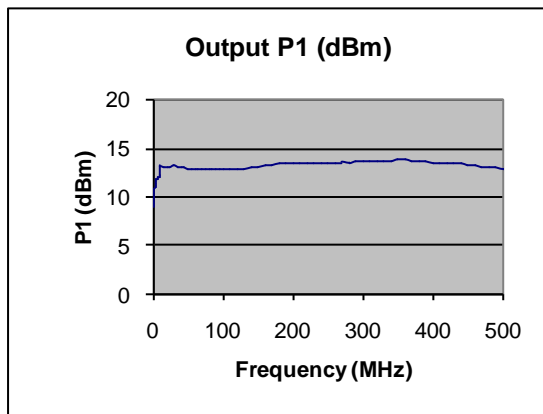
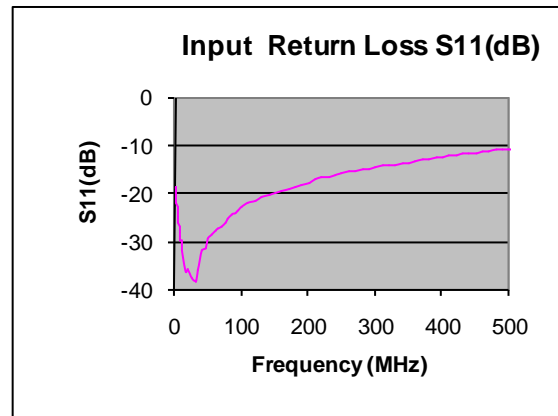
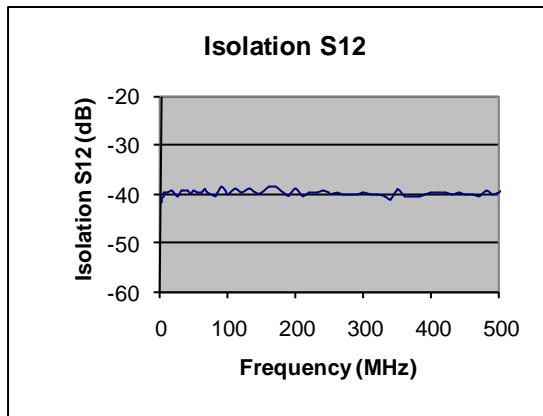
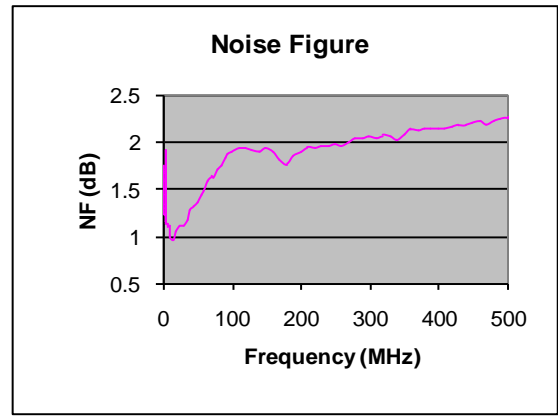
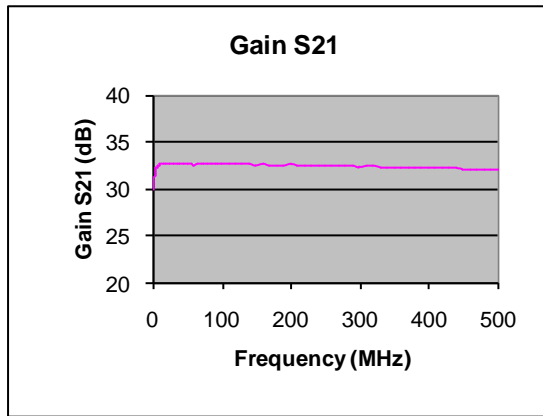
APPLICATIONS

