

PRODUCT SELECTION GUIDE, RFICs

Wireless, CATV, Satellite



ASB Inc.

ASB Inc, as a World Class Product Company Korean government certified, has been designing and manufacturing RF amplifier MMICs and modules with more than 20-year experience for use in wireless and cabled communication systems. The company strives to provide world leading customers with world best quality and cost-effective products

timely to the market and consistently upgrades the products in pursuit of promptly satisfying the customers' requirement. A fully automated test and assembly environment is committed to offering highly quality-controlled reliable product with fast stable delivery.



Product Offerings

- » Gain block Amplifier
- » Medium Power Amplifier
- » Low Noise Amplifier
- » Wideband Amplifier
- » Trans-impedance Amplifier
- » PLL Synthesizer
- » Digital Attenuator

Product Applications

- » Mobile Wireless Communication Equipment
- » Cable, Terrestrial, Satellite, Mobile TV Broadcasting System
- » Optical Node, RFoG, FTTH, FTTB, EOC, EPON
- » GPS, Satellite Radio Receiver (SiriusXM)
- » Radio Frequency Identification (RFID)
- » Trunk Radio System, ISM Band System
- » Point-to-Point Radio Link



ISO 9001 : 2008
ISO 14001 : 2004





Gain Block Amplifiers [DC ~1 GHz]

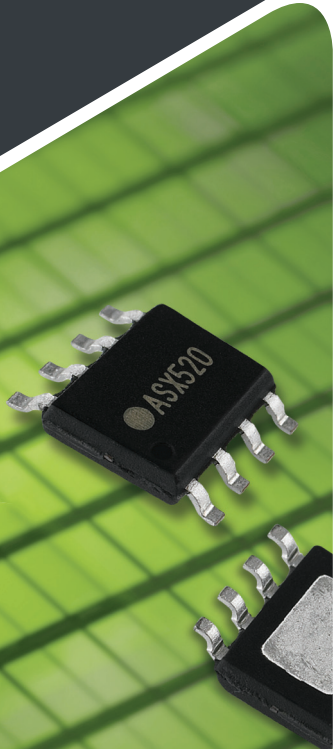
» Gain Block Amplifiers [DC ~1 GHz]

Tested @ 2 GHz

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz				OIP3 (dBm) tested @ MHz				Tested @ MHz	OP1dB (dBm)	NF (dB)	Package
			70	150	300	450	70	150	300	450				
● ASF240	4.9	114	26.4	26.3	26.0	25.6	41	41	38	35	150	21	3.0	SOT89
● ASF250	5.0	103	17.0	16.9	16.7	16.6	40	44	44	41	150	22	2.5	SOT89
● ASF255	5.0	104	22.3	22.2	22.1	21.8	40	43	43	40	150	23	2.2	SOT89
ASW114	3.2	37	21.0	21.0	21.0	20.5	23	23	23	24		12	3.2	SOT363
ASW101	3.3	40	25.0	24.5	23.5	21.5	28	29	30	30		17	3.8	SOT89
ASW103	3.3	44	25.0	24.0	23.0	21.0	29	30	31	30		17	3.8	SOT89
ASX101	3.5	55	28.5	28.5	25.0	-	28	28	29	-	150	18	3.5	SOT89
ASW135	3.3	60	20.5	19.6	19.2	19.0	28	28	29	29	300	18	1.8	SOT363
ASW105	3.3	65	22.0	21.0	20.0	20.0	31	32	33	34		19	1.7	SOT89
AST54S	3.3	12	18.3	-	-	-	17	-	-	-		7	1.1	SOT343
ASL210	3.0	80	24.5	24.0	22.6	23.0	35	35	35	35	100	19	2.4	SOT89
ASL03H	4.3	36	-	23.1	-	22.5	-	30	-	30	450	17	1.3	SOT363
ASL52D6	5.0	50	-	-	21.3	21.1	-	-	32	32		19	0.9	DFN6
ASL19W	4.4	73	24.5	24.0	22.5	21.0	32	33	34	-		21	2.9	SOT89
ASL19H	4.4	73	26.3	25.5	-	-	32	33	-	-	100	22	2.1	SOT89
ASL29W	4.3	75	25.0	24.0	22.5	21.0	31	32	33	-		22	3.0	SOT89
ASL13W	5.0	60	24.5	23.5	22.3	21.0	30	33	35	35	300	23	0.8	SOT363
ASW235	4.7	46	24.0	24.0	24.0	24.0	27	28	29	-	150	15	3.3	SOT363
ASW214	4.9	52	20.0	20.0	20.0	19.5	30	30	30	31		16	5.5	SOT89
ASW212	4.8	73	17.0	17.0	16.0	15.5	36	37	37	37		19	4.8	SOT89
ASW215	4.9	83	18.5	18.5	18.0	17.5	38	38	38	38		19	3.5	SOT89
ASW205	5.0	70	25.9	25.7	25.4	25.0	32	32	35	-	150	19	3.3	SOT89
ASW234	5.0	55	21.0	20.0	19.5	19.0	27	28	29	-	150	22	2.2	SOT363
ASW204	5.0	55	22.5	21.0	20.0	20.0	30	30	31	-	150	22	1.6	SOT89
ASW208	5.5	80	21.0	20.0	20.0	19.5	32	33	34	34	150	24	3.4	SOT89
ASW301	4.8	75	25.0	24.0	23.0	21.0	36	36	37	37		22	6.8	SOT89
ASW311	5.0	120	15.5	14.5	13.5	13.5	41	40	40	40		21	3.2	SOT89
ASW313	5.0	95	17.0	17.0	16.5	16.0	42	42	43	-	100	22	1.8	SOT89
ASW314	5.0	105	16.7	16.2	16.0	16.0	41	40	40	42	150	22	1.7	SOT89
ASW316	5.0	110	14.6	14.5	14.4	14.1	41	41	41	40	100	21	2.0	SOT89
ASW335	5.0	100	18.8	-	18.5	17.3	45	-	43	41	100	22	1.6	SOT89
ASW350	4.8	150	24.5	24.3	23.0	-	41	41	40	-		24	8.0	SOT89
AWB389	6.0	155	19.5	-	-	-	41	-	-	-	100	24	2.5	SOT89
AWB459	5.0	130	22.8	22.8	22.8	22.6	41	43	43	41	250	24	1.0	SOT89
	8.0	200	23.0	23.0	23.0	22.8	42	44	44	43	250	28	1.0	
AWB589	5.0	170	20.0	20.0	20.0	20.0	45	45	45	45	250	24	3.0	SOT89
	8.0	170	20.5	20.3	20.0	19.8	43	43	43	42	250	27	3.0	

NOTE

● IF dedicated



Gain Block Amplifiers [DC ~ 1 GHz]

Medium Power Amplifiers [DC ~ 4 GHz]

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz				OIP3 (dBm) tested @ MHz				Tested @ MHz	OP1dB (dBm)	NF (dB)	Package
			70	150	300	450	70	150	300	450				
ASW318	8.0	120	17.5	17.5	17.0	16.5	44	44	41	-	100	26	1.8	SOT89
ASW338	8.0	120	19.0	-	18.5	18.0	48	-	45	-	100	26	1.7	SOT89
ASX415	5.0	155	-	-	-	22.0	-	-	-	37	444	28	6.0	SOT89
ASX401	5.0	290	-	19.5	-	-	-	43	-	-	152	31	9.5	SOT89
AWB688	10.0	300	22.5	-	-	22.8	48	-	-	46	-	31	2.2	SOIC8
ASX423	5.0	400	-	33.5	-	-	-	45	-	-	150	30	4.5	SOIC8
ASX620	5.0	950	-	38.0	-	-	-	46	-	-	196	33	6.7	SOIC8

Newly released products in Bold.

