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GaAs Device

PRODUCTS

GaAs MMIC

- ◆ *Analog IC*
- ◆ *Prescaler IC*

GaAs MCM

Field Effect Transistor

- ◆ *Low Noise GaAs HJ-FET Quick Reference Graph*
 - *$f = 12 \text{ GHz}$*
 - *$f = 4 \text{ GHz}$*
 - *$f = 2 \text{ GHz}$*
- ◆ *Power GaAs FET Quick Reference Graph*

PRODUCTS

Silicon Microwave Semiconductor **PRODUCTS**

 ***Si MMIC***

 ***Transistor, FET***

Amplifier , Quadrature Modulator

◆ Product List

◆ Map

- *Power gain, noise figure vs. frequency 1*
- *Power gain, noise figure vs. frequency 2*
- *Power gain, noise figure vs. frequency 3*
- *Power gain, noise figure vs. frequency 4*
- *$P_{O(sat)}$ vs. frequency 1*
- *$P_{O(sat)}$ vs. frequency 2*

Down Converter, Prescaler, etc.

◆ Product List

◆ Map

- *Down Converter : Conversion gain, noise figure vs. frequency*
- *Prescaler : Input level vs. frequency*

Transistor, FET

TV Tuner

- ◆ Product List
- ◆ Application Block Diagram

CATV Converter

- ◆ Product List
- ◆ Application Block Diagram

Low Noise Transistor Quick Reference Table

Power Transistor Quick Reference Table (for fixed radio station)

Power Transistor Quick Reference Table (for mobile and portable radio station)

- ◆ Product List
- ◆ Map : Output Power vs. Frequency

Twin Transistor

GaAs MMIC

■ Analog IC

Part number	Function	Features	Package
μ PG100	Wide band, low noise amplifier	f = 50 MHz to 3 GHz Gp \geq 14 dB, Nf \leq 3.5 dB	• 8-pin ceramic • Chip
μ PG101	Wide band, medium output amplifier	f = 50 MHz to 3 GHz Po (1dB) \geq 16 dBm	
μ PG103	Wide band, low noise amplifier	f = 50 MHz to 3 GHz Gp \geq 10 dB, Nf \leq 5 dB	
μ PG105-1	S band, low noise amplifier	f = 2.7 to 4.2 GHz Gp \geq 21 dB, Nf \leq 2.2 dB	• 16-pin ceramic
μ PG106	AGC amplifier	f = 100 kHz to 2.5 GHz Gp \geq 16 dB, GAGC \geq 25 dB	• 8-pin ceramic
μ PG107	SPDT switch	f = DC to 3.4 GHz Lins \leq 1.7 dB, tsw = 5 ns (typ.)	• 8-pin ceramic • Chip
μ PG110	Wide band, medium output amplifier	f = 2 to 8 GHz Po (1dB) \geq 10 dBm, Gp \geq 12 dB	• 4-pin ceramic • Chip
μ PG132	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 28 dBm Lins = 0.6 dB, Iso = 23 dB at 2 GHz	• 8-pin SSOP
μ PG133	SPDT switch	f = 0.1 to 2.5 GHz, Po = 25 dBm	
μ PG137 μ PG138	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 34 dBm Lins = 0.55 dB, at 1 GHz	
μ PG139	DPDT switch	f = 0.1 to 2.5 GHz, @1 GHz Lins = 0.6 dB	
μ PG152	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 30 dBm Lins = 0.6 dB, Iso = 22 dB at 2 GHz	• 6-pin mini-mold
μ PG153	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 33 dBm Lins = 0.7 dB, Iso = 13 dB@f = 2 GHz	• 6-pin super mini-mold
μ PG154	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 30 dBm Lins = 0.65 dB, Iso = 21 dB@f = 2 GHz VDD = 3 V	
μ PG155	SPDT switch	f = 0.1 to 2.5 GHz, Po (1 dB) = 34 dBm Lins = 0.75 dB, Iso = 16 dB@f = 2 GHz	
μ PG170	PA driver, medium output	VDD = 3.6 V, Po (1 dB) = 14.5 dBm Gp = 11 dB, IDD = 30 mA, Padj1 = -60 dBc @f = 1.5 GHz, Pout = +12 dBm	
μ PG171	PA amplifier for PHS	VDD = 3.0 V, IDD = 160 mA Gp \geq 20 dB, @Po = 21.5 dBm, f = 1.9 GHz Padj1 = -55 dBc	• 8-pin SSOP
μ PG172	PA driver with AGC amplifier	VDD = 3.0 V, IDD = 55 mA Gp \geq 26 dB, Padj1 = -60 dBc, Δ G = 34 dB @Pout = +12 dBm, f = 1.5 GHz	
μ PG173	PA driver	VDD = 2.8 V, IDD = 25 mA Po = +9 dB @925 to 960 MHz	• 6-pin mini-mold
μ PG174	PA driver	VDD = 2.8 V, IDD = 35 mA Po = +10 dB @1429 to 1453 MHz	
μ PG17 \times *	PA driver with AGC amplifier	VDD = 3.0 V, IDD = 30 mA Δ G = 30 dB	

