

ASB社



製品リーフレット

- ・RF MMIC アンプ
- ・LNA, PLL SMD タイプモジュール
- ・RF トランジスタモジュール

CHRONIX

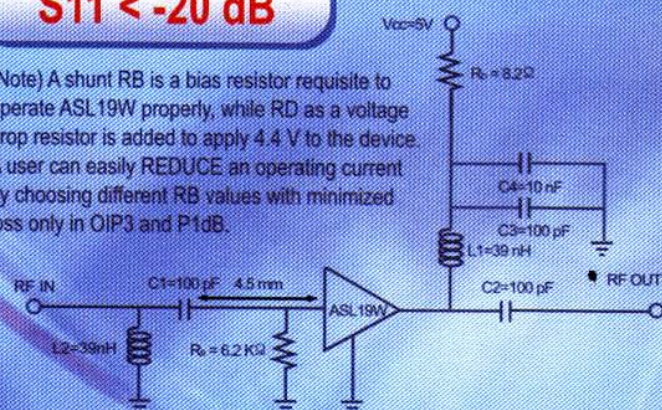
Very Low Noise 0.9 dB High Linearity 38 dBm Low Current 60 mA

Internally
Matched
LNA MMIC



S11 < -20 dB

(Note) A shunt RB is a bias resistor requisite to operate ASL19W properly, while RD as a voltage drop resistor is added to apply 4.4 V to the device. A user can easily REDUCE an operating current by choosing different RB values with minimized loss only in OIP3 and P1dB.



- World's Best Wide-band NF & OIP3
- Easy S11 Matching down to -20 dB for LNA Application
- Unconditionally Stable
- High Gain & Linearity Suitable for Gain Block
- Low Noise IF Application Available
- Low Power Consumption
- Package: SOT89 (4x4.5), SOT363 (2x2), DFN6 (3x2)

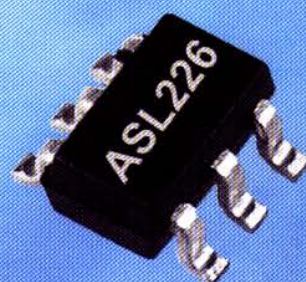


Part No.	Vds (V)	Id (mA)			S21 (dB)		OIP3 (dBm)		NF (dB)		S11 (dB)	S22 (dB)	P1dB (dBm)	PKG
		Min	Typ	Max	900	1900	900	1900	900	1900				
ASL03H	3.6	-	36	-	20.6	15.2	30	32	0.9	1	-	-	18	SOT363
ASL19H	4.4	55	73	86	20	14.5	35	36	1.0	1.05	-20	-13	22	SOT89
ASL19W	4.5	58	73	83	20	14	35.5	37	0.9	0.9	-20	-15	21	SOT89
ASL13W	4.5	45	60	70	19	13	35.5	38	0.9	0.9	-20	-15	21	SOT363
ASL29W	4.3	65	75	85	19	19	37	40	0.90	0.9	-15	-15	22	SOT89
ASL19D	3.0	60	90	120	-	24.5	-	36	-	0.95	-18	-10	19	DFN6

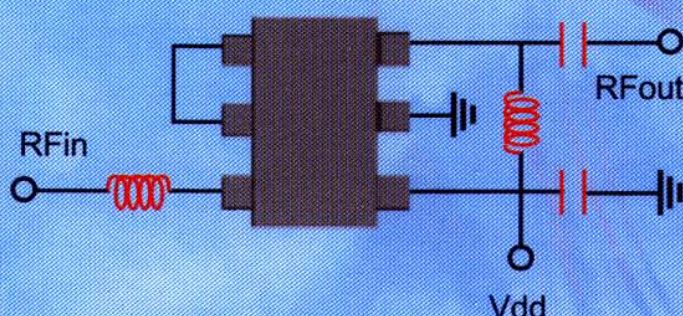
GPS

Low Noise MMIC

	@ 8.5 mA	@ 4.5 mA
NF (dB)	1.1	1.3
Gain (dB)	28	23.5



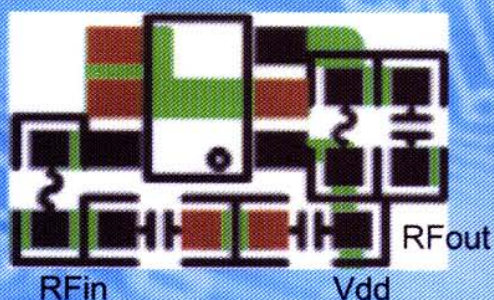
Application Circuit



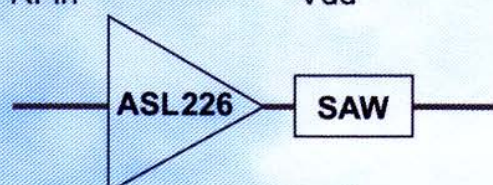
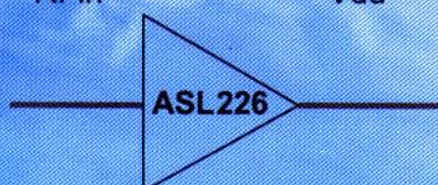
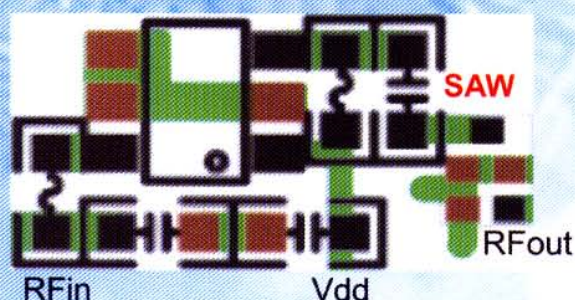
**Only 4
components**