» Medium Power Amplifiers [DC ~ 4 GHz]

Tested @ 2 GHz

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz					OIP3 (dBm)	OP1dB (dBm)	NF (dB)	Package	Remark
			900	2000	2400	2700	3500					
ASW318	8.0	120	16.5	15.0	14.0	14.0	-	46	26	3.3	SOT89	
ASW338	8.0	120	17.5	16.5	-	16.0	-	43	25	2.2	SOT89	
AWB459	8.0	200	20.0	-	-	-	-	42	28	1.3	SOT89	
AWB589	8.0	170	20.0	-	-	-	-	42	27	3.0	SOT89	
AWB688	10.0	260	21.0	-	-	-	-	44	30	3.0	SOIC8	
ASX415	5.0	155	20.0	14.3	13.1	11.0	-	42	27	4.6	SOT89	
ASX401	5.0	290	19.5	13.0	10.0	10.0	-	46	30	4.2	SOT89	1
	5.0	560	-	14.0	-	-	-	46	32	5.2		
ASX501	5.0	560	18.0	11.5	9.0	-	-	47	31	5.0	SOT89	2
	5.0	1120	17.0	-	-	-	-	48	35	5.0		
ASX601	5.0	850	16.0	9.5	-	-	-	47	31	5.8	SOT89	3
	5.0	850	16.0	-	-	-	-	48	33	5.5		
ASX403	3.3	620	16.5	11.0	-	-	-	39	30	4.5	SOIC8	
ASX602	5.0	580	16.5	10.5	8.9	-	-	43(48)	33(32)	5.2	SOIC8	4
		580	16.8	-	-	-	-	48	33	4.9		
		1100	-	11.3	-	-	-	43	35	5.5		
ASX420	5.0	370	31.5	21.5	17.5	16.5	13.0	46	30	7.0	SOIC8	
ASX423	5.0	400	32.5	22.5	20.0	17.0	-	47	30	2.6	SOIC8	
ASL425	5.0	350	34.0	22.0	20.0	17.5	-	47	30	1.4	SOIC8	
ASX520	5.0	650	31.0	-	-	-	-	48	33	7.0	SOIC8	
ASX521	5.0	870	28.0	19.0	18.5	16.5	-	48	32	5.6	SOIC8	
ASX620	5.0	950	29.5	-	-	-	-	48	33	6.7	SOIC8	
ASX621	5.0	1150	30.0	18.0	13.0	16.0	-	49	33	5.6	SOIC8	

NOTE

- 1 Balanced Type @ 1710~1785 MHz
- 2 Balanced Type @ 908~923 MHz
- 3 RFID (902~928 MHz)
- 4 RFID (USA) 902~928 MHz
- 5 Balanced @ 1710~1785 MHz



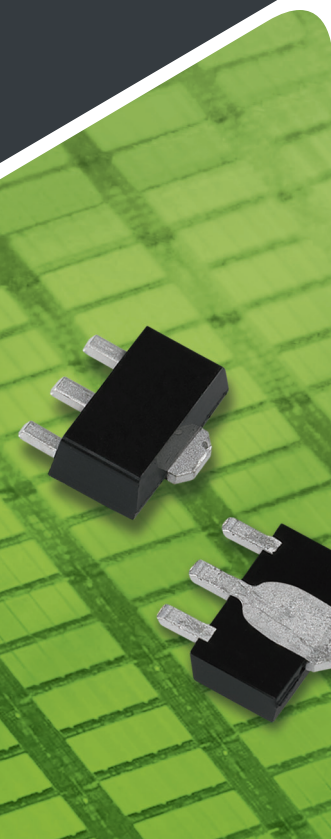
Gain Block Amplifiers [DC ~ 8 GHz]

» Gain Block Amplifiers [DC ~ 8 GHz]

Tested @ 2 GHz

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz						OIP3 (dBm)	OP1dB (dBm)	NF (dB)	Package
			900	2000	2400	2700	3500	5800				
ASG330	5.0	75	19.0	10.0	-	-	-	-	43	20	4.3	SOT89
ASW114	3.3	53	20.5	17.0	16.0	15.5	14.0	11.0	29	15	3.3	SOT363
ASX101	2.7	38	21.5	16.0	13.0	13.0	-	-	29	17	3.2	SOT89
ASW135	3.3	60	18.5	16.5	15.7	15.0	-	-	29	19	1.8	SOT363
ASW101	3.3	40	18.0	11.0	9.5	-	-	-	31	18	4.0	SOT89
ASW103	3.3	44	17.0	11.0	9.0	-	-	-	31	18	3.9	SOT89
ASW105	3.3	65	19.3	17.5	16.9	16.3	-	-	32	19	1.8	SOT89
ASW214	5.0	52	19.5	18.2	17.0	16.4	15.0	13.5	32	16	5.7	SOT89
ASW235	4.7	46	23.0	19.5	18.5	17.5	15.0	-	31	18	3.5	SOT363
ASW234	5.0	55	18.7	16.8	16.0	15.5	13.5	10.0	31	22	1.8	SOT363
ASW205	5.0	70	24.2	20.7	20.0	18.3	17.0	15.0	33	20	3.6	SOT89
ASW204	5.0	55	19.8	18.0	-	16.7	15.0	12.5	33	21	1.8	SOT89
ASW212	5.0	73	14.0	12.5	12.0	12.0	11.0	11.0	34	18	5.5	SOT89
ASW215	5.0	83	16.0	12.0	11.5	11.0	10.0	-	35	19	4.3	SOT89
ASX201	5.0	66	19.0	16.0	14.0	14.0	12.0	-	35	21	3.3	SOT89
ASW208	5.5	80	21.0	19.0	-	17.0	-	-	35	22	1.7	SOT89
ASW216	4.5	80	14.0	11.8	11.0	10.0	-	-	38	20	2.4	SOT89
ASL03H	4.3	36	19.0	14.0	12.5	12.0	9.0	-	32	18	0.9	SOT363
ASL19H	5.0	73	20.0	14.5	12.3	11.5	9.0	-	36	22	1.1	SOT89
ASL19D	3.0	90	-	24.5	21.5	20.0	16.0	-	36	19	1.0	DFN6
ASL210	3.3	67	18.5	12.5			-	-	37	21	0.9	SOT89
ASL19W	4.4	73	19.0	13.0	12.0	11.0	-	-	38	22	0.9	SOT89
ASL13W	5.0	60	19.0	13.0	11.5	11.0	-	-	38	22	0.9	SOT363
AWB209	5.0	80	21.3	19.9	-	-	-	-	37	18	2.1	SOT89
AWB207	5.0	74	16.6	16.0	-	-	-	-	38	18	2.7	SOT89
AWB389	5.0	125	19.0	17.7	-	-	-	-	38	21	3.1	SOT89
AWB459	5.0	130	20.0	-	-	-	-	-	39	24	1.2	SOT89
ASL29W	5.0	75	19.0	12.5	11.5	10.2	-	-	40	22	0.9	SOT89
ASW316	5.0	110	17.0	16.0	-	15.5	-	-	39	23	2.6	SOT89
ASW320	5.0	120	22.0	18.5	16.5	15.5	13.0	-	40	22	2.4	SOT89
ASW301	5.0	75	16.5	10.0	8.0	-	-	-	41	22	7.0	SOT89
ASW311	5.0	120	14.3	12.1	11.0	10.5	-	-	41	21	2.4	SOT89
ASW313	5.0	95	16.5	14.5	14.0	13.8	-	-	41	22	3.2	SOT89
ASW335	5.0	100	17.5	16.0	16.0	15.0	-	-	42	22	2.1	SOT89
ASW314	5.0	105	16.0	14.5	-	-	-	-	43	23	3.0	SOT89
AWB589	5.0	170	19.0	-	-	-	-	-	43	23	3.0	SOT89

Newly released products in **Bold**.



» Low Noise Amplifiers, Discrete [DC ~ 4 GHz]

Tested @ 2 GHz

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz				NF (dB) tested @ MHz				OIP3 (dBm)	P1dB (dBm)	S11 (dB)	S22 (dB)	Package
			900	2000	2400	3500	900	2000	2400	3500					
AST11L	3.0	25	18.0	13.0	-	-	1.20	1.30	-	-	27	14	-14	-11	SOT363
AST163	5.0	35	-	17.5	-	-	-	0.65	-	-	28	17	-10	-8	SOT363
AST20S	5.0	48	18.0	15.5	13.0	11.0	0.60	0.70	0.90	2.10	34	18	-11	-13	SOT363
AST30S	5.0	135	21.0	15.5	-	-	2.00	1.90	-	-	37	22	-15	-15	DFN6
ASL563	5.0	50	33.0	26.0	-	-	1.00	1.00	-	-	29	15	-15	-20	SOT363
AST54S	3.3	40	19.0	12.8	12.5	10.0	0.45	0.50	0.65	0.80	34	19	-18	-10	SOT343

Low Noise Amplifiers
Discrete
[DC ~ 4 GHz]

» Low Noise Amplifiers, Internally Matched [DC ~ 4 GHz]