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications @ +25°C, Z_{in} = Z_{out} = 50 Ω, V_{cc} = +15V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	1		500
Gain f = 1MHz	dB	30	30.5	
f = 10MHz	dB	30	32.5	
f = 50MHz	dB	30	32.8	
f = 100MHz	dB	30	32.7	
f = 250MHz	dB	30	32.5	
f = 500MHz	dB	30	32.2	
Gain Flatness	dB		±1.0	
P _{1dB}	dBm		+13	
IP3	dBm		+25	
Noise Figure	dB		2.0	
Reverse Isolation	dB		-40	
Input Return Loss	dB		-16	
Output Return Loss	dB		-16	
DC Power Supply	V	11	15	30
Supply Current	mA		40	

Typical Performance @ +25 °C



Typical Performance @ +25°C

Freq(MHz)	NF (dB)	S21 (dB)	S12 (dB)	S11(dB)	S22(dB)	P1dB (dBm)
0.3	1.749	30.07	-41.77	-18.54	-15.79	+8.91
0.4	1.707	30.12	-41.72	-18.84	-15.76	+8.92
0.5	1.698	30.17	-41.67	-18.74	-15.77	+8.95
0.6	1.679	30.23	-41.62	-18.84	-15.78	+9.02
0.7	1.608	30.28	-41.56	-19.00	-15.79	+9.10
0.8	1.592	30.33	-41.51	-19.16	-15.79	+9.22
0.9	1.503	30.38	-41.46	-19.34	-15.80	+9.33
1.0	1.453	30.43	-41.41	-19.52	-15.81	+9.46
1.5	1.337	30.69	-41.16	-20.36	-15.85	+10.00
2.0	1.304	30.93	-40.92	-21.08	-15.63	+10.45
2.5	1.248	31.17	-40.69	-21.80	-15.80	+10.81
3.0	1.225	31.40	-40.46	-22.51	-16.00	+11.11
3.5	1.162	31.63	-40.23	-23.20	-16.23	+11.31
4.0	1.93	31.85	-40.02	-23.84	-16.48	+11.49
4.5	1.154	32.06	-39.80	-24.55	-16.63	+11.63
5.0	1.146	32.27	-39.60	-25.35	-16.63	+11.74
5.5	1.138	32.41	-39.47	-26.14	-16.61	+11.82
6.0	1.136	32.43	-39.47	-26.84	-16.56	+11.90
6.5	1.125	32.46	-39.47	-27.52	-16.59	+11.95
7.0	1.121	32.49	-39.46	-28.12	-16.65	+12.00
7.5	1.115	32.52	-39.46	-28.71	-16.68	+12.04
8.0	1.105	32.55	-39.46	-29.26	-16.62	+12.08
8.5	1.108	32.58	-39.45	-29.68	-16.59	+12.11
9.0	1.109	32.61	-39.45	-29.86	-16.61	+12.14
9.5	1.020	32.63	-39.45	-30.44	-16.63	+12.16
10	0.984	32.66	-39.44	-31.73	-16.65	+13.19
15	0.965	32.75	-39.03	-36.18	-16.78	+13.11
20	1.052	32.70	-39.42	-35.79	-16.61	+13.15
25	1.105	32.71	-40.25	-37.69	-16.61	+13.15
30	1.119	32.81	-39.17	-38.14	-16.65	+13.18
35	1.184	32.78	-39.12	-35.92	-16.86	+13.15
40	1.282	32.72	-39.37	-31.91	-16.56	+13.09
45	1.312	32.79	-39.76	-31.22	-16.62	+13.04
50	1.372	32.79	-39.07	-29.43	-16.69	+12.94
55	1.445	32.79	-39.72	-28.66	-16.60	+12.93
60	1.487	32.63	-39.45	-27.70	-16.66	+12.92
65	1.598	32.77	-39.02	-27.18	-16.78	+12.92
70	1.640	32.73	-39.78	-26.66	-16.53	+12.93
75	1.629	32.75	-40.17	-25.81	-16.58	+12.95