PCB Layout

2.7 x 4.2 mm²



2.7 x 5.2 mm²





Mobile TV

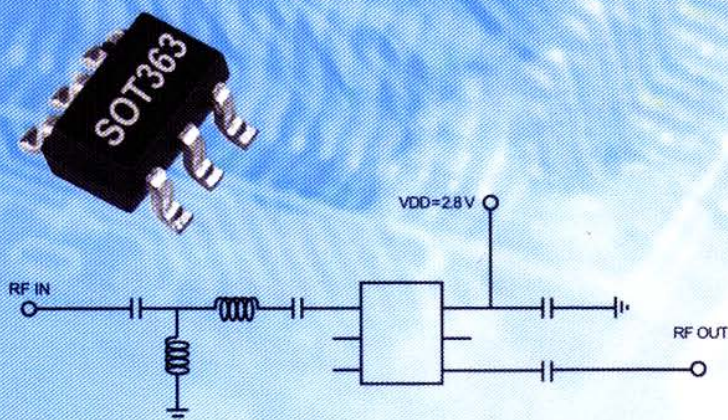
Low Noise MMIC

*low noise
wide-band
4~6 matching components*

Part No.	Freq. (MHz)	Gain (dB)	NF (dB)	OIP3 (dBm)	P1dB (dBm)	NF (dB)	Supply	Package
ASL003	170~240	17	1.9	9	0	2.7	2.8 V, 7 mA	SOT363 (2×2 mm)
	470~770	15	1.5	11	1	1.8		

Applications

- DVB-H,T,S,C
- T-DMB
- ISDB-T
- MediaFLO



ASB's RF MMICs are designed for high linearity and low noise applications for modern wireless telecommunication systems such as mobile infrastructure equipments, CATV, GPS, and so on. They are delivered with plastic packages completing stringent reliability tests.



Gain Block Amplifiers

(If otherwise not specified, the data is at 2 GHz.)

Part No.	Vd (V)	Is (mA)	S21 (dB)					OIP3 (dBm)	P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
			900	2000	2400	3500	5800						
ASG305	6	65	19.5	12.5	-	-	-	42	20	3.4	-14	-17	SOT89
ASG330	5	75	19	10	-	-	-	43	21	4.3	-14	-18	SOT89
ASG307	5	185	18	11	-	-	-	40	25	4.1	-16	-15	SOT89
ASW114	3.1	25	19	16.4	16	13.5	10.5	18.5	11.5	3.1	-15	-14	SOT363
	3.2	37	20	17	16	13.5	10.5	26	13	3.3	-14	-15	
	3.3	53	20.5	17	14	-	-	29	15	3.3	-14	-16	
ASX101	2.7	38	21.5	16	13	-	-	29	17	3.2	-15	-15	SOT89
ASW101	3.3	40	18	11	9.5	-	-	31	18	4	-10	-18	SOT89
ASW103	3.3	44	17	11	9	-	-	31	18	3.9	-9	-15	SOT89
ASW214	4.9	52	19.5	17.8	17	15	13.5	32	16	5.7	-12	-11.5	SOT89
	5	61	19.5	18.2	17	15	13.5	33	18	5.5	-9	-15	
ASW204	4.5	70	20.3	18.4	-	-	-	33.5	20	1.9	-	-	SOT89
ASW222	4.5	70	29.7	26.8	24	-	-	29	19	2.7	-	-	DFN6
ASX201	4.8	66	19	16	14	-	-	34.5	21	3.3	-15	-18	SOT89
ASW212	4.8	73	14	12.5	12	11	11	34	18	5.5	-11	-14	SOT89
ASW215	4.9	83	16.0	12	11.5	10	-	35	19	4.3	-15	-18	SOT89
ASW216	3	35	13.1	11.0	-	-	-	24.3	15.1	2.3	-10.4	-12.2	SOT89
	4.5	80	14	11.8	-	-	-	38	20	2.4	-14	-14	
ASL19H	4.4	73	20	14.5	12.3	9.0	-	36	22	1.05	-20	-13	SOT89
ASL03H	3.6	36	20.6	15.2	-	-	-	32	18	1.00	-	-	SOT363
ASL19W	4.4	73	19	13	12	-	-	37	22	0.9	-20	-15	SOT89
ASL19D	3	90	-	24.5	21.5	16	-	36	19	0.95	-18	-10	DFN6
ASL13W	4.5	60	19	13	11.5	-	-	38	22	0.9	-20	-15	SOT363
ASL29W	4.3	75	19.5	13	11.5	-	-	39.5	22.5	0.9	-15	-15	SOT89
ASW301	4.8	75	16.5	10	8	-	-	40.5	22	7.0	-12	-14	SOT89
ASW311	5	120	14.3	12	-	-	-	41	21	2.4	-12	-12	SOT89
ASW313	5	92	16.5	14.5	13	-	-	40	22	3.2	-14	-12	SOT89
ASW335	5	100	17.5	16.3	-	-	-	42.5	21.5	2.1	-12	-13	SOT89

Medium Power Amplifiers

(If otherwise not specified, the data is at 2 GHz.)