Tested @ 2 GHz

Part Number	Vd (V)	Id (mA)	S21 (dB) tested @ MHz					NF (dB) tested @ MHz					OIP3 (dBm)	P1dB (dBm)	S11 (dB)	S22 (dB)	Package
			900	2000	2400	2700	3500	900	2000	2400	2700	3500					
ASL033	3.3	10	-	-	12.2	-	-	-	-	1.15	-	-	21	18	-18	-10	SOT363
ASL226	3.0	8.5	34.0	25.0	21.5	-	14.0	1.30	1.30	1.30	-	1.80	17	11	-15	-20	SOT363
	5.0	18	38.0	28.0	25.0	23.0	-	-	1.05	1.05	1.15	1.80	23	14	-18	-12	
ASL210	3.3	67	18.5	12.0	-	10.0	-	0.80	0.90	-	1.20	-	37	21	-18	-10	SOT363
ASL03H	4.3	36	19.5	14.2	13.0	12.0	9.0	0.90	1.00	-	-	-	33	18	-20	-12	SOT363
ASL52D6	5.0	50	27.0	19.0	-	-	-	0.55	0.60	-	-	-	32	19	-18	-18	DFN6
ASL09S	5.0	45	19.3	12.8	11.0	10.0	7.5	0.80	0.90	1.10	1.20	1.50	35	20	-18	-10	SOT89
ASL03S	5.0	45	19.5	13.0	11.5	10.5	8.0	0.80	0.90	1.10	1.20	1.50	35	20	-18	-10	SOT343
ASL52T8	5.0	50	24.0	21.0	-	-	-	0.55	0.60	-	-	-	35	18	-18	-10	TDFN8(2x2)
ANM1730⁽¹⁾	5.0	95	-	24.7	21.0	20.0	17.0	-	0.55	-	0.80	-	35	20	-21	-18	SiP3(8x8)
ASL51T8	4.5	54	18.0	-	-	-	-	0.37	-	-	-	-	38	21	-18	-18	TDFN8(2x2)
ASL41S9	5.0	60	18.0	-	-	-	-	0.55	-	-	-	-	37	21	-18	-18	SOT89
ASL13W	5.0	60	19.0	13.0	11.5	-	-	0.90	0.90	1.10	-	-	38	22	-20	-14	SOT363
ASL13C	5.0	59	18.5	13.0	-	-	-	0.85	0.75	-	-	-	37	22	-16	-10	SOT363
ASL19W	4.4	73	20.0	13.5	11.5	-	-	0.90	0.90	-	-	-	37	22	-20	-15	SOT89
ASL19C	3.9	73	19.5	13.0	-	-	-	0.80	0.90	-	-	-	38	22	-18	-14	SOT89
ASL19H	5.0	73	20.0	14.5	12.3	-	9.0	0.95	1.05	1.10	-	1.80	36	22	-20	-13	SOT89
ASL19D	5.0	90	-	24.0	19.5	19.0	-	-	0.90	1.10	1.25	-	38	23	-18	-9	SOT89
ASL29W	5.0	75	19.0	12.5	10.2	-	-	-	0.90	-	-	-	40	22	-15	-15	SOT89
ASL42S	5.0	350	35.5	24.0	21.0	18.0	-	1.00	1.40	1.50	2.10	-	47	30	-13	-15	SOIC8

Newly released products in **Bold**.

⁽¹⁾ All components inside package, 3 pin SiP 8x8 mm². No off-chip component.

Low Noise Amplifiers
Internally Matched
[DC ~ 4 GHz]

» CATV Amplifiers, 75 ohm [50~1200 MHz]

Part Number	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	Output (dBμV)	CSO (dBc)	CTB (dBc)	Package	Remark
ASW114	3.3	53	21.0	3.2	-	-	-	SOT363	
ASL033	3.3	37	19.0	1.1	-	-	-	SOT363	
AST545	5.0	40	19.0	1.1			-	SOT343	
ASW205	5.0	70	24.3	3.7	-	-	-	SOT89	
ASW220	5.0	75	16.8	3.4	88	60 (60 ch)	75 (60 ch)	SOT89	
ASF240	5.0	107	25.3	2.9	-	-	-	SOT89	
ASL330	5.0	105	16.4	1.7	80	66 (160 ch)	76 (160 ch)	SOT89	
ASL31C	5.0	105	23.7	1.4				SOT89	
ASL360	5.0	110	17.3	1.6	93	60 (60 ch)	75 (60 ch)	SOT89	
ASL380	5.0	110	19.2	1.6	95	60 (84 ch)	> 70 (84 ch)	SOT89	
ASL390	5.0	120	22.8	2.5	98	60 (84 ch)	69 (84 ch)	SOT89	
ASW311 ^(P-P)	5.0	240	10.8	3.5	102	65 (60 ch)	66 (60 ch)	SOT89	b
ASL360 ^(P-P)	5.0	220	12.1	2.6	-	-	-	SOT89	
ASL362	5.0	220	16.0	2.4	95	70 (84 ch)	66 (84 ch)	SOIC8	b
			10.7	3.2	100	70 (84 ch)	66 (84 ch)		a
ASL331	5.0	220	19.7	1.6	101	64 (84 ch)	60 (84 ch)	SOIC8	a
ASL39D2	5.0	300	19.0	1.7	105	60 (84 ch) / 68 (60 ch)	66 (84 ch) / 70 (60 ch)	SOIC8	a
ASL59D4	6.5	390	20.0	1.4	108	60 (84 ch) / 64 (60 ch)	63 (84 ch) / 69 (60 ch)	TSSOP-24	a
ASL550	8.0	120	17.5	2.0	85	74 (116 ch)	75 (116 ch)	SOT89	
ASL560	8.0	120	17.9	1.5	96	60 (60 ch)	75 (60 ch)	SOT89	
ASL580	8.0	120	19.4	1.6	95	60 (84 ch)	> 70 (84 ch)	SOT89	
ASL590	8.0	163	23.1	2.5	98	64 (84 ch)	70 (84 ch)	SOT89	
ASL550 ^(P-P)	8.0	240	14.9	2.7	106	65 (60 ch)	68 (60 ch)	SOT89	b
			11.5	2.7	-	-	-		a
ASL560 ^(P-P)	8.0	240	12.0	2.8	-	-	-	SOT89	
ASL552	8.0	240	14.9	2.8	105	76 (60 ch)	73 (60 ch)	SOIC8	b
			11.2	3.1	105	76 (60 ch)	73 (60 ch)		a
ASL572	8.0	240	16.6	2.5	100	61 (84 ch)	65 (84 ch)	SOIC8	b
			11.0	2.7	100	61 (84 ch)	65 (84 ch)		a
ASL551	6.0	433	19.6	1.8	107	65 (60 ch)	64 (60 ch)	SOIC8	a
	6.5	433	19.6	1.9	107	60 (84 ch)	64 (84 ch)		a
	6.9	470	20.0	2.0	109/107	70 (42 ch) / 60 (84 ch)	64 (42 ch) / 64 (84 ch)		a
	8.0	250	19.8	1.6	105	62 (84 ch)	63 (84 ch)		a
ASL522	8.0	240	33.6	1.9	85	74 (116 ch)	75 (116 ch)	SOIC8	
ASL882	10.7	520	21.7	3.3	110	65 (84 ch) / 60 (42 ch)	60 (84 ch) / 61 (42 ch)	TSSOP-24	a

NOTE

a 1:1 transformer

b 2:1 transformer

Newly released products in **Bold**.

^(P-P) means two chips in push-pull configuration

» CATV Amplifiers, 75 ohm [5~300 MHz]

Part Number	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	S11 (dB) tested @ MHz		S22 (dB) tested @ MHz		Package	Remark
					5	200	5	200		
ASF240	4.7	95	26.5	3.4	-16	-18	-14	-15	SOT89	
ASW205	5.0	70	25.8	3.5	-12	-12	-12	-15	SOT89	
ASW220	5.0	75	17.0	3.3	-20	-20	-20	-20	SOT89	
			10.3	4.5	-7	-7	-7	-7		
ASL330	5.0	105	15.8	1.9	-18	-14	-15	-14	SOT89	
ASL360	5.0	110	18.1	1.5	-18	-18	-16	-16	SOT89	
ASL360 ^(P-P)	5.0	220	12.3	2.7	-20	-17	-20	-17	SOT89	a
ASL380	5.0	110	21.3	1.2	-18	-16	-16	-20	SOT89	
ASL390	5.0	120	23.6	3.2	-15	-18	-13	-20	SOT89	
ASL362	5.0	220	17.0	1.9	-20	-17	-20	-15	SOIC8	b
			12.5	2.7	-20	-17	-20	-16		a
ASL331	5.0	220	20.8	1.3	-20	-20	-20	-20	SOIC8	a
ASL550	8.0	120	16.5	2.1	-15	-15	-10	-14	SOT89	b
			16.3	1.7	-20	-14	-16	-13		b
ASL560	8.0	120	18.5	1.5	-18	-18	-18	-17	SOT89	
ASL560 ^(P-P)	8.0	240	12.5	2.9	-20	-17	-20	-17	SOT89	a
ASL580	8.0	120	21.6	1.2	-18	-18	-18	-17	SOT89	
ASL590	8.0	163	23.8	3.4	-15	-18	-13	-20	SOT89	
ASL550 ^(P-P)	8.0	240	15.8	2.2	-17	-14	-16	-14	SOT89	b
			11.8	2.8	-20	-20	-18	-20		a
ASL551	8.0	250	21.1	1.5	-20	-18	-20	-18	SOIC8	a
ASL552	8.0	240	16.2	2.7	-17	-18	-11	-15	SOIC8	b
			15.7	2.3	-17	-14	-17	-14		b
			11.6	3.4	-20	-18	-20	-18		a
ASL572	8.0	240	17.5	1.9	-20	-15	-17	-14	SOIC8	b
			12.8	2.8	-20	-17	-20	-16		a

(P-P) means two chips in push-pull configuration

» Optical Trans-Impedance Amplifier, AGC included [50~1200 MHz]

Part Number	Vd (V)	Id (mA)	Gain (dB)	EINCD (pA/rtHz)	Photo. Pin (dBm)	Output (dBμV)	CSO (dBc)	CTB (dBc)	# of channels	Package
ASA306C	4	200	36 ⁽¹⁾	3.8	-10 ~ +2	85	60	62	99	QFN24(4x4)

Newly released products in **Bold**.