*: Under development

GaAs MMIC

■ Prescaler IC

Part number	Function	Features	Package
μ PG501	5 GHz, 1/4 static type prescaler	f = 1.5 to 5 GHz @Pin = +10 dBm	<ul style="list-style-type: none"> • 8-pin ceramic • Chip
μ PG502	5 GHz, 1/2 static type prescaler	f = 1 to 5 GHz @Pin = +10 dBm	
μ PG503	9 GHz, 1/4 dynamic type prescaler	f = 3.5 to 90 GHz @Pin = +10 dBm	
μ PG504	9 GHz, 1/2 dynamic type prescaler	f = 2.0 to 9.0 GHz @Pin = +10 dBm	
μ PG506	14 GHz, 1/8 dynamic type prescaler	f = 8 to 14 GHz @Pin = 6 dBm	
μ PG508	14 GHz, 1/4 dynamic type prescaler	f = 8 to 14 GHz @Pin = 6 dBm	

GaAs MCM

■ GaAs MCM

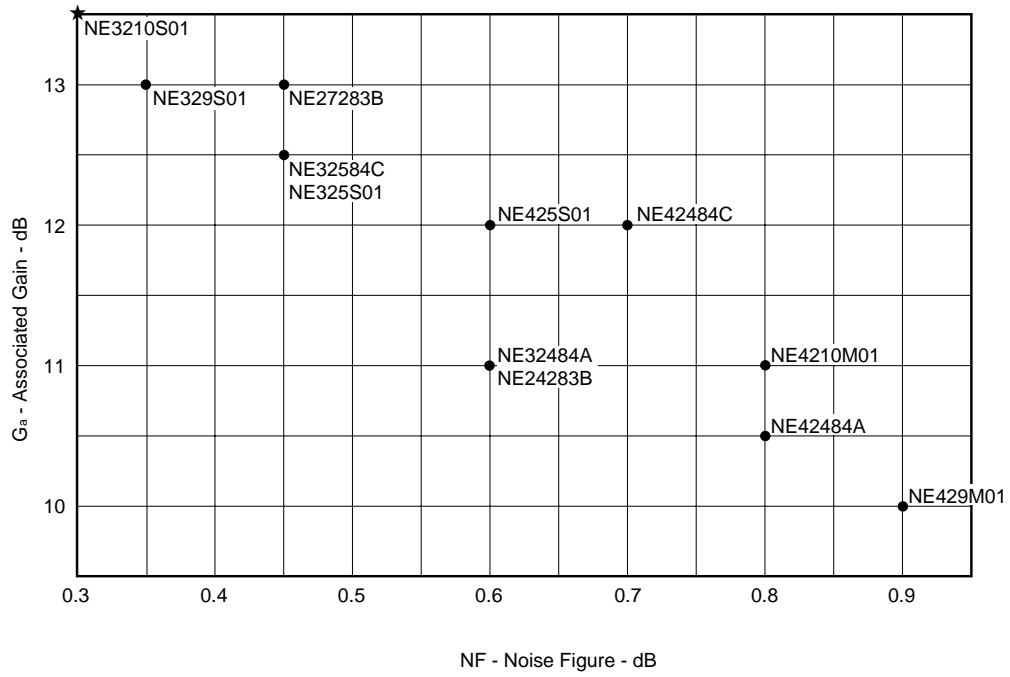
Part number	Function	Features	Package
MC-7660	for PDC 900 MHz f = 925 to 960 MHz	V _{DD} = 3.5 V, P _o = 30.2 dBm G _p ≥ 22.2 dB, η_T = 53% typ.	10 × 10 × 2.2 mm
MC-7661	for PDC 1.5 GHz f = 1429 to 1453 MHz	V _{DD} = 3.5 V, P _o = 30.5 dBm G _p ≥ 20.5 dB, η_T = 53% typ.	
MC-7680*	for GSM class IV f = 880 to 915 MHz	V _{DD} = 3.0 V, P _o = 34.5 dBm G _p ≥ 23.5 dB, η_T = 50% typ.	
MC-7712	for 50 to 770 MHz CATV Amp. (push-pull)	*1 GL ₂ = 18.0 dB min., NF ₂ = 7.0 dB min. CTB = -55 dB max., @f = 770 MHz, V _{DD} = 24 V	7-pin special package
MC-7716		GL ₂ = 21.5 dB min., NF ₂ = 6.5 dB max. CTB = -55 dB max., @f = 770 MHz, V _{DD} = 24 V	