Part No.	Vd (V)	Is (mA)	S21 (dB)					OIP3 (dBm)	P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
			900	2000	2400	3500	5800						
ASW318	8	120	16.5	15	14	-	-	45.5	26	3.3	-15	-11	SOT89
	6	100	16	15	14	-	-	43	23	3.3	-14	-11	
ASW338	8	120	17.5	16.5	-	-	-	45	25	2.2	-14	-14	SOT89
ASW350	4.8	140	18	10	-	-	-	42	25	5.0	-15	-15	SOT89
	5	290	19.5	13	10	-	-	46	29.5	4.2	-15	-16	
	4.9	277	19.5	13	10	-	-	46	29.5	4.2	-15	-16	
ASX401	4.8	260	19.5	13	10	-	-	44	28.5	4.2	-15	-16	SOT89
	4.4	190	19.5	13	10	-	-	41	28.5	4.2	-15	-15	
	3.9	100	19.5	13	10	-	-	34	27.0	3.9	-20	-12	
ASX501	5	560	18	11.5	9	-	-	46	29	4.7	-15	-13	SOT89
	4.7	457	18	11.5	9	-	-	44	29	4.7	-15	-13	
ASX601	5	850	16	9.5	-	-	-	47	31	5.8	-14	-12	SOT89
	4.8	750	16	9.5	-	-	-	45	31	5.8	-14	-12	
ASX420	4.7	710	16	9.5	-	-	-	43	31	5.8	-14	-12	SOIC8
	5	370	31.5	21	17.5	-	-	46	30.0	7.0	-15	-15	
ASX423	5	400	32.5	23.5	20	-	-	47	29.5	2.7	-10	-15	SOIC8
	4.4	275	-	24	20.5	-	-	42	28.8	2.7	-10	-15	
ASX520	4.7	440	30	-	-	-	-	44	31	7.0	15	-9	SOIC8
	5	870	28	19	18.5	-	-	48	31.5	5.0	-15	-15	
ASX521	4.7	650	28	19	18.5	-	-	45	31.5	5.0	-15	-15	SOIC8
	4.3	510	28	19	18.5	-	-	44	30	5.0	-15	-15	
ASX620	4.8	750	29	-	-	-	-	45	32.5	6.7	-18	-8	SOIC8
ASX621	5	1150	30	18	13	-	-	49	32.5	5.6	-14	-14	
	4.6	930	30	18	13	-	-	47	31.5	5.5	-14	-14	

IF Amplifiers

(If otherwise not specified, the data is at 150 MHz.)

Part No.	Vd (V)	Is (mA)	S21 (dB)			OIP3 (dBm)			P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
			70	150	300	70	150	300					
ASX101	3.5	55	28.5	28.5	25.0	28	28	29	17.5	3.5	-14	-15	SOT89
ASW101	3.3	40	25	24.5	23.5	28	29	30	17	3.8	-15	-13	SOT89
ASW103	3.3	44	25	24	23	29	30	30.5	17	3.8	-14	-15	SOT89
ASW114	3.2	37	21	21	21	22.5	22.5	23.0	12	3.2	-18	-16	SOT363
ASW214	4.9	52	20	20	20	30	30	30	16	5.5	-13	-11	SOT89
ASL13W	4.5	60	24.5	24	22	30	30.5	32	21	2.7	-13	-18	SOT363
ASL19H	4.4	73	26.3	25.5	-	31.5	33.0	-	22	2.1	-10	-18	SOT89
ASL19W	4.4	73	24.5	24	22.5	32	32.5	34	21	2.9	-13	-18	SOT89
ASL29W	4.3	75	25.0	24	22.5	31	32.0	33	21.5	3.0	-11	-18	SOT89
ASW301	4.8	75	25	24	23	35.5	36	37	22	6.8	-14	-15	SOT89
ASW212	4.8	73	17	17	16	36.0	36.5	37.0	18.5	4.8	-18	-10	SOT89
ASW215	4.9	83	18.5	18.5	18	37.5	38	38	19	3.5	-15	-14	SOT89
ASW350	4.8	150	24.5	24.3	23	41	41	40	23.5	8	-11	-16	SOT89
ASW313	5	95	17	17	16.5	42	42	43	22	1.8	-10	-10	SOT89
ASW318	8	120	17.5	17.5	17	44	44	41	25.5	1.8	-9	-11	SOT89

Low Noise Amplifiers

(If otherwise not specified, the data is at 2 GHz.)

Part No.	Vd (V)	Is (mA)	S21 (dB)				OIP3 (dBm)	P1dB (dBm)	NF (dB)				S11 (dB)	S22 (dB)	PKG
			900	2000	2400	3500			900	2000	2400	3500			
ASL226	3	8.5	34	25	21.5	14	16.5	10.5	1.3	1.3	1.3	1.8	-15	-20	SOT363
AST11L	4.3	20	-	14	-	-	28	13	-	1.1	-	-	-18	-7	SOT363
	3	25	18	13	-	-	27	14	1.2	1.1	-	-	-14	-11	
AST20S	3.1	48	18	13.5	12.7	11	34	18	0.65	0.7	0.75	1.3	-12	-11	SOT363
AST30S	4.4	135	21	15.5	-	-	37	22	2.0	1.9	-	-	-15	-15	DFN6
ASL563	3	10	-	-	17	-	17	11	-	-	1.3	-	-15	-14	SOT363
	3	16	-	-	19	-	15	11	-	-	1.1	-	-18	-15	
	3	20	-	-	19	-	22	12	-	-	1.1	-	-20	-20	
	5	50	33	26	-	-	29	15	1.0	1.0	-	-	-15	-20	
	3.6	36	20.6	15.2	-	-	32	17.9	0.9	1.0	-	-	-	-	
ASL13W	4.5	60	19	13	11.5	-	38	22	0.9	0.9	1.1	-	-20	-14	SOT363
ASL19W	4.4	73	20	13	11.5	-	37	22	0.9	0.9	-	-	-20	-15	SOT89
ASL19H	4.4	73	20	14.5	12.3	9.0	36	22	0.95	1.05	1.1	1.8	-20	-13	SOT89
ASL19D	3	90	-	24.5	21.5	16.0	36	19	-	0.95	1.1	-	-18	-10	DFN6
ASL29W	4.3	75	19	13	10.2	-	39.5	22.5	-	0.9	-	-	-15	-15	SOT89

GPS & DVB LNAs

(If otherwise not specified, the data is at 150 MHz.)