⁽¹⁾ 15 dB gain control range with varying the control voltage in 1.24 ~ 2.40 V.

**CATV
Amplifiers**
75 ohm
[5~300 MHz]

**Optical Trans-
Impedance
Amplifier**
AGC included
[50~1200 MHz]

NOTE

a 1:1 transformer

b 2:1 transformer



—
SMATV / DVB-S
MOCA / ONU
[50 ~ 2700 MHz]

» SMATV / DVB-S / MOCA / ONU [50 ~ 2700 MHz]

Part Number	Frequency (MHz)	Vd (V)	Id (mA)	Gain (dB)	Gain Flat. (± dB)	NF (dB)	OP1 dB (dBm)	OIP3 (dBm)	Package
ASW114	950~2150	3.3	53	18.5	1.75	3.2	15	29	SOT363
ASW214	70~2700	5.0	52	17.5	0.90	5.5	15	30	SOT89
ASW135	950 ~ 2150	3.3	60	17.3	1.00	2.2	18	32	SOT363
AST205	70~2700	5.0	63	16.8	0.70	1.2	19	33	SOT363
	900~2100	3.0	12	13.5	0.25	1.5	5	20	
ASW220	900~2100	5.0	75	16.4	0.20	3.8	18	33	SOT89
ASW205	500~2700	5.0	70	20.7	2.95	3.6	20	33	SOT89
ASW212	70~2700	5.0	73	12.5	1.10	5.5	18	34	SOT89
ASW204	950~2150	5.0	51	20.0	2.00	1.6	22	33	SOT363
	500~3500	5.0	55	18.0	1.50	1.8	21	33	
AWB209	50~2700	5.0	80	17.5	0.35	3.1	20	35	SOT89
ASW208	950~2150	5.0	80	20.0	1.50	1.7	22	35	SOT89
ASL560	800~2500	8.0	120	14.0	0.05	3.0	20	36	SOT89
ASW335	70~2500	5.0	100	15.0	0.80	1.9	23	37	SOT89
ASL360	950~2150	5.0	110	16.6	0.95	2.3	17	37	SOT89
ASL330	150~2200	5.0	105	15.3	0.85	2.3	18	38	SOT89
AWB207	900~2000	5.0	74	16.3	0.30	2.7	21	38	SOT89
ASF255	50~2150	5.0	104	18.2	0.05	3.0	22	38	SOT89
ASL380	950~2150	5.0	110	16.8	0.10	2.6	19	38	SOT89
ASW313	70~2700	5.0	95	14.0	0.60	2.4	20	40	SOT89
ASL560	950~1500	8.0	120	17.5	0.30	2.0	22	40	SOT89
ASW311	500~3500	5.0	120	12.1	0.70	2.4	21	41	SOT89
ASL550	950~2600	8.0	120	16.5	0.80	2.5	24	41	SOT89
AWB389	800~2200	5.0	125	18.7	0.25	2.7	22	41	SOT89
ASW318	50~2700	8.0	120	13.0	1.00	3.2	20	42	SOT89
ASW314	800~1500	5.0	105	15.5	0.20	2.0	22	43	SOT89
	900~2200	5.0	105	15.0	0.25	2.0	22	41	
	50~2170	5.0	105	13.5	0.50	3.2	22	40	
ASW320	900~1600	5.0	120	21.0	1.25	2.4	22	40	SOT89
		6.0	140	21.2	1.20	2.5	24	42	
AWB459	800~1600	5.0	130	20.0	0.25	1.4	24	38	SOT89
		8.0	200	20.0	0.25	1.5	27	42	

Newly released products in Bold.



» Wide-band Amplifiers

Part Number	Matched @ (MHz)	Vd (V)	Id (mA)	Tested @ (MHz)	Gain (dB)	OIP3 (dBm)	P1dB (dBm)	NF (dB)	Package
AST20S	70~2700	5.0	63	70 2700	17.8 15.3	28 33	15 20	1.2 1.3	SOT363
ASL03S	800~2700	4.4	45	800 2700	19.5 10.5	33 36	20 20	0.8 1.2	SOT363
ASL09S	800 ~ 2700	4.4	45	800 2700	19.3 10.0	32 37	20 20	0.8 1.2	SOT89
ASW313	70~2700	5.0	95	70 2700	16.0 13.8	41 35	21 18	1.9 2.9	SOT89
ASW318	70~2700	8.0	120	70 2700	16.0 14.0	44 39	24 21	2 3.1	SOT89
ASW311	500~3500	5.0	120	500 3500	14.3 12.1	41 41	22 21	2.2 2.4	SOT89
ASW314	50~2170	5.0	105	50 2170	14.0 13.0	40 38	22 21	3.2 2.4	SOT89
ASW316	5~1000	5.0	110	5 1000	14.8 13.4	40 38	21 21	2.9 2.6	SOT89
ASW335	70~2500	5.0	100	70 2500	17.9 14.6	43 36	22 20	1.4 3.2	SOT89
ASW338	1700~2700	8.0	120	1950 2450	16.5 16.0	43 42	25 22	2.2 2.8	SOT89
AWB209	50~2700	5.0	80	50 2700	17.9 17.3	35 33	20 19	1.9 3.1	SOT89
AWB389	900~2000	5.0	125	900 2000	19.0 18.5	41 39	22 22	2.1 2.7	SOT89
AWB459	800~1600	5.0 (8.0)	130 (200)	800 1600	20.0 20.5	39 (42) 38 (41)	24 (28) 24 (27)	1.2 (1.3) 1.4 (1.5)	SOT89
AWB589	30~512	8.0	170	250	19.5	43	27	3	SOT89
AWB688	30~860	10.0	300	30 860	22.2 22.5	47 45	27 30	1.7 2.1	SOIC8

Newly released products in **Bold**.

Wide-band
Amplifiers



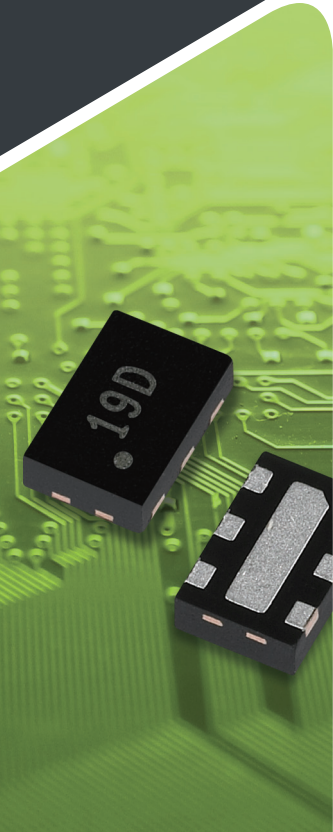
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DVB
DMB / CMMB
[170 ~ 860 MHz]

» DVB / DMB / CMMB [170 ~ 860 MHz]