MC-7722	for 50 to 770 MHz CATV Amp. (Power doubler)	*2 GL ₂ = 18.5 dB min., NF ₂ = 7.0 dB min. CTB = -54 dB max., @f = 770 MHz, V _{DD} = 24 V	
MC-7726		GL ₂ = 21.5 dB min., NF ₂ = 6.5 dB max. CTB = -54 dB max., @f = 770 MHz, V _{DD} = 24 V	
MC-7852	for 50 to 860 MHz CATV Amp. (push-pull)	*1 GL ₂ = 18.0 dB min., NF ₂ = 7.0 dB max. CTB = -55 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7862		GL ₂ = 18.5 dB min., NF ₂ = 7.0 dB max. CTB = -54 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7856	for 50 to 860 MHz CATV Amp. (Power doubler)	*2 GL ₂ = 21.5 dB min., NF ₂ = 6.5 dB max. CTB = -55 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7866		GL ₂ = 21.5 dB min., NF ₂ = 6.5 dB max. CTB = -54 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7816	for 50 to 860 MHz CATV Amp. (push-pull)	*3 GL = 21.5 dB min., NF = 7.0 dB max. CTB = -52 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7826	for 50 to 860 MHz CATV Amp. (Power doubler)	*3 GL = 21.5 dB min., NF = 7.0 dB max. CTB = -58 dB max., @f = 860 MHz, V _{DD} = 24 V	
MC-7900*	for PDC 900 MHz f = 889 to 960 MHz	V _{DD} = 3.5 V, P _o = 29.7 dBm G _p ≥ 21.7 dB, η_T = 55% typ.	7.0 × 7.0 × 2.0 mm
MC-7901*	for PDC 1.5 GHz f = 1429 to 1453 MHz	V _{DD} = 3.5 V, P _o = 30.5 dBm G _p ≥ 20.5 dB, η_T = 55% typ.	