Part No.	Frequency (MHz)	Vd (V)	Is (mA)	S21 (dB)	IIP3 (dBm)	OIP3 (dBm)	IP1dB (dBm)	OP1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
ASL116	1575	3	4.6	-10	-7	10	-13	4	1.2	-10	-13	SOT363
		3	9.5	-11	0	18	-15.5	3	1.2	-11	-15	
ASL226	1575.42	3	8.5	28	-12.5	15.5	-17.0	11	1.1	-16	-15	SOT363
		2	4.5	23.5	-13.5	10	-15.5	8	1.3	-11	-10	
ASL563(Type 1)	1575.42	3.0	7.7	25	-8	16	-14.0	10	1.1	-15	-13	SOT363
ASL563(Type 2)	1575.42	3.0	7.7	25	-5	19	-14.0	10	1.1	-15	-15	SOT363
ASL003	170~240	2.8	7.0	17	-	9	-	0	1.9	-	-	SOT363
	470~770	2.8	7.0	15	-	11	-	0.8	1.5	-	-	

Wideband MMIC for CATV Amplifiers(@ 5~2600 MHz, Zo=75 ohm)

(If otherwise not specified, the data is at 150 MHz.)

Part No.	Vd (V)	Ic (mA)	G (dB)	GF (+/-)	NF (dB)	S11 (dB)	S22 (dB)	OP1dB (dBm)	OIP2 (dBm)	IIP3 (dBm)	OIP3 (dBm)	CSO (dBc)	CTB (dBc)	PKG
ASL550	8	120	17	0.2	2.0	-15	-17	25	-	27.0	43	74	75	SOT89
	5	92	17.0	0.3	2.0	-14	-14	25	-	-	43.0	66	76	
	8	120	12	0.2	2.2	-14	-18	20	-	26.0	37	-	-	
	8	120	17.2	0.2	2.1	-15	-20	24.5	-	26.8	43	-	-	
	8	120	16.5	0.7	2.5	-12	-18	24	-	25.0	40.5	-	-	
ASL550	8	120	14.5	0.9	1.7~3.4	-7	-10	20~24	-	-	37~42	-	-	SOT89

Wideband MMICs(@ 50~2150 MHz, 70~2700 MHz, 500~3500 MHz)

Part No.	Frequency (MHz)	Vd (V)	Is (mA)	S21 (dB)	OIP3 (dBm)	P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
ASW313	54	5	95	16	40.5	21.5	2.6	-14	-9	SOT89
	1000	5	95	15	41	21	2.7	-11	-9	
	2150	5	95	14	38	19	3.3	-7	-9	
	470	5	92	15.3	41	21	2.6	-11.5	-15	
	800	5	92	15	41	21	2.4	-11.5	-15	SOT89
	1600	5	92	13.5	40	21	2.9	-11	-10	
	2400	5	92	13	36	18	3.9	-11	-10	SOT89
	380	5	95	14.5	40.5	20.5	2.6	-9	-14	
	2170	5	95	14.4	40	18	3.3	-16	-12	SOT89
	350	5	92	16	41	22	2.7	-11	-11	
ASW318	2500	5	92	12.5	35.5	19.5	4.4	-6.5	-7.5	SOT89
	70	5	95	16	41	20.5	1.9	-8	-14	
	2700	5	95	13.8	35	17.5	2.9	-14	-7	SOT89
	960	8	120	16.5	45	26	2.5	-15	-20	
	1200	8	120	16	47	26	2.4	-15	-15	SOT89
	470	8	120	15.4	46	25	2.9	-11.5	-15	
	800	8	120	15	46	25	2.5	-11.5	-15	SOT89
	1600	8	120	13.5	44	25	3.2	-11	-10	
	2400	8	120	13	39.5	24	4.2	-11	-10	SOT89
	350	8	120	16	43	25	2.7	-10	-6.5	
AST20S	2500	8	120	12.5	39	24	4.6	-11	-7.5	SOT89
	70	8	120	16	44	24	2	-8	-14	
	2700	8	120	14	39	21	3.1	-15	-7	SOT89
	50	8	120	15	44	23	2	-10	-15	
	2700	8	120	14	37	19	3.3	-18	-13	SOT89
	70	5	63	17.8	28	15.4	1.2	-15	-6	
	2700	5	63	15.3	32.5	19.5	1.3	-9	-16	SOT363
	1200	5	48	18.5	31	17	0.6	-9	-14	
	1900	5	48	15.9	33	18	0.7	-10	-14	SOT89
	500	5	120	14.3	41	21.5	2.2	-13	-14	
ASW311	3500	5	120	12.1	41	21	2.4	-12	-12	SOT89
	380	5(4)	120(80)	11.7(11.5)	36(36.5)	16(14)	2.4	-15(-16)	-12	
	2170	5(4)	120(80)	11.7(11.5)	41(36.5)	21.5(19)	2.3	-15	-15(-14)	

WiBro(@ 2300~2400 MHz) & WLAN(@ 2400~2500 MHz, @ 5000~6000 MHz)