Part Number	Frequency (MHz)	Vd (V)	Id (mA)	S21 (dB)	OIP3 (dBm)	OP1dB (dBm)	NF (dB)	Package
AST11L	170~240	5.0	13	14.0	16	5	1.8	SOT363
	478~862	5.0	13	15.5	19	7	1.8	
ASL004⁽¹⁾	170~860	2.8	8	16.2	19	18	1.2	USON6(1.5x1.5)
ASW234	170~860	4.5	25	17.0	24	20	2.1	SOT363
ASL033	170~860	3.3	10	16.5	21	18	1.1	SOT363
ASW114	57~213	3.1	25	20.0	19	11	2.8	SOT363
AST20S	470~860	4.5	28	18.4	27	14	1.2	SOT363
AST54S	470~860	5.0	40	20.0	29	17	0.9	SOT343
ASL19W	478~862	4.4	37	17.0	27	18	1.5	SOT89
ASL03H	470~860	5.0	36	19.4	28	15	1.1	SOT363
ASW135	470~860	3.3	60	18.8	29	18	1.8	SOT363
ASW235	470~860	4.7	46	24.0	29	16	3.4	SOT363
ASW234	470~860	5.0	55	18.9	30	22	1.9	SOT363
ASW101	470~860	3.3	40	19.5	30	17	4.2	SOT89
ASW214	470~860	4.9	52	19.6	30	16	5.7	SOT89
ASW204	470~860	5.0	55	20.2	31	21	1.7	SOT89
ASW105	470~860	3.3	65	20.1	32	18	1.7	SOT89
ASW205	470~860	5.0	70	24.8	35	19	3.5	SOT89
ASW208	470~860	5.0	80	21.5	35	22	3.5	SOT89
ASW212	470~860	4.8	73	14.8	35	18	5.0	SOT89
ASW216	470~860	4.5	80	14.8	36	20	2.2	SOT89
ASW215	470~860	4.9	83	16.5	37	19	3.8	SOT89
ASW311	470~860	5.0	120	14.8	40	21	2.3	SOT89
ASW335	470~860	5.0	100	17.8	41	23	1.8	SOT89
ASW316	470~860	5.0	110	17.0	43	22	2.0	SOT89
ASW335	470~860	5.0	100	17.8	43	23	1.8	SOT89
ASW313	470~860	5.0	95	15.5	43	22	2.2	SOT89
ASW318	470~860	8.0	120	16.0	46	25	2.0	SOT89
ASW338	470~860	8.0	120	17.5	46	26	2.0	SOT89
ASL580	450~950	6.0	150	19.0	45	24	1.7	SOT89

Newly released products in **Bold**.

⁽¹⁾ Bypass function included



» Galileo / GPS / GLONASS / COMPASS [1164 ~ 1620 MHz]

Part Number	Vd (V)	Id (mA)	Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	NF (dB)	Package	Remark
ASL19W	3.3	20	15.5	17	29	0.90	SOT89	
AST20S	3.0	18	17.0	26	16	0.55	SOT89	1210~1620 MHz
AST54S	3.0	18	14.5	28	18	0.50	SOT343	
AST163	3.0	6	14.0	18	10	0.95	SOT363	
ASL033	5.0	13	15.5	23	11	1.30	SOT363	
ASL20G	1.8	2	16.5	-	-	1.00	UQFN6 (1x1)	
	1.8	4	20.0	-	-	0.70		
	2.8	7	21.5	-	-	0.60		
ASL226	1.8	6.5	23.5	14	6	1.10	SOT363	
	3.3	9.5	28.5	17	11	0.95		
	5.0	18	30.5	20	11	1.00		
	3.0	8	32.0	17	11	0.94		1210~1270 MHz
ASL30G	3.0	20	30.0	22	9	0.85	SOT363	
	1.8	8.5	26.5	15	6	1.00		
ASL563	3.0	7.7	26.0	21	11	1.00	SOT363	1204~1240 MHz
	3.0	7.7	25.0	19	10	1.10		
	3.0	28	30.0	26	11	0.80		
ASL22N	3.0	8.5	29.0	16	11	1.10	UQFN6 (1x1)	

Newly released products in **Bold**.

» SiriusXM / SDARS [2320 ~ 2345 MHz]

Part Number	Vd (V)	Id (mA)	S21 (dB)	OIP3 (dBm)	OP1dB (dBm)	NF (dB)	Package	Remark
ASL20G	5.0	14	20.5	-	-	0.60	UQFN6(1x1)	
AST54S	5.0	35	12.2	32	17	0.60	SOT343	

Newly released products in **Bold**.

Galileo / GPS
GLONASS
COMPASS
[1164 ~ 1620 MHz]

SiriusXM
SDARS
[2320 ~ 2345 MHz]



1-stage LNA Module

» 1-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN0070WT	60~80	5.0	40	22.0	0.9	17	27	10x10x3.8
ALN0140WT	125~155	5.0	73	25.0	0.7	21	31	10x10x3.8
ALN0195AT	180~210	5.0	65	21.0	1.0	18	32	10x10x3.8
ALN0196AT	180~210	5.0	70	23.0	1.0	18	32	10x10x3.8
ALN0450AT	400~500	5.0	70	20.0	1.1	17	32	10x10x3.8
ALN0450WT	400~500	5.0	35	19.0	1.1	22	29	10x10x3.8
ALN0460WT	450~470	5.0	65	22.0	0.75	21	35	10x10x3.8
ALN0667WT	470~860	5.0	40	17.0	1.1	21	30	10x10x3.8
ALN0675WT	450~900	5.0	40	17.0	1.1	21	30	10x10x3.8
ALN0742AT	698~787	5.0	65	19.0	0.8	17	31	10x10x3.8
ALN0742WT	698~787	5.0	70	19.0	0.7	22	35	10x10x3.8
ALN0743AT	698~787	5.0	65	22.0	0.55	16	31	10x10x3.8
ALN0836AT	824~849	5.0	40	21.0	0.55	15	28	10x10x3.8
ALN0837AT	824~849	5.0	40	21.0	0.65	15	28	10x10x3.8
ALN0838AT	824~849	5.0	40	21.0	0.7	15	28	10x10x3.8
ALN0839AT	824~849	5.0	40	20.0	0.6	15	28	10x10x3.8
ALN0859AT	824~894	5.0	65	19.5	0.75	16	31	10x10x3.8
ALN0859BT	824~894	5.0	60	19.0	0.8	17	31	10x10x3.8
ALN0882AT	873~892	3.3	75	20.0	0.8	16	32	10x10x3.8
ALN0902AT	890~915	5.0	60	22.0	1.0	17	30	10x10x3.8
ALN0925AT	890~960	5.0	70	20.0	0.8	17	31	10x10x3.8
ALN0925BT	890~960	5.0	60	18.0	0.8	17	31	10x10x3.8
ALN0926AT	890~960	5.0	40	18.5	0.6	15	29	10x10x3.8
ALN1100BT	950~1250	5.0	50	16.0	0.75	15	28	10x10x3.8
ALN1220AT	940~1500	5.0	40	17.5	0.65	15	28	10x10x3.8
ALN1500AT	1400~1600	5.0	70	16.0	0.65	18	33	10x10x3.8
ALN1502AT	1400~1600	5.0	30	15.9	0.65	12	26	10x10x3.8
ALN1747AT	1710~1785	5.0	65	13.0	0.7	17	33	10x10x3.8
ALN1750AT	1700~1800	5.0	65	15.5	0.65	18	34	10x10x3.8
ALN1750BT	1700~1800	5.0	55	15.0	0.8	17	33	10x10x3.8
ALN1765AT	1740~1790	5.0	70	17.5	0.7	18	31	10x10x3.8
ALN1810AT	1750~1870	5.0	65	15.3	0.65	18	34	10x10x3.8
ALN1810BT	1750~1870	5.0	45	14.5	0.8	17	33	10x10x3.8
ALN1811BT	1750~1870	5.0	45	14.5	0.8	17	31	10x10x3.8
ALN1880AT	1850~1910	5.0	65	14.9	0.65	18	34	10x10x3.8
ALN1930AT	1875~1985	5.0	65	14.8	0.65	18	34	10x10x3.8
ALN1931AT	1875~1985	5.0	50	14.8	0.6	18	34	10x10x3.8



» 1-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN1950BT	1900~2000	3.5	25	14.2	0.8	17	31	10x10x3.8
ALN1951BT	1920~1980	5.0	50	15.0	0.9	17	31	10x10x3.8
ALN2044AT	1920~2170	5.0	50	14.2	0.65	19	34	10x10x3.8
ALN2045AT	1920~2170	5.0	65	14.3	0.65	18	34	10x10x3.8
ALN2046AT	1920~2170	5.0	65	15.2	0.7	18	34	10x10x3.8
ALN2140BT	2110~2170	5.0	35	14.5	0.8	17	32	10x10x3.8
ALN2500AT	2300~2700	5.0	80	12.2	0.75	19	34	10x10x3.8
ALN2501AT	2300~2700	5.0	80	12.2	0.75	19	34	10x10x3.8
ALN2502AT	2300~2700	5.0	40	12.2	0.6	18	31	10x10x3.8
ALN2503AT	2300~2700	5.0	40	13.5	0.7	17	32	10x10x3.8
ALN2504AT	2300~2700	5.0	60	14.0	0.8	18	32	10x10x3.8
ALN2505AT	2300~2700	5.0	65	13.5	0.65	18	35	10x10x3.8
ALN2506AT	2300~2700	5.0	25	12.0	0.6	15	28	10x10x3.8