*1: V_o = 44 dBmV, 110 ch Flat*2: V_o = 50 dBmV, 110 ch 10 dB Tilt*3: V_o = 44 dBmV, 129 ch Flat

★: Under development

Field Effect Transistor**Low Noise GaAs HJ-FET Quick Reference Graph**

@ f = 12 GHz



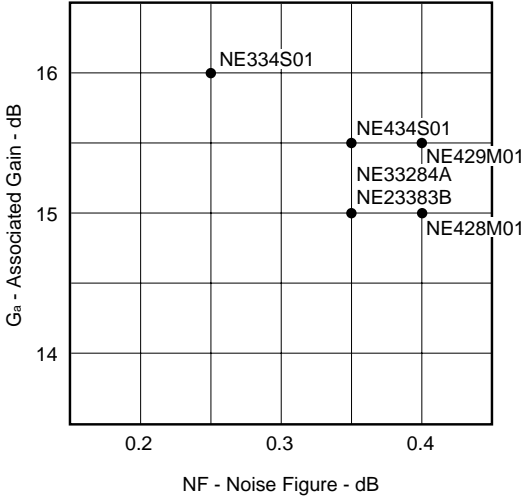
● : In mass production

★ : Under development

Field Effect Transistor

Low Noise GaAs HJ-FET Quick Reference Graph

@ f = 4 GHz