Part No.	Frequency (MHz)	Vd (V)	Ic (mA)	S21 (dB)	OIP3 (dBm)	P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
ASW114	500~3500	3.2	37	16	26.5	13.5	3.3	-15	-18	SOT363
	5000~6000	3.2	37	11~10.5	25~22.5	13~11	-	-10	-14	
	1500~2500	3.3	40	17~12.5	28~31	15.5~19	2.8~3.5	-10	-11	
ASX101	2400~2500	3.3	40	13	30	17	3.5	-18	-11.5	SOT89
	2500~2700	3.3	40	13.5~13	29~28.5	17~16	3.3~3.4	-18	-13	
ASW212	500~3500	4.8	73	12	33.5	18	5.5	-10	-12	SOT89
	5000~6000	4.8	73	11	27~26.5	16~15.5	-	-18	-15	
ASW214	500~3500	4.9	52	17	30.5	16	5.7	-11	-11.5	SOT89
	1700~2500	4.9	52	17	32	17	5.7	-8	-11	
	5000~6000	4.9	52	13.5	25~24.5	13.5	-	-15	-15	
ASX201	2300~2400	4.8	70	14.5	36	22	3.3	-15	-18	SOT89
	2400~2500	4.8	66	14	36	22	3.3	-15	-18	
ASW215	500~3500	4.9	83	11.5	33	18	4.3	-15	-18	SOT89
ASW216	500~3500	4.5	80	11.8	38	20	2.4	-14	-14	SOT89
ASW311	500~3500	5	120	10.5	41	21	2.4	-10	-9	SOT89
AST20S	70~2700	5	63	17.8~15.3	28~33	15.4~19.5	1.1~1.3	-9	-16	SOT363
	2400	4.4	73	12.3	36	20.5	1.1	-18	-18	
ASL19H	2700	4.4	73	11.5	36	20.5	1.4	-14	-18	SOT89
	3500	4.4	73	9.0	35	20	1.8	-14	-13	
ASL13W	2300~2600	4.5	60	12~11	38~37.5	22	1~1.15	-20	-16	SOT363
ASL19W	500~3500	4.4	73	11	37.5	22	1	-7	-15	SOT89
	2300~2700	4.4	73	11.5	37.5	22	1.1	-18	-16	
ASL19D	1700~2700	3	90	27~20	35~37	19	0.9~1.25	-18	-10	DFN6
ASL29W	2500	4.3	75	11	40	23	1.1	-18	-14	SOT89
	2300~2700	4.3	75	11	40	23	1.1	-18	-14	
ASW313	470~2400	5	95	15.2~13	41.5~36	21~18	2.4~3.9	-11	-10	SOT89
	350~2500	5	95	16~12.5	41~35.5	22~19.5	2.3~4.4	-6.5	-7.5	
ASW318	470~2400	8	120	15.4~13	46~40	25~24	2.5~4.2	-11	-10	SOT89
	350~2500	8	120	16~12.5	44~39	26~24	2.3~4.6	-6.5	-7.5	
ASX401	2400~2500	5	290	11	46	30	4.2	-15	-16	SOT89
ASX420	2300~2500	5	370	17.5	46	29	7.3	-18	-15	SOIC8
	2500~2700	5	370	16.5	46	30	7.1	-18	-15	
ASX423	2300~2700	5	400	21.5~18	45	30	2.8~3.2	-16	-13	SOIC8
	2300~2400	5	870	18	46.5	31	6.5	-17	-11	
ASX521	2400~2500	5	870	18.5	48	31.5	5.1	-18	-15	SOIC8
	2600~2700	5	870	16.5	48	31.5	5.3	-15	-15	
ASX621	2400~2500	5	1150	13	48	33	7	-9	-10	SOIC8

WiMAX MMICs(@ 2500~2700 MHz, 3500~3700 MHz)

Part No.	Frequency (MHz)	Vd (V)	Ic (mA)	S21 (dB)	OIP3 (dBm)	P1dB (dBm)	NF (dB)	S11 (dB)	S22 (dB)	PKG
ASW114	500~3500	3.2	37	15.3	25	13.5	3.4	-13	-18	SOT363
	500~3500	3.2	37	13.5	26	14.0	-	-16	-18	
ASX101	2500~2700	3.3	40	13.5~13	29~28.5	17~16	3.3~3.4	-18	-13	
ASW212	500~3500	4.8	73	11.5	32	18.0	5.7	-9	-12	SOT89
	500~3500	4.8	73	11	28	17.0	-	-9	-15	
ASW214	500~3500	4.9	52	16.4	30.5	16.0	6	-10	-11	SOT89
	500~3500	4.9	52	15	28	14.5	-	-9	-10	
ASX201	2500~2700	4.8	66.0	14	37.5	21.0	2.9	-14	-17	SOT89
	3500	4.8	66.0	12	34	20.0	-	-14	-14	
ASW215	500~3500	4.9	83	11	32	17.0	4.5	-15	-18	SOT89
	500~3500	4.9	83	10	28	16.0	-	-15	-18	
ASW216	500~3500	4.5	80	11.8	38	20.0	2.4	-14	-14	SOT89
ASW311	500~3500	5	120	10.5	41	21.0	2.4	-10	-9	SOT89
AST20S	70~2700	5	63	17.8~15.3	28~33	15.4~19.5	1.1~1.3	-9	-16	SOT363
ASL226	3500	3	8.5	14.0	12	6.5	1.80	-13	-13	SOT363
ASL13W	2600	4.5	60	11	37.5	22.0	1.15	-18	-15	SOT363
ASL19W	2700	4.4	73	11	38	22.0	1.1	-14	-14	SOT89
ASL19D	1700~2700	3	90	27~20	35~37	19.0	0.9~1.25	-18	-10	DFN6
	3500	3	90	16.0	37.5	20.0	-	-18	-10	
ASL29W	2300~2700	4.3	75	11	40	23.0	1.1	-18	-14	SOT89
ASW313	350~2500	5	95	16~12.5	41~35.5	22~19.5	2.3~4.4	-6.5	-7.5	SOT89
	2600~2700	5	95	15	35	22~19.5	2.3~4.4	-6.5	-7.5	
ASW318	350~2500	8	120	16~12.5	44~39	26~24	2.3~4.6	-6.5	-7.5	SOT89
ASX401	2500~2700	5	290.0	10	46	30.0	4.4	-14	-18	SOT89
ASX420	2500~2700	5	370	16.5	46	30.0	7.1	-18	-15	SOIC8
ASX423	2300~2700	5	400	21.5~18	45	30.0	2.8~3.2	-16	-13	SOIC8
ASX521	2600~2700	5	870	16.5	48	31.5	5.3	-15	-15	SOIC8
ASX621	2650~2750	5	1150	11.5	45	32.5	6.4	-15	-15	SOIC8

LNA Mini-module

We offer compact-sized RF mini-modules that are widely applicable as low noise amplifier and general purpose gain block for use in mobile infrastructure equipments such as cellular, GSM, PCS, WCDMA, and so on. The company's plerow™-series mini-modules provide exceptionally low noise with outstanding gain and linearity performance at low DC current, which makes the systems more reliable.