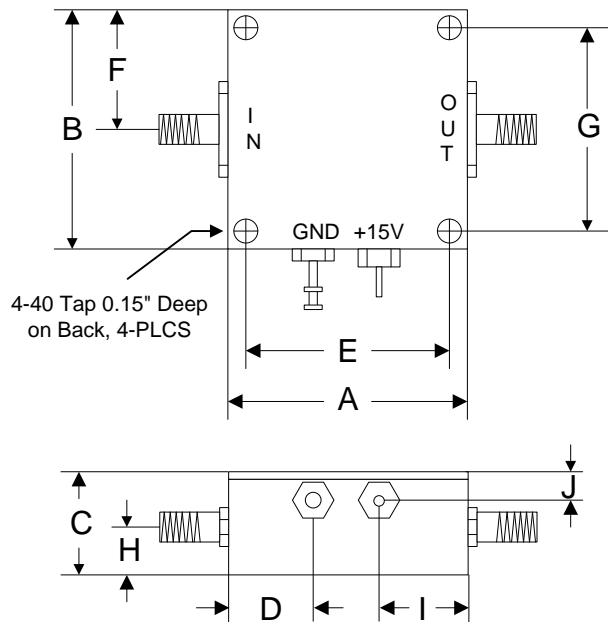
Freq(MHz)	NF (dB)	S21 (dB)	S12 (dB)	S11(dB)	S22(dB)	P _{1dB} (dBm)
80	1.708	32.66	-40.37	-25.08	-16.62	+12.94
85	1.765	32.72	-39.61	-24.15	-16.53	+12.91
90	1.834	32.75	-38.53	-24.00	-16.79	+12.89
95	1.874	32.70	-39.07	-23.57	-16.60	+12.87
100	1.909	32.75	-39.89	-22.73	-16.57	+12.85
110	1.941	32.69	-38.91	-21.85	-16.65	+12.85
120	1.935	32.69	-39.60	-21.46	-16.81	+12.81
130	1.917	32.68	-38.90	-20.79	-16.49	+12.83
140	1.908	32.68	-39.68	-20.18	-16.73	+12.98
150	1.938	32.63	-39.72	-19.77	-16.63	+13.09
160	1.904	32.66	-38.45	-19.43	-16.86	+13.23
170	1.823	32.61	-38.46	-19.03	-16.66	+13.35
180	1.771	32.61	-39.51	-18.50	-16.65	+13.43
190	1.860	32.51	-40.09	-18.13	-16.65	+13.46
200	1.899	32.65	-38.76	-17.56	-16.62	+13.49
210	1.950	32.61	-40.28	-17.03	-16.58	+13.55
220	1.945	32.49	-39.74	-16.55	-16.52	+13.50
230	1.958	32.58	-39.63	-16.39	-16.83	+13.46
240	1.967	32.56	-39.32	-15.96	-16.57	+13.45
250	1.988	32.55	-39.77	-15.74	-16.53	+13.48
260	1.968	32.47	-39.65	-15.37	-16.61	+13.48
270	2.001	32.44	-40.14	-15.18	-16.56	+13.57
280	2.047	32.48	-39.88	-14.86	-16.57	+13.55
290	2.042	32.57	-40.02	-14.66	-16.48	+13.65
300	2.065	32.42	-39.41	-14.43	-16.62	+13.68
310	2.046	32.44	-39.98	-14.17	-16.60	+13.75
320	2.078	32.47	-40.03	-13.98	-16.58	+13.72
330	2.059	32.43	-40.23	-13.84	-16.69	+13.71
340	2.027	32.33	-40.97	-13.61	-16.75	+13.73
350	2.084	32.41	-39.01	-13.43	-16.67	+13.78
360	2.142	32.38	-40.26	-13.11	-16.50	+13.78
370	2.136	32.31	-40.27	-12.81	-16.63	+13.74
380	2.159	32.35	-40.37	-12.64	-16.34	+13.68
390	2.149	32.33	-40.14	-12.48	-16.29	+13.62
400	2.143	32.28	-39.78	-12.32	-16.33	+13.51
410	2.147	32.29	-39.69	-12.03	-16.33	+13.50
420	2.171	32.27	-39.41	-11.84	-16.25	+13.50
430	2.183	32.27	-39.82	-11.74	-16.39	+13.46
440	2.185	32.22	-39.60	-11.58	-16.32	+13.42
450	2.223	32.20	-39.96	-11.40	-16.39	+13.37