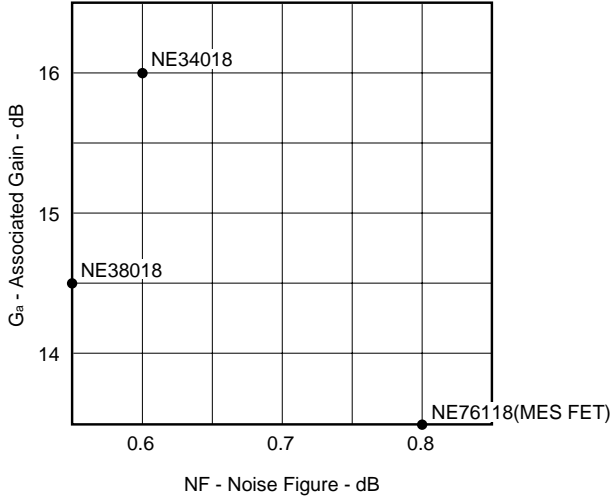


• : In mass production
★ : Under development

Field Effect Transistor

■ **Low Noise GaAs HJ-FET Quick Reference Graph**

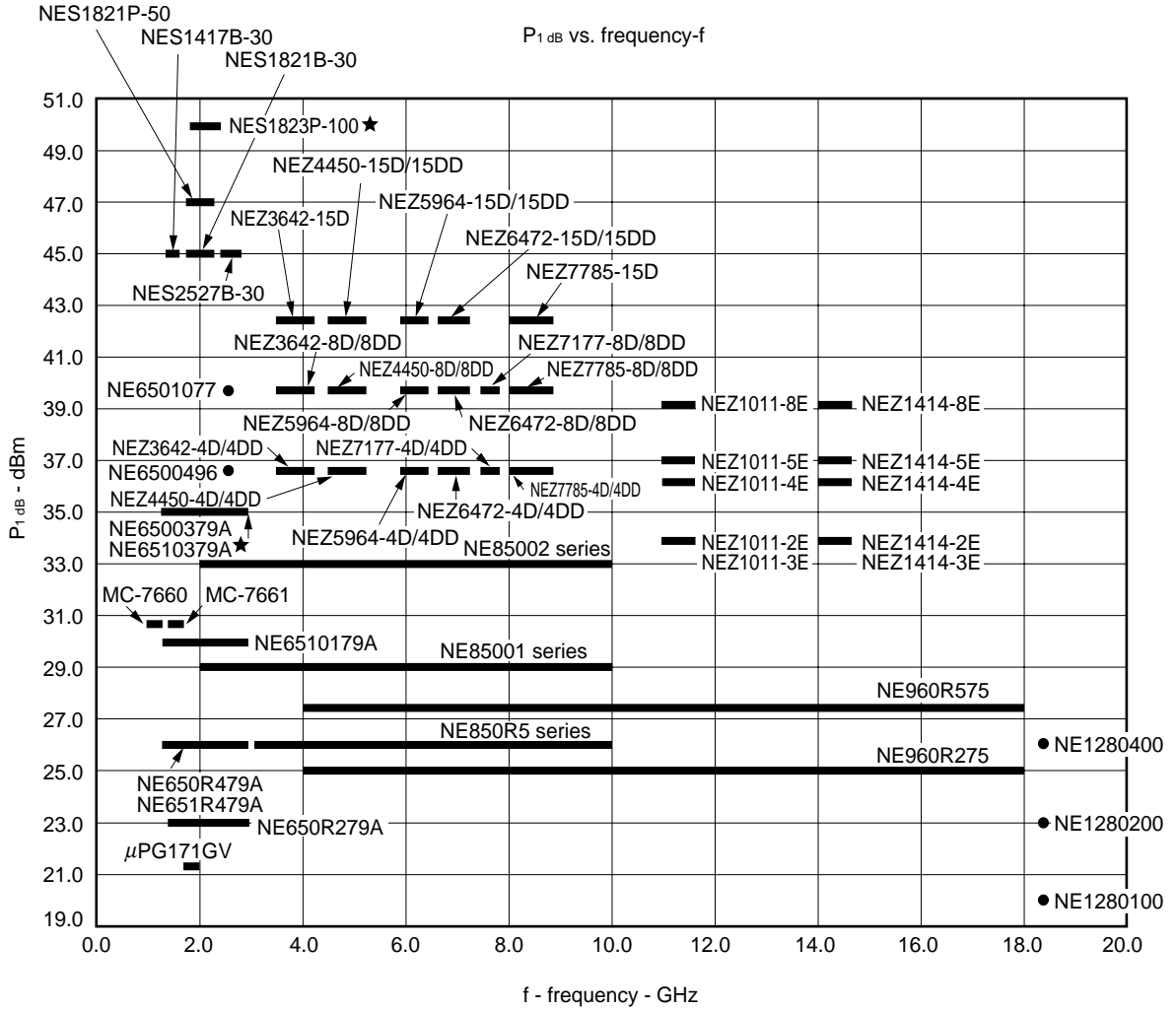
@ f = 2 GHz



- : In mass production
- ★ : Under development

Field Effect Transistor

Power GaAs FET Quick Reference Graph



★ : Under development

Si MMIC

■ Si MMIC (1/2)