1-stage LNA

Part No.	Vs (V)	Ic (mA)	Freq. Range (MHz)		Gain (dB)	GF (+/-)	NF (dB)	OIP3 (dBm)	S11 (dB)	S22 (dB)	P1dB (dBm)	PKG Size (mm)
ALN0195AT	5	65	180	210	21	0.5	1.0	32	-20	-15	18	10x10x3.8
ALN0196AT	5	70	180	210	23	0.5	1.0	32	-14	-14	18	10x10x3.8
ALN0450AT	5	70	400	500	20	0.5	1.1	32	-14	-14	17	10x10x3.8
ALN0450WT	5	50	400	500	19	0.4	1.1	30	-16	-14	22	10x10x3.8
ALN0460WT	5	65	450	470	22	0.1	0.75	35	-17	-14	21	10x10x3.8
ALN0836AT	5	40	824	849	21	0.2	0.55	28	-12	-10	15	10x10x3.8
ALN0837AT	5	40	824	849	21	0.2	0.65	28	-16	-9	15	10x10x3.8
ALN0859AT	5	65	824	894	19.5	0.5	0.75	31	-14	-14	16	10x10x3.8
ALN0859BT	5	40	824	894	19	0.4	0.8	28	-14	-14	14	10x10x3.8
ALN0882AT	3.3	75	873	892	20	0.2	0.8	32	-18	-12	16	10x10x3.8
ALN0925AT	5	70	890	960	20	0.5	0.8	31	-14	-14	17	10x10x3.8
ALN0926AT	5	40	890	960	18.5	0.5	0.6	29	-18	-10	15	10x10x3.8
ALN0925BT	5	40	890	960	18	0.4	0.8	28	-14	-14	14	10x10x3.8
ALN1100BT	5	50	950	1250	16	1.2	0.75	28	-18	-10	15	10x10x3.8
ALN1500AT	5	70	1400	1600	16	0.5	0.65	33	-18	-10	18	10x10x3.8
ALN1502AT	5	30	1400	1600	15.9	0.5	0.65	26	-18	-10	12	10x10x3.8
ALN1747AT	5	65	1710	1785	13	0.2	0.7	33	-19	-19	17	10x10x3.8
ALN1750AT	5	65	1700	1800	15.5	0.3	0.65	34	-19	-9	18	10x10x3.8
ALN1750BT	5	50	1700	1800	15	0.3	0.8	33	-19	-9	17	10x10x3.8
ALN1765AT	5	70	1740	1790	17.5	0.5	0.7	31	-18	-10	18	10x10x3.8
ALN1810AT	5	65	1750	1870	15.3	0.4	0.65	34	-19	-9	18	10x10x3.8
ALN1810BT	5	45	1750	1870	14.5	0.3	0.8	33	-18	-10	17	10x10x3.8
ALN1811BT	5	45	1750	1870	14.5	0.4	0.8	31	-18	-10	17	10x10x3.8
ALN1880AT	5	65	1850	1910	14.9	0.2	0.65	34	-19	-9	18	10x10x3.8
ALN1930AT	5	65	1875	1985	14.8	0.3	0.65	34	-19	-9	18	10x10x3.8
ALN1950AT	3.5	25	1900	2000	14.2	0.3	0.8	31	-18	-9	17	10x10x3.8
ALN1950BT	3.5	25	1900	2000	14.2	0.3	0.8	31	-18	-9	17	10x10x3.8
ALN1951BT	5	50	1920	1980	15	0.3	0.9	31	-18	-14	17	10x10x3.8
ALN2044AT	5	50	1920	2170	14.2	0.5	0.65	34	-19	-9	18.5	10x10x3.8
ALN2045AT	5	65	1920	2170	14.3	0.5	0.65	34	-19	-9	18.0	10x10x3.8
ALN2046AT	5	65	1920	2170	15.2	0.5	0.7	34	-15	-10	18	10x10x3.8
ALN2140BT	5	35	2110	2170	14.5	0.3	0.8	32	-18	-12	17	10x10x3.8
ALN2500AT	5	80	2300	2700	12.2	0.75	0.75	34	-19	-9	19	10x10x3.8
ALN2501AT	5	80	2300	2700	12.2	0.75	0.75	34	-19	-9	19	10x10x3.8
ALN2502AT	5	40	2300	2700	12.2	0.7	0.6	31	-16	-9	17.5	10x10x3.8