Freq(MHz)	NF (dB)	S21 (dB)	S12 (dB)	S11(dB)	S22(dB)	P _{1dB} (dBm)
460	2.238	32.09	-39.97	-11.27	-16.32	+13.27
470	2.202	32.12	-40.30	-11.03	-16.36	+13.12
480	2.244	32.09	-39.12	-10.88	-16.75	+13.00
490	2.265	32.20	-39.98	-10.84	-16.91	+12.98
500	2.267	32.16	-39.47	-10.90	-17.15	+12.96
510	2.219	32.23	-38.42	-10.78	-17.16	+13.00
520	2.290	32.22	-37.99	-10.78	-17.30	+13.06
530	2.269	32.24	-39.72	-10.70	-17.28	+13.09
540	2.320	32.23	-39.87	-10.70	-16.95	+13.09
550	2.311	32.21	-38.43	-10.53	-16.82	+13.08
560	2.309	32.28	-39.03	-10.47	-16.63	+13.13
570	2.344	32.24	-38.32	-10.41	-16.59	+13.08
580	2.339	32.25	-38.16	-10.30	-16.36	+13.02
590	2.348	32.24	-38.71	-10.27	-16.40	+13.00
600	2.331	32.21	-37.84	-10.20	-16.15	+12.91
610	2.369	32.18	-37.61	-10.24	-16.08	+12.81
620	2.361	32.21	-38.12	-10.10	-15.88	+12.72
630	2.390	32.23	-37.40	-9.97	-16.04	+12.70
640	2.378	32.24	-37.41	-9.90	-15.89	+12.58
650	2.424	32.18	-38.10	-9.80	-15.83	+12.52
660	2.419	32.10	-38.10	-9.72	-15.70	+12.50
670	2.414	32.09	-37.56	-9.70	-15.91	+12.44
680	2.377	32.08	-37.75	-9.56	-15.58	+12.41
690	2.434	32.12	-37.56	-9.54	-15.58	+12.43
700	2.451	32.02	-37.68	-9.44	-15.57	+12.50
710	2.393	32.07	-37.68	-9.38	-15.49	+12.46
720	2.398	32.02	-36.78	-9.38	-15.39	+12.38
730	2.393	32.06	-36.81	-9.38	-15.22	+12.21
740	2.419	32.03	-36.59	-9.39	-15.38	+12.05
750	2.419	32.07	-37.09	-9.48	-15.26	+11.88
760	2.425	32.03	-37.35	-9.60	-15.31	+11.73
770	2.405	32.02	-36.43	-9.60	-15.16	+11.57
780	2.421	31.98	-36.97	-9.49	-14.83	+11.45
790	2.411	32.02	-36.85	-9.48	-15.18	+11.37
800	2.397	31.98	-36.28	-9.59	-15.12	+11.36
810	2.405	31.98	-36.37	-9.53	-14.76	+11.35
820	2.372	31.92	-36.02	-9.55	-14.88	+11.40
830	2.356	31.90	-36.03	-9.66	-14.72	+11.39
840	2.389	31.91	-35.81	-9.74	-14.61	+11.35
850	2.434	31.86	-35.44	-9.86	-14.66	+11.26

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
Supply Voltage	+35V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.250	1.250	0.563	0.450	1.000	0.625	1.000	0.250	0.500	0.187
mm	31.75	31.75	14.29	11.43	25.40	15.88	25.40	6.35	12.70	4.76