1-stage LNA
Module

Highly
Linear LNA
Module

» Highly Linear LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALE0859T3	824~894	5.0	200	34.0	0.6	21	40	10x10x3.8
ALE0925T2	890~960	5.0	200	35.0	0.65	23	42	10x10x3.8
ALE1500T2	1400~1600	5.0	200	28.0	0.6	23	42	10x10x3.8
ALE1810T2	1750~1870	5.0	200	28.0	0.75	24	42	10x10x3.8
ALE2045T2	1920~2170	5.0	200	26.0	0.8	24	42	10x10x3.8
ALE2045T3	1920~2170	5.0	200	24.0	0.7	21	40	10x10x3.8
ALE2350T2	2300~2400	5.0	200	24.5	0.75	24	42	10x10x3.8
ALE2500T2	2300~2700	5.0	200	24.0	0.85	24	42	10x10x3.8
ALE3025T2	2900~3150	5.0	200	19.5	1.05	23	42	10x10x3.8
ALE3275T2	3150~3400	5.0	200	19.0	1.05	23	42	10x10x3.8
ALE3276T2	3050~3500	5.0	200	19.0	1.2	23	36	10x10x3.8
ALE3500T2	3400~3600	5.0	200	18.0	1.2	23	42	10x10x3.8
ALE3700T2	3600~3800	5.0	200	17.0	1.3	23	42	10x10x3.8



2-stage LNA Module

» 2-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN0098	88~108	5.0	180	35.0	1.3	21	36	13x13x3.8
ALN0113	108~118	5.0	180	35.0	1.4	21	35	13x13x3.8
ALN0207	200~215	5.0	160	35.0	0.8	21	37	13x13x3.8
ALN0223	215~231	5.0	160	35.0	0.8	21	37	13x13x3.8
ALN0230	225~236	5.0	180	39.0	0.65	38	21	13x13x3.8
ALN0332	329~335	5.0	180	31.0	0.8	21	37	13x13x3.8
ALN0450	400~500	5.0	170	36.0	0.65	21	39	13x13x3.8
ALN0460	450~470	5.0	160	35.0	0.75	38	22	13x13x3.8
ALN0665	470~860	5.0	130	36.5	0.7	21	40	13x13x3.8
ALN0667	470~860	5.0	140	35.0	0.8	40	21	13x13x3.8
ALN0742	698~787	5.0	110	37.0	0.65	21	35	13x13x3.8
ALN0742T2	698~787	5.0	110	38.0	0.7	20	35	10x10x3.8
ALN0743	698~787	5.0	130	37.0	0.7	21	41	13x13x3.8
ALN0810	780~840	5.0	100	38.0	0.6	18	34	13x13x3.8
ALN0832	830~835	5.0	130	29.0	0.7	17	32	13x13x3.8
ALN0836	823.5~848.5	5.0	130	29.0	0.7	17	32	13x13x3.8
ALN0837	828~847	3.3	100	36.0	0.8	18	30	13x13x3.8
ALN0838	776~901	5.0	100	32.0	0.45	18	34	13x13x3.8
ALN0855	829~881	5.0	180	27.0	0.65	21	36	13x13x3.8
ALN0859	824~894	5.0	105	37.5	0.65	17	34	13x13x3.8
ALN0860	824~894	5.0	90	37.5	0.55	16	37	13x13x3.8
ALN0878	816~940	5.0	170	30.0	0.75	20	40	13x13x3.8
ALN0892	824~960	5.0	170	34.0	0.65	21	39	13x13x3.8
ALN0892R2	824~960	5.0	110	35.0	0.7	21	36	10x10x3.8
ALN0892T1	824~960	5.0	100	36.0	0.8	21	37	10x10x3.8
ALN0905	885~925	5.0	320	29.0	0.8	22	36	13x13x3.8
ALN0910	905~915	5.0	160	22.0	1.1	19	35	13x13x3.8
ALN0925	890~960	5.0	80	37.5	1.1	19	35	13x13x3.8
ALN1100	950~1250	5.0	100	32.0	0.75	18	35	13x13x3.8
ALN1100R2	950~1250	5.0	100	32.5	0.75	20	32	10X10X3.8
ALN1100T2	950~1250	5.0	20	25.0	0.85	12	18	10x10x3.8
ALN1101R2	950~1250	5.0	100	33.0	0.75	21	35	10x10x3.8
ALN1102	950~1250	5.0	80	26.0	0.65	18	31	13x13x3.8
ALN1103R2	950~1250	5.0	105	32.5	0.65	21	35	10x10x3.8
ALN1250	1000~1500	5.0	80	30.0	0.9	16	32	13x13x3.8
ALN1280	1270~1290	5.0	100	32.0	0.7	18	38	13x13x3.8
ALN1400	1200~1600	5.0	55	25.0	0.7	19	30	13x13x3.8



2-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN1425	1200~1650	5.0	80	30.0	1.0	34	17	13x13x3.8
ALN1465	1450~1480	5.0	85	27.0	0.95	18	33	13x13x3.8
ALN1500	1400~1600	5.0	180	28.0	0.6	21	38	13x13x3.8
ALN1542T2	1525~1559	5.0	35	24.0	0.53	8	19	10x10x3.8
ALN1585	1550~1620	5.0	100	34.0	0.95	21	34	13x13x3.8
ALN1700	1550~1850	5.0	100	28.0	0.8	18	37	13x13x3.8
ALN1733	1710~1755	5.0	170	27.5	0.6	21	38	13x13x3.8
ALN1735T2	1720~1750	5.0	80	20.0	0.6	18	30	10x10x3.8
ALN1748T2	1710~1785	5.0	120	23.0	0.75	20	37	10x10x3.8
ALN1750	1700~1800	5.0	80	27.0	0.95	18	33	13x13x3.8
ALN1750T2	1700~1800	5.0	100	22.0	0.6	21	35	10x10x3.8
ALN1751T2	1700~1800	5.0	120	23.3	0.6	20	37	10x10x3.8
ALN1800T2	1700~1900	5.0	100	26.0	0.65	21	34	10x10x3.8
ALN1810	1750~1870	5.0	80	30.0	0.9	19	37	13x13x3.8
ALN1812	1750~1870	5.0	180	27.0	0.6	22	38	13x13x3.8
ALN1850T2	1700~2000	5.0	100	23.0	0.6	21	35	10x10x3.8
ALN1880	1850~1920	5.0	100	32.0	0.9	20	34	13x13x3.8
ALN1883T2	1850~1915	5.0	100	22.8	0.6	21	36	10x10x3.8
ALN1884T2	1850~1915	5.0	100	23.5	0.55	21	34	10x10x3.8
ALN1910	1900~1920	5.0	170	30.0	0.8	20	38	13x13x3.8
ALN1912	1900~1920	5.0	120	27.0	0.65	21	34	13x13x3.8
ALN1922	1850~1995	5.0	170	30.0	0.65	21	39	13x13x3.8
ALN1930	1875~1985	5.0	80	27.0	0.95	18	33	13x13x3.8
ALN1945T2	1920~1980	5.0	80	32.0	1.0	17	31	10x10x3.8
ALN1950T2	1920~1980	5.0	130	23.5	0.6	22	37	10x10x3.8
ALN1956	1920~1980	5.0	110	29.0	0.6	21	36	10x10x3.8
ALN1960	1940~1980	5.0	80	30.0	0.95	19	36	13x13x3.8
ALN1967T2	1960~1975	5.0	80	19.5	0.65	19	30	10x10x3.8
ALN1970	1960~1980	5.0	110	30.0	0.75	20	36	13x13x3.8
ALN1970T2	1960~1980	5.0	90	29.0	0.65	17	33	10x10x3.8
ALN1972T2	1960~1980	5.0	100	22.0	0.65	20	34	10x10x3.8
ALN2017	2010~2025	5.0	95	32.5	0.95	21	34	13x13x3.8
ALN2045	1920~2170	5.0	80	27.0	0.95	18	35	13x13x3.8
ALN2045R2	1920~2170	5.0	110	25.5	0.95	21	37	10x10x3.8
ALN2045T1	1920~2170	5.0	95	28.0	1.0	20	35	10x10x3.8
ALN2046	1920~2170	5.0	80	28.0	0.95	18	29	13x13x3.8
ALN2046R2	1920~2170	5.0	110	22.0	0.95	21	38	10x10x3.8