※ 2-stage LNA

Part No.	Vs (V)	Ic (mA)	Freq. Range (MHz)		Gain (dB)	GF (+/-)	NF (dB)	OIP3 (dBm)	S11 (dB)	S22 (dB)	P1dB (dBm)	PKG Size (mm)
ALN0223	5	160	215	231	35	0.2	0.8	37	-20	-20	21	13x13x3.8
ALN0460	5	160	450	470	35	0.1	0.75	38	-18	-18	22	13x13x3.8
ALN0810	5	100	780	840	38	0.3	0.6	34	-16	-16	18	13x13x3.8
ALN0832	5	130	830	835	29	0.1	0.7	32	-15	-15	17	13x13x3.8
ALN0837	3.3	100	828	847	36	0.2	0.8	30	-18	-18	17	13x13x3.8
ALN0859	5	105	824	894	37.5	0.5	0.65	34	-18	-14	17	13x13x3.8
ALN0892T1	5	100	824	894	36	0.5	0.8	37	-18	-15	21	10x10x3.8
	5	100	890	960	35	0.5	0.85	37	-18	-15	21	10x10x3.8
ALN0892R2	5	110	824	894	35	0.5	0.7	38	-18	-15	21	10x10x3.8
	5	110	890	960	34.5	0.5	0.72	38	-18	-15	21	10x10x3.8
ALN0925	5	80	890	960	37.5	0.5	1.1	35	-14	-14	19	13x13x3.8
ALN1100	5	100	950	1250	32	0.3	0.75	35	-18	-10	18	13x13x3.8
ALN1100T2	5	20	950	1250	25	1	0.85	18	-18	-10	12	10x10x3.8
ALN1101	5	50	950	1250	16	1	0.9	28	-13.3	-13.3	13	13x13x3.8
ALN1250	5	80	1000	1500	30	0.5	0.9	32	-16	-10	16	13x13x3.8
ALN1280	5	100	1270	1290	32	0.2	0.7	38	-18	-10	18	13x13x3.8
ALN1400	5	50	1200	1600	25	1.0	0.8	29	-18	-10	18	13x13x3.8
ALN1425	5	80	1200	1650	30	0.3	1.0	34	-18	-10	17	13x13x3.8
ALN1465	5	85	1450	1480	27	0.2	0.95	33	-18	-10	18	13x13x3.8
ALN1700	5	100	1550	1850	28	0.5	0.8	37	-14	-14	18	13x13x3.8
ALN1701	5	80	1550	1850	30	0.5	0.95	36	-20	-10	20	13x13x3.8
ALN1750	5	80	1700	1800	27	0.5	0.95	33	-18	-10	18	13x13x3.8
ALN1800T2	5	100	1700	1900	26	0.8	0.65	34	-14	-14	21	10x10x3.8
ALN1810	5	80	1750	1870	30	0.5	0.9	37	-14	-14	19	13x13x3.8
ALN1811	5	80	1750	1870	27	0.5	0.95	33	-18	-10	18	13x13x3.8
ALN1880	5	100	1850	1920	32	0.3	0.9	34	-18	-10	20	13x13x3.8
ALN1910	5	80	1900	1920	30	0.2	0.8	38	-14	-14	20	13x13x3.8
ALN1911	5	180	1900	1920	29	0.1	0.9	36	-17.7	-17.7	23	13x13x3.8
ALN1912	5	80	1900	1920	27	0.1	0.95	33	-18	-10	18	13x13x3.8
ALN1930	5	80	1875	1985	27	0.5	0.95	33	-18	-10	18	13x13x3.8
ALN1950	5	70	1940	1960	28.5	0.1	0.7	33	-18	-10	21	13x13x3.8
ALN1945T2	5	80	1920	1970	32	0.2	1.0	31	-18	-10	17	10x10x3.8
ALN1951	5	75	1940	1960	27	0.1	0.65	33	-18	-10	21	13x13x3.8
ALN1952	5	100	1940	1960	30	0.1	0.9	33	-18	-10	21	13x13x3.8
ALN1960	5	80	1940	1980	30	0.5	0.95	36	-20	-10	19	13x13x3.8
ALN2017	5	95	2010	2025	32.5	0.1	0.95	34	-18	-15	21	13x13x3.8
ALN1970T2	5	90	1960	1980	29	0.1	0.65	33	-18	-15	17	10x10x3.8
ALN2045	5	80	1920	2170	27	0.5	0.95	35	-18	-10	18	13x13x3.8
ALN2045T1	5	95	1920	2170	28	0.7	1	35	-18	-15	20	10x10x3.8
	5	90	1920	2170	28	0.5	0.95	34	-18	-18	20	10x10x3.8
ALN2045R2	5	110	1920	2170	25.5	0.8	0.95	36.5	-18	-10	20.5	10x10x3.8
ALN2046	5	80	1920	2170	28	0.5	0.95	29	-18	-10	18	13x13x3.8
ALN2046R2	5	110	1920	2170	22	1	0.95	38	-18	-10	21	10x10x3.8
ALN2047	5	90	1920	2170	25	0.6	0.9	35	-18	-10	20	13x13x3.8
ALN2250	5	80	2200	2300	25	0.5	1	33	-18	-10	18	13x13x3.8
ALN2251	5	80	2000	2500	26	0.3	1	33	-18	-10	17	13x13x3.8
ALN2332	5	100	2300	2360	25	0.2	0.75	36	-18	10	21	13x13x3.8
ALN2333	5	90	2300	2360	24	0.1	1.0	34	-18	10	20	13x13x3.8
ALN2350	5	85	2300	2400	30	0.5	0.95	32	-18	-10	20	13x13x3.8
ALN2376	5	100	2363	2390	28	0.2	0.8	36	-18	-10	21	13x13x3.8
ALN2400	5	80	2300	2500	25	0.5	1.1	35	-18	-10	18	13x13x3.8
ALN2401	3.3	80	2300	2500	30	0.6	1	32	-18	-12	18	13x13x3.8
ALN2450T2	5	90	2300	2600	28	1	0.9	34	-18	-12	18	10x10x3.8
ALN2500	3.3	30	2480	2520	28	0.5	1.0	22	-18	-10	13	13x13x3.8
ALN2575T2	3	50	2560	2590	24	0.2	0.75	28	-18	-10	15	10x10x3.8
ALN2575T1	3	60	2560	2590	24	0.2	0.8	31	-18	-10	15	10x10x3.8
ALN2590T2	5	70	2490	2690	23	0.3	0.8	32	-18	-15	15	10x10x3.8
ALN2592	5	120	2578	2607	25	0.5	0.95	32.5	-17	-11	20	13x13x3.8
ALN2700	5	100	2500	2900	26.5	0.75	1.2~1.3	34.5	-17	-11	21	13x13x3.8
ALN3300	5	100	3050	3500	20	1.3	0.95	34	-18	-10	21	13x13x3.8

※ 4-stage LNA

Part No.	Vs (V)	Ic (mA)	Freq. Range (MHz)		Gain (dB)	GF (+/-)	NF (dB)	OIP3 (dBm)	S11 (dB)	S22 (dB)	P1dB (dBm)	PKG Size (mm)
ACL4275T2	5	50	4200	4350	21	0.8	1.25	30	-18	-10	14	10x10x3.8
ACL4400T2	5	50	4300	4500	20	0.8	1.5	30	-15	-12	14	10x10x3.8
ACL5000T2	5	50	4900	5100	18.5	0.8	1.5	30	-15	-11	14	10x10x3.8

Medium Power Amplifier Mini-module

The plerow™ APM mini-modules are internally matched so that no extra matching component shall be needed and for use in the driver amplifiers of Mobile wireless infrastructure equipments (CDMA, GSM, DCS, PCS, WCDMA, TDS-CDMA)