Part number	Function	Features	Package
μ PC1652	General purpose UHF wide band amplifier	BW = 1.2 GHz, Gp = 18 dB, NF = 5.5 dB	• 8-pin SOP
μ PC1655		BW = 1.0 GHz, Gp = 18 dB, NF = 5.5 dB	• 8-pin DIP
μ PC1656		BW = 0.85 GHz, Gp = 19 dB, NF = 5.5 dB	
μ PC1675		BW = 1.9 GHz, Gp = 12 dB, NF = 5.5 dB	• 4-pin mini-mold
μ PC1676		BW = 1.2 GHz, Gp = 22 dB, NF = 4.5 dB	
μ PC1688		BW = 1.1 GHz, Gp = 21 dB, NF = 4.0 dB	
μ PC1658	Low noise HF wide band amplifier	Gp = 31 dB/f = 100 MHz, Gp = 17 dB/f = 500 MHz, GAIN DETERMINED BY EXTERNAL RESISTOR NF = 1.5 dB/f = 100 MHz, NF = 2.0 dB/f = 500 MHz	• 8-pin SOP • 8-pin DIP
μ PC1663	Ultra high speed video amplifier	BW = 700 MHz/Ga = 20 dB, GAIN DETERMINED BY EXTERNAL RESISTOR INPUT NOISE 3 μ Vr.m.s.	• 8-pin DIP • 8-pin SOP/SSOP
μ PC1677	Wide band, medium output amplifier	BW = 1.8 GHz, Gp = 24 dB, NF = 6 dB, Po = 19.5 dBm	• 8-pin DIP
μ PC1678		BW = 2.0 GHz, Gp = 23 dB, NF = 6 dB, Po = 17.5 dBm	• 8-pin SOP/SSOP
μ PC2708	Middle power wide band amplifier	BW = 2.9 GHz, Po(sat) = +10 dBm, Gp = 15 dB	• 6-pin mini/ super mini-mold
μ PC2709		BW = 2.3 GHz, Po(sat) = +11.5 dBm, Gp = 23 dB	
μ PC2710		BW = 1.0 GHz, Po(sat) = +13.5 dBm, Gp = 33 dB	
μ PC2711	Wide band amplifier	BW = 2.9 GHz, Gp = 13 dB, NF = 5.0 dB	• 6-pin mini-mold
μ PC2712		BW = 2.6 GHz, Gp = 20 dB, NF = 4.5 dB	
μ PC2713		BW = 1.2 GHz, Gp = 29 dB, NF = 3.2 dB	
μ PC2714	Low power consumption wide band amplifier	BW = 1.8 GHz, Icc = 4.5 mA, Vcc = 3.4 V	• 6-pin mini-mold
μ PC2715		BW = 1.2 GHz, Icc = 4.5 mA, Vcc = 3.4 V	
μ PC2745	Wide band amplifier	BW = 2.7 GHz, Icc = 7.5 mA, Vcc = 3.0 V, Gp = 12 dB	• 6-pin mini/ super mini-mold
μ PC2746		BW = 1.5 GHz, Icc = 7.5 mA, Vcc = 3.0 V, Gp = 19 dB	
μ PC2747	900 MHz Band	BW = 0.1 to 1.8 GHz, Icc = 5.0 mA, Vcc = 3.0 V, Gp = 12 dB	
μ PC2748	Low noise amplifier	BW = 0.2 to 1.5 GHz, Icc = 6.0 mA, Vcc = 3.0 V, Gp = 19 dB	
μ PC2749	1.9 GHz Low noise amplifier	BW = 2.9 GHz, Icc = 6 mA, Gp = 16 dB, NF = 4 dB	
μ PC2762	Medium power amplifier	BW = 2.9 GHz, Icc = 26.5 mA, Gp = 13 dB, P1dB = +8 dBm	
μ PC2763		BW = 2.4 GHz, Icc = 27 mA, Gp = 20 dB, P1dB = +9.5 dBm	
μ PC2771		BW = 2.1 GHz, Icc = 36 mA, Gp = 21 dB, P1dB = +11.5 dBm	
μ PC2776	Middle power wide band amplifier	BW = 2.7 GHz, P1dB = +6.5 dBm, Gp = 23 dB	
μ PC2723	1.1 GHz AGC amplifier	BW = 1.1 GHz, Gpmax. = 13 dB, GCR = 38 dB, Vcc = 5.0 V	• 6-pin mini-mold
μ PC2726	1.6 GHz differential amplifier	BW = 1.6 GHz, Icc = 11.5 mA, Gp = 15 dB, Vcc = 5.0 V	• 6-pin super mini-mold
μ PC2791	UHF	BW = 1.9 GHz, Gp = 12 dB, NF = 5.5 dB	
μ PC2792	Wide band amplifier	BW = 1.2 GHz, Gp = 20 dB, NF = 3.5 dB	• 6-pin super mini-mold
μ PC3210	Wide band amplifier	BW = 2.3 GHz, Gp = 20 dB, NF = 3.5 dB	
μ PC8119	1.9 GHz Variable gain amplifier	Icc = 11 mA, GCR = 22 dB @1.9 MHz, Forward AGC	• 6-pin mini-mold
μ PC8120		Icc = 11 mA, GCR = 22 dB @1.9 MHz, Reverse AGC	
μ PC8104	1.9 GHz Up Converter + QPSK MOD	Vcc = 2.7 to 5.5 V, Icc = 28 mA	• 20-pin SSOP
μ PC8105	400 MHz QPSK MOD	Vcc = 2.7 to 5.5 V, Icc = 16 mA	• 16-pin SSOP
μ PC8110	900 MHz QPSK MOD	Vcc = 2.7 to 3.6 V, Icc = 24 mA	• 20-pin SSOP
μ PC8125	Up converter with AGC + QPSK MOD	Vcc = 2.7 to 5.5 V, Icc = 36 mA, GCR = 40 dB, fLO1 = 220 to 270 MHz, fRFout = 800 to 2000 MHz	
μ PC8126	Direct QPSK MOD + Lo Pre – MIX.	Vcc = 2.7 to 3.6 V, Icc = 35 mA fRFout = 800 to 1000 MHz	