» 2-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN2047	1920~2170	5.0	90	25.0	0.9	35	20	13x13x3.8
ALN2250	2200~2300	5.0	80	25.0	1.0	18	33	13x13x3.8
ALN2251	2000~2500	5.0	80	26.0	1.0	17	33	13x13x3.8
ALN2313R2	2300~2326	5.0	120	20.0	1.1	21	38	10x10x3.8
ALN2330T2	2300~2360	5.0	100	21.0	0.7	21	35	10x10x3.8
ALN2331	2300~2360	5.0	165	25.0	0.88	20	36	13x13x3.8
ALN2332	2300~2360	5.0	100	25.0	0.75	36	21	13x13x3.8
ALN2333	2300~2360	5.0	90	24.0	1.0	20	34	13x13x3.8
ALN2350	2300~2400	5.0	85	30.0	0.95	20	32	13x13x3.8
ALN2351	2300~2400	5.0	130	35.0	0.9	21	37	13x13x3.8
ALN2352	2300~2400	4.5	130	35.0	0.9	21	37	13x13x3.8
ALN2355	2300~2400	5.0	140	35.0	0.7	21	37	13x13x3.8
ALN2376	2363~2390	5.0	100	28.0	0.8	21	36	13x13x3.8
ALN2400	2300~2500	5.0	80	25.0	1.1	18	35	13x13x3.8
ALN2401	2300~2500	3.3	80	30.0	1.0	32	18	13x13x3.8
ALN2450T2	2300~2600	5.0	90	28.0	0.65	18	34	10x10x3.8
ALN2500	2480~2520	3.3	30	28.0	1.0	13	29	13x13x3.8
ALN2575T1	2560~2590	3.0	60	24.0	0.8	15	31	10x10x3.8
ALN2590T2	2490~2690	5.0	80	23.0	0.8	15	32	10x10x3.8
ALN2592	2577.5~2607	5.0	120	25.0	0.95	20	33	13x13x3.8
ALN2593T2	2496~2690	5.0	80	24.0	0.8	15	32	13x13x3.8
ALN2600T2	2500~2700	5.0	80	23.0	0.7	14	30	10x10x3.8
ALN3300	3050~3500	5.0	100	20.0	0.95	21	34	13x13x3.8
ALN3500	3400~3600	5.0	160	19.0	1.1	20	36	13x13x3.8
ALN3501	3400~3600	5.0	160	19.0	1.15	20	36	13x13x3.8
ALN3687	3680~3695	5.0	100	18.0	1.0	20	33	13x13x3.8
ALN3800T2	3400~4200	5.0	100	12.0	1.5	18	30	10x10x3.8
ALN4500	4000~5000	5.0	160	18.0	1.85	21	35	13x13x3.8
ALN5000	4000~6000	5.0	160	18.0	2.1	21	35	13x13x3.8
ALN5050	4300~5800	5.0	160	17.0	2.05	21	35	13x13x3.8
ALN5500	5000~6000	5.0	160	17.0	2.1	21	35	13x13x3.8
ALN5850	5750~5950	5.0	160	17.0	2.0	20	34	13x13x3.8
ACL4275T2	4200~4350	5.0	50	21.0	1.25	14	30	10x10x3.8
ACL4300T2	4200~4400	5.0	50	20.0	1.25	14	30	10x10x3.8
ACL4400T2	4300~4500	5.0	50	20.0	1.5	14	30	10x10x3.8
ACL5000T2	4900~5100	5.0	50	18.5	1.5	14	30	10x10x3.8

» 3-stage LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN0859M3	824~894	5.0	400	55.0	0.7	29	46	25x13x3.0
ALN1810M3	1710~1910	5.0	400	36.0	0.7	28	42	25x13x3.0
ALN2045M3	1920~2170	5.0	400	36.0	0.7	29	44	25x13x3.0
ALN2540M3	2525~2555	5.0	200	35.5	0.65	18	35	25x13x3.0

» CATV / DVB / CMMB LNA Module

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALN0665	470~860	5.0	130	36.5	0.7	21	40	13x13x3.8
ALN0667	470~860	5.0	140	35.0	0.8	21	40	13x13x3.8
ALN0667WT	470~860	5.0	40	17.0	1.1	21	30	10x10x3.8
ALN0675WT	450~900	5.0	40	17.0	1.1	21	30	10x10x3.8
ALN50-1000AT	300~600	5.0	90	16.0	2.1	21	39	10x10x3.8
	50~300	5.0	90	16.0	2.0	21	39	10x10x3.8
	600~1000	5.0	90	15.5	2.2	20	36	10x10x3.8
ALN50-1001AT	300~600	5.0	100	16.0	2.4	21	41	10x10x3.8
	50~300	5.0	100	16.0	2.35	20	41	10x10x3.8
	600~1000	5.0	100	15.5	2.5	21	39	10x10x3.8

» Balanced LNA Module, Couplers included

Part Number	Frequency Range (MHz)	Vd (V)	Id (mA)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Package, SMT (mm)
ALUC1405B1	1030~1780	5.0	120	14.5	1.6	20	32	21x13x5
ALUC1900B2	1880~1920	5.0	240	27.0	0.65	24	41	22x12x5
ALUC2380B1	1760~3000	5.0	180	13.0	1.6	19	31	16x13x5
ALUC2535B3	2500~2570	5.0	340	34.0	0.75	24	40	22x12x5

3-stage LNA
Module

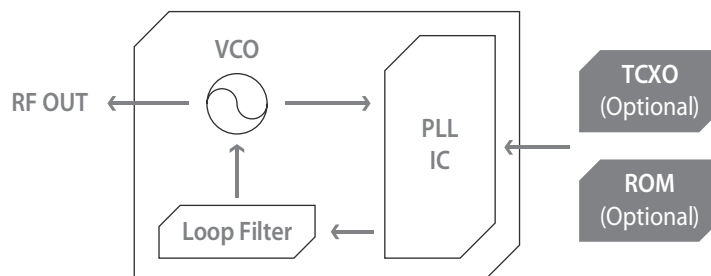
CATV / DVB
CMMB LNA
Module

Balanced
LNA Module
Couplers
included



PLL Synthesizer Module

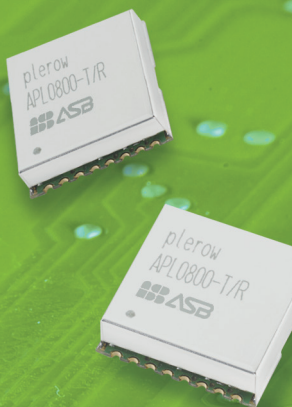
» PLL Synthesizer Module



Part Number	Package Size (mm)
APLT0000	14.6 x 14.6 x 3.5
APL0000	19.0 x 19.0 x 5.8

Part Number	Options
APL0000	Standard
APL0000 - T	TCXO included
APL0000 - R	ROM included
APL0000 - R/T	ROM and TCXO included
APLT0000 - T	TCXO included
APLT0000 - R/T	ROM and TCXO included

Part Number	Frequency Range (MHz)		Output Level (dBm)	Vd (V)	Id (mA)	Spurious Level (dBc)	2nd Harmonics (dBm)	Phase Noise (dBc/Hz)	
	Min.	Max.						@ 10 kHz	@ 100 kHz
APLT0600-T	550	650	4±2	5.0	≤ 40	≤ -68	≤ -23	≤ -102	≤ -118
APLT0730-T	720	740	4±2	5.0	≤ 30	≤ -65	≤ -25	≤ -102	≤ -120
APLT0827.5-R	830		-5±2	5.0	≤ 35	≤ -65	≤ -25	≤ -102	-
APLT0845-T	840	850	4±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT0909-R/T	909		4±2	5.0	≤ 35	≤ -65	≤ -23	≤ -103	≤ -117
APLT0915-T	900	930	4±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT0923	913	933	4±2	5.0	≤ 40	-65	≤ -20	≤ -98	≤ -115
APLT1000-T	995	1005	4±2	5.0	≤ 30	≤ -70	≤ -25	≤ -100	≤ -120
APLT1015-R/T	1015		4±1	5.0	≤ 40	≤ -65	≤ -25	≤ -108	-
APLT1100-T	1090	1110	4±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT1750-R/T	1750		3±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT1870.5-R/T	1870.5		3±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT1998	1998		4±2	5.0	≤ 40	≤ -70	≤ -25	≤ -96	≤ -115
APLT2040-R/T	2040		3±2	5.0	≤ 30	≤ -65	≤ -25	≤ -101	≤ -120
APLT2150-R/T	2150		3±2	5.0	≤ 30	≤ -65	≤ -25	≤ -100	≤ -120
APLT5797.5-T	5797.5		1±2	5.0	≤ 45	≤ -50	≤ -10	≤ -80	≤ -95
APLR1984	1945	2023	3	5.0	≤ 50	≤ -65	≤ -20	≤ -95	≤ -115
APL0039.19-R/T	39.19		7	5.0	≤ 35	≤ -65	≤ -20	≤ -105	≤ -115
APL0075	70	80	7±1	5.0	≤ 30	≤ -70	≤ -25	≤ -110	≤ -120
APL0120-R	120		5±2	5.0	≤ 35	≤ -65	≤ -15	≤ -102	≤ -115
APL0155	150	160	5±1	5.0	≤ 30	≤ -70	≤ -25	≤ -109	≤ -120
APL0215	210	220	5±1	5.0	≤ 30	≤ -70	≤ -25	≤ -107	≤ -120
APL0285.19-R/T	285.19		7	5.0	≤ 35	≤ -65	≤ -20	≤ -102	≤ -115
APL0335	330	340	3±2	5.0	≤ 23	≤ -75	≤ -25	≤ -105	≤ -120
APL0381.19-R/T	381.19		7	5.0	≤ 35	≤ -65	≤ -20	≤ -102	≤ -115



