Panasonic New

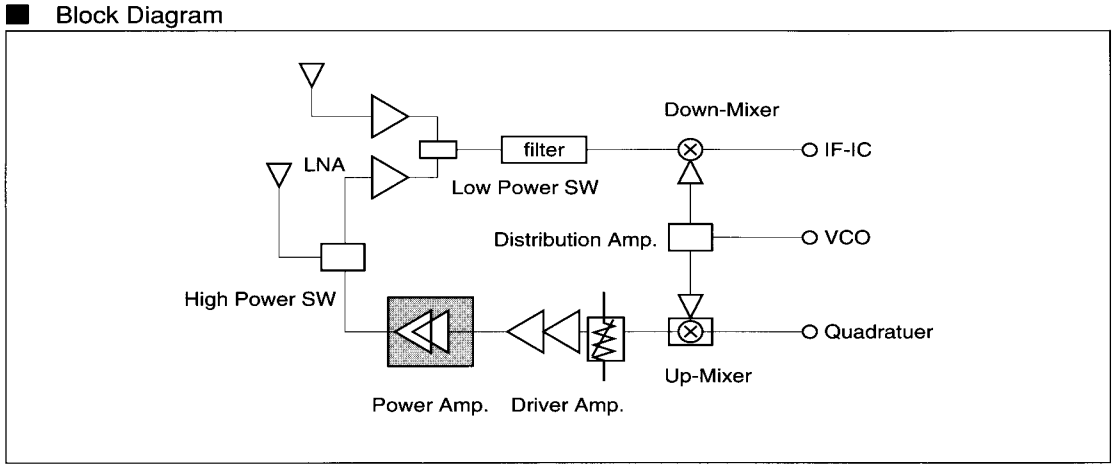
Key devices of cellular phones for downsizing and longer-talk time.

High Efficiency GaAs PA Module

■ Overview

The competition of a cellular phone for downsizing heats up every year.
To meet this market requirements for downsizing and lower power consumption of cellular phone, product line–up are widely provided for various telecommunication systems.
Panasonic newly developed high efficiency GaAs FET and unique 3–Demension circuit for GaAs PA modules.

■ Block Diagram



■ Power Amplifier Line–UP

*:Under development

	V_{DD}	Package	Analog		Digital					
			U.S.A	Japan	Japan			U.S.A		Korea
			AMPS	N–TACS	0.8GHz PDC	1.5GHz PDC	NTACS/CDMA	AMPS/CDMA	PCS	PCS
			824–849MHz	915–924MHz	924–958MHz	1429–1453MHz	887–925MHz	824–849MHz	1850–1910MHz	1710–1780MHz
PA Module	4.6V	0.4_{CC}	UN00403					UN00454		
		0.2_{CC}						UN0145C	UN0145P	UN0145K
	3.5V	0.4_{CC}	UN00303	UN00301						
		0.2_{CC}			UN0137F UN0138F	UN0137H UN0138H	UN0135N*	UN0135C*	UN0135P*	UN0135K*

¶ The products and specifications are subject to change without any notice. Please ask for the latest Product Standards to guarantee the satisfaction of your product requirements.

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■ Power Amplifier Module

	Type No.	Application	f(GHz)	V_{DD}(V)	Vg(V)	Po(dBm)	PG(dB)	I_{DD}(mA)	Package
Analog	UN00403	AMPS	0.8	4.6	–3.5	30.7	23.7	max.460	PAM04–2
	UN00301	N-TACS	0.8	3.5	–3.2	29.7	22.7	max.500	PAM04–2
	UN00303	AMPS	0.8	3.5	–3.5	30.3	23.3	max.620	PAM04–2
Digital	UN00454	AMPS/CDMA	0.8	5.0	–3.5	28.0**	30.0	typ.400	PAM04–2
	UN0137F	PDC(2Stage Amp.)	0.8	3.5	–2.5	30.2	25.0	eff:53%	PAM02–2
	UN0137H	PDC(2Stage Amp.)	1.5	3.5	–2.5	30.5	23.5	eff:52%	PAM02–2
	UN0138F	PDC(3Stage Amp.)	0.8	3.5	–2.5	30.2	37.0	eff:53%	PAM02–2
	UN0138H	PDC(3Stage Amp.)	1.5	3.5	–2.5	30.5	35.0	eff:52%	PAM02–2
	UN0135N*	N-TACS/CDMA	0.8	3.5	–2.5	27.0**	25.0	eff:30%	PAM02–2
	UN0145C*	AMPS/CDMA	0.8	4.6	–2.5	28.0**	28.0	eff:30%	PAM02–2
	UN0145P*	PCS(North America)	1.9	4.6	–2.5	28.0**	26.0	eff:30%	PAM02–2
	UN0145K*	PCS(Korea)	1.9	4.6	–2.5	28.0**	26.0	eff:30%	PAM02–2
	UN0135C*	AMPS/CDMA	0.8	3.5	–2.5	28.0**	25.0	eff:30%	PAM02–2
	UN0135P*	PCS(North America)	1.9	3.5	–2.5	28.0**	20.0	eff:30%	PAM02–2
	UN0135K*	PCS(Korea)	1.9	3.5	–2.5	28.0**	20.0	eff:30%	PAM02–2
	M001R***	GSM	0.8	3.5	–2.5	35.5	25.0	eff:60%	PAM02–2
	M002R***	DCS-1800	1.8	3.5	–2.5	32.0	22.0	eff:50%	PAM02–2

Note* :Under development
Note**:UN00454,UN0135N,UN0135C,UN0145P,UN0145K,UN0135P,UN0135K:P_O=CDMA Mode
Note***:Development No

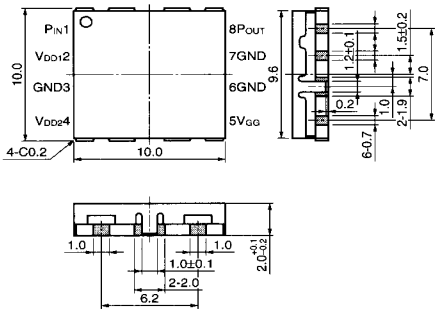
■ Power MMIC

	Type No.	Application	f(GHz)	V_{DD}(V)	Vg(V)	Po(dBm)	PG(dB)	I_{DD}(mA)	Package
Digital	GN05009N	PHS Base Station	1.9	4.8	–3.0	25.5	min.22	max.420	SO–10D
	GN05013N	PHS Subscriber	1.9	3.0	0.1	20.5	typ.40	typ.145	SSOF–16D

■ Package Outline

Unit:mm

Ⓐ(PAM02–2)



Ⓑ(PAM04–2)