Part No.	Freq. Range (MHz)		Gain (dB)	GF (+/-)	NF (dB)	OIP3 (dBm)	S11 (dB)	S22 (dB)	P1dB (dBm)	PKG Size (mm)
APM0837-P29	824	849	33	0.3	6.6	47	-15	-9	29	10x10x3.8
APM0882-P29	869	894	32	0.3	6.6	47	-15	-9	29	10x10x3.8
APM1765-P29	1750	178	36	0.3	1.8	47	-18	-10	29	13x13x3.8
APM1855-P29	1840	187	35	0.3	1.8	47	-18	-10	29	13x13x3.8
APM1950-P29	1920	198	34	0.3	1.8	47	-18	-10	29	13x13x3.8
APM2140-P29	2110	217	31	0.4	2	47	-18	-10	29	13x13x3.8
APM2017-P29	2010	202	33	0.2	2	47	-18	-10	29	13x13x3.8
APM2600-P29	2500	270	28	0.7	2.5	47	-14	-12	29	13x13x3.8

Synthesizer Mini-module

The plerow™ PLL modules are compact-sized product which are designed in the wide range of frequency 50 MHz ~ 6 GHz. We also provide a customized one upon request with a quick turnaround time.

Module Size



Part Number	Size(mm)
APLT0000	15 x 15 x 3.0
APL0000	19 x 19 x 5.8

Options

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

5.8 GHz DSRC RF Transceiver

This is a compact 5.8 GHz active DSRC RF module to be easily fit to the On-Board Equipment (OBE) and infrastructure Road Side Equipment (RSE) which are applied for the Electronic Toll Collection System (ETCS), Traffic Information System (TIS), Bus Information System (BIS), etc.



Part No.	Frequency (GHz)	Output Power (dBm)	Frequency Tolerance (ppm)	Receiving Signal Power Range (dBm)	Supply Voltage (V)	Supply Current (mA)	Size (W x L x H mm)
DSR1000HR	5.8 ~ 5.82	≤10	≤±100	-75	5	< 300	51.2 x 38.8 x 9.7
DSR1000AOS	5.8 ~ 5.84	≤10	≤±20	-80	3.3	< 100	29 x 50 x 4.7
DSR1000HOS	5.8 ~ 5.84	≤10	≤±20	-80	3.3	< 100	26 x 45.5 x 5.3

2.4 GHz RF Transceiver

USM

The plerow™ USM is a compactly designed surface-mount RF transceiver module for use in a ZigBee™-based Ubiquitous Sensor Network (USN) which has the variety of applications such as home/building automation, security, remote wireless monitoring, and so on. The surface-mount module package including the completed RF matching circuit and the ZigBee™ transceiver is convenient to be mounted onto the digital control system board for production.



Part No.	Frequency Range (MHz)	Supply Voltage (Dual)/(V)	Line-of-sight Distance (meters)	Size (W x L x H mm)
USM2450	2400~2483.5	3 ~ 3.3 & 1.8 ~ 2	200 ~ 250	30(W)×18.4(L)×2.9(H)
USM2450L	2400~2483.5	3 ~ 3.3 & 1.8 ~ 2	350 ~ 400	32.5(W)×18.4(L)×2.9(H)

UBM

The plerow™ UBM is a compactly designed surface-mount RF transceiver module for the ISM-band application, which is consisted of a 2.4 GHz GFSK transceiver and a power amplifier.

Part No.	Frequency Range (MHz)	Supply Voltage (Dual) (V)	Line-of-sight Distance (meters)	Size (W x L x H mm)
UBM2450P08	2400 ~ 2500	3 ~ 3.6	100 ~ 150	17.5 x 13.5 x 3
UBM2450M	2400 ~ 2500	3 ~ 3.6	100 ~ 150	42.5 x 14.8 x 8.75
UBM2450MC	2400 ~ 2500	3 ~ 3.6	100 ~ 150	36.6 x 14.8 x 8.75
UBM2450S	2400 ~ 2500	3 ~ 3.6	50 ~ 100	31.6 x 14.8 x 8.75
UBM2450SC	2400 ~ 2500	3 ~ 3.6	50 ~ 100	25 x 14.8 x 8.75

Unbeatable Gain & Linearity

Wide-band Amplifiers

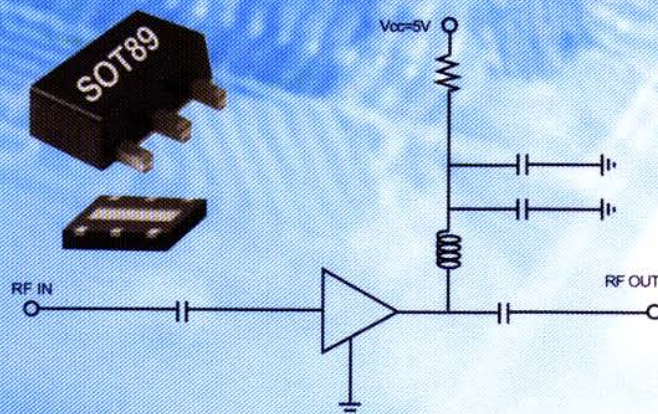
high gain
high OIP3 @ low power
low noise

(Measured at 2 GHz)

Part No.	Gain(dB)		OIP3 (dBm)	P1dB (dBm)	NF (dB)	Supply	Package
	900 MHz	2000 MHz					
ASW222	29.5	26.5	29	18.5	2.7	4.5 V, 70 mA	DFN6
ASW204	20	18.5	34	20	1.8	4.5 V, 70 mA	SOT89
ASW335	17.5	16.5	42.5	21.5	2.2	5 V, 100 mA	SOT89
ASW338	17.5	16.5	45	25	2.2	8 V, 120 mA	SOT89

Applications

- CDMA, GSM, WCDMA
- CATV, Satellite IF
- WiBro, WiMAX
- IF Amplifier





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