Part Number	Frequency Range (MHz)		Output Level (dBm)	Vd (V)	Id (mA)	Spurious Level (dBc)	2nd Harmonics (dBm)	Phase Noise (dBc/Hz)	
	Min.	Max.						@ 10 kHz	@ 100 kHz
APL0400	390	410	3±2	5.0	≤ 25	≤ -78	≤ -25	≤ -105	≤ -120
APL0441.5	426.5	456.5	5±3	5.0	≤ 35	≤ -65	≤ -15	≤ -97	≤ -115
APL0477.19-R	477.19		7	5.0	≤ 35	≤ -65	≤ -20	≤ -102	≤ -115
APL0518	513	523	5±1	5.0	≤ 30	≤ -70	≤ -25	≤ -105	≤ -122
APL0565-T	555	575	7±2	5.0	≤ 40	≤ -68	≤ -20	≤ -100	≤ -110
APL0570.25-R/T	570.25		4±2	5.0	≤ 35	≤ -68	≤ -20	≤ -100	≤ -115
APL0675	670	680	5±1	5.0	≤ 30	≤ -70	≤ -25	≤ -105	≤ -122
APL0700-R/T	700		4±2	5.0	≤ 35	≤ -68	≤ -20	≤ -100	≤ -115
APL0734-R	734		4±2	5.0	≤ 25	≤ -72	≤ -25	≤ -105	≤ -120
APL0742.5	735	750	3±1	5.0	≤ 30	≤ -67	≤ -20	≤ -100	≤ -116
APL0810	780	840	0±2	5.0	≤ 35	≤ -65	≤ -20	≤ -102	≤ -122
APL0840-R/T	840		4±2	5.0	≤ 35	≤ -68	≤ -20	≤ -100	≤ -115
APL0887-R/T	887		7±2	5.0	≤ 45	≤ -65	≤ -20	≤ -103	≤ -115
APL0915	900	930	0±2	5.0	≤ 30	≤ -70	≤ -45	≤ -107	≤ -120
APL0917	914.3	921.3	4±2	5.0	≤ 40	≤ -68	≤ -20	≤ -103	≤ -117
APL0925-R/T	925		5±2	5.0	≤ 35	≤ -70	≤ -20	≤ -100	≤ -115
APL0940	920	960	4±2	5.0	35	≤ -65	≤ -20	≤ -100	≤ -115
APL0970-R/T	970		5±2	5.0	≤ 35	≤ -71	≤ -20	≤ -100	≤ -116
APL0990.1	980.1	1000.1	5±2	5.0	≤ 30	≤ -70	≤ -25	≤ -103	≤ -120
APL1015-T	1015		4±1	5.0	≤ 40	≤ -70	≤ -25	-	≤ -104
APL1020	1010	1030	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -101	≤ -119
APL1051.54	1041.54	1061.54	3±2	5.0	≤ 30	≤ -70	≤ -25	≤ -102	≤ -120
APL1083	1053	1113	5±2	5.0	≤ 30	≤ -70	≤ -20	≤ -100	≤ -115
APL1112	1090	1135	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -104	≤ -121
APL1190	1140	1240	4±1	5.0	≤ 30	≤ -70	≤ -30	≤ -100	≤ -120
APL1257	1235	1280	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -105	≤ -122
APL1288-R/T	1288		4±2	5.0	≤ 35	≤ -68	≤ -20	≤ -100	≤ -115
APL1345	1335	1355	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -101	≤ -122
APL1400-T	1350	1450	4±2	5.0	≤ 45	≤ -65	≤ -20	≤ -100	≤ -115
APL1445	1435	1455	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -103	≤ -120
APL1495	1485	1505	3±1	5.0	≤ 30	≤ -70	≤ -25	≤ -102	≤ -120
APL1515-R	1515.42		0±1	5.0	≤ 25	≤ -75	≤ -25	≤ -103	≤ -115
APL1545	1535	1555	2±1	5.0	≤ 30	≤ -70	≤ -25	≤ -104	≤ -119
APL1595	1585	1605	4±1	5.0	≤ 30	≤ -70	≤ -25	≤ -107	≤ -122
APL1666-R	1666		5±2	5.0	≤ 40	≤ -65	≤ -20	≤ -97	≤ -115
APL1685	1685		0±1	5.0	≤ 30	≤ -70	≤ -25	≤ -104	≤ -120
APL1705	1685	1725	2±1	5.0	≤ 30	≤ -70	≤ -25	≤ -105	≤ -122



PLL Synthesizer Module

Digital Attenuator [DC ~ 3 GHz]

» PLL Synthesizer Module

Part Number	Frequency Range (MHz)		Output Level (dBm)	Vd (V)	Id (mA)	Spurious Level (dBc)	2nd Harmonics (dBm)	Phase Noise (dBc/Hz)	
	Min.	Max.						@ 10 kHz	@ 100 kHz
APL1750	1700	1800	2±2	5.0	≤ 30	≤ -70	≤ -20	≤ -103	≤ -120
APL1775	1775		5±1	5.0	≤ 30	≤ -70	≤ -25	≤ -105	≤ -122
APL1792-RT	1792		2±2	5.0	≤ 35	≤ -67	≤ -20	≤ -98	≤ -115
APL1810-T	1780	1840	3±2	5.0	≤ 40	≤ -60	≤ -20	≤ -100	≤ -120
APL1830	1830		0±1	5.0	≤ 30	≤ -70	≤ -25	≤ -103	≤ -120
APL1865	1865		3±2	5.0	≤ 25	≤ -70	≤ -25	≤ -103	≤ -120
APL1905	1875	1935	5±2	5.0	≤ 35	≤ -65	≤ -20	≤ -102	≤ -119
APL1912.5-R	1912.5		4±2	5.0	≤ 40	≤ -65	≤ -20	≤ -97	≤ -115
APL1945.3-R	1945.3		3±2	5.0	≤ 30	≤ -70	≤ -25	≤ -103	≤ -120
APL1955-R/T	1955		4±2	5.0	≤ 40	≤ -68	≤ -20	≤ -98	≤ -115
APL1982.5	1945	2020	3±2	5.0	≤ 35	≤ -65	≤ -20	≤ -97	≤ -115
APL2020-T	1970	2070	5±2	5.0	≤ 40	≤ -65	≤ -20	≤ -95	≤ -115
APL2042	2042		4±2	5.0	≤ 40	≤ -65	≤ -20	≤ -97	≤ -115
APL2062.5-RT	2062.5		10±2	5.0	≤ 50	≤ -70	≤ -20	≤ -100	≤ -118
APL2090-R	2090		0±2	5.0	≤ 30	≤ -70	≤ -30	≤ -100	≤ -120
APL2100-T	2040	2160	2±2	5.0	≤ 40	≤ -70	≤ -20	≤ -95	≤ -115
APL2255	2225	2285	3±2	5.0	≤ 35	≤ -65	≤ -20	≤ -100	≤ -118
APL2290-R/T	2290		4±2	5.0	≤ 40	≤ -65	≤ -20	≤ -96	≤ -114
APL2361	2358.75	2364.75	2±1	5.0	≤ 30	≤ -70	≤ -25	≤ -102	≤ -119
APL2440	2440		4±2	5.0	≤ 34	≤ -65	≤ -20	≤ -95	≤ -65
APL2562	2537.5	2587.5	2±1	5.0	≤ 30	≤ -70	≤ -25	≤ -102	≤ -119
APL2610	2610		4±2	5.0	≤ 34	≤ -65	≤ -20	≤ -95	≤ -65
APL5800	5700	5900	0±3	5.0	≤ 60	≤ -50	≤ -8	≤ -75	≤ -95

» Digital Attenuator [DC ~ 3 GHz]

Part Number	Attenuation Range (dB)	Insertion Loss (dB)	Attenuation Accuracy (dB)	RL (dB)	Rise/fall (ns)	On/off (ns)	IP1dB (dBm)	OIP3 (dBm)	V _{CTRL} (V)	Package
AAT530B6	31.5	1.5 @ 0.5 ~ 1.0 GHz 2.0 @ 1.0 ~ 2.0 GHz 2.6 @ 2.0 ~ 3.0 GHz	±(0.5+5% of atten. Setting) @ 0.5 ~ 1.0 GHz ±(0.2+3% of atten. Setting) @ 0.5 ~ 1.0 GHz ±(0.3+3% of atten. Setting) @ 2.0 ~ 3.0 GHz	-20	600	660	24	45	0.7 ~ Vs+0.2 (H) 0 ~ 0.2 (L)	QFN16(4x4)

Newly released products in Bold.

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