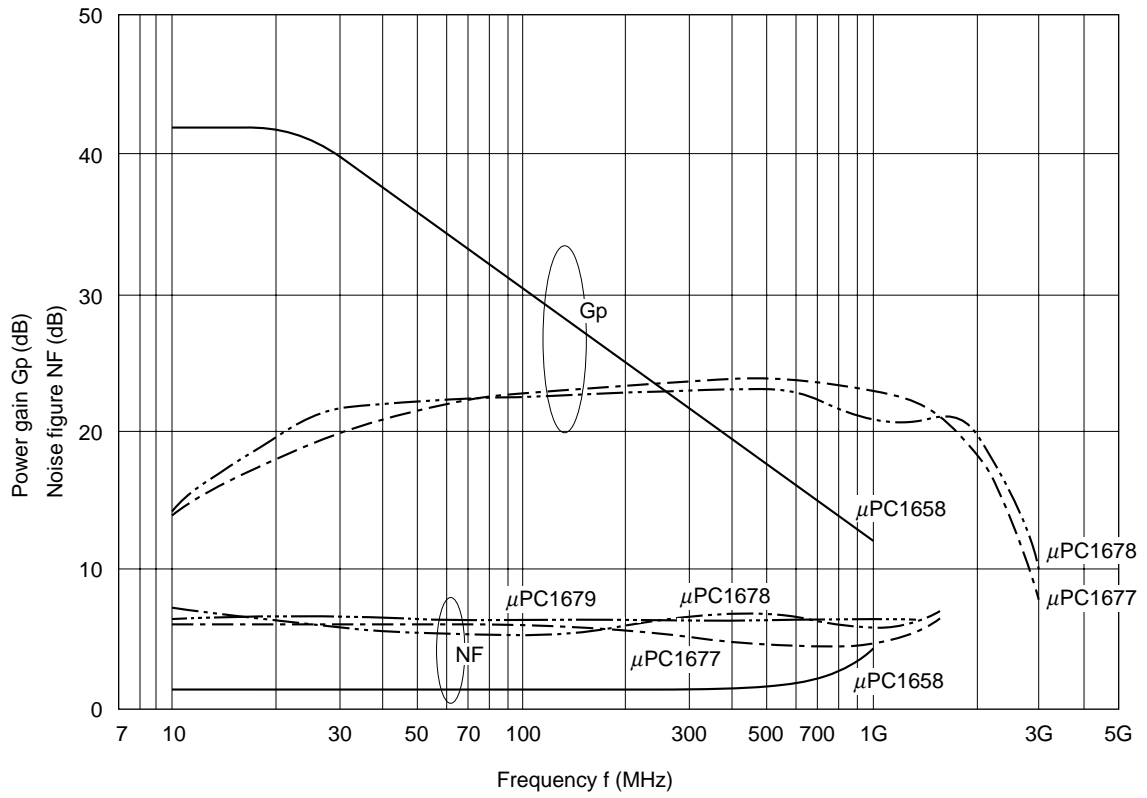
Si MMIC

■ Si MMIC (2/2) ◀

Part number	Function	Features	Package
μ PC8128	Low power consumption amplifier	BW = 1.9 GHz, I _{cc} = 2.8 mA, V _{cc} = 3.0 V	• 6-pin super mini-mold
μ PC8151		BW = 1.9 GHz, I _{cc} = 4.2 mA, V _{cc} = 3.0 V	
μ PC8152		BW = 1.9 GHz, I _{cc} = 5.6 mA, V _{cc} = 3.0 V	
μ PC8130	800 MHz - 1.5 GHz Variable gain amplifier	I _{cc} = 11 mA, GCR = 40 dBMIN @950 MHz, Reverse AGC	• 6-pin mini-mold
μ PC8131		I _{cc} = 11 mA, GCR = 40 dBMIN @950 MHz, Forward AGC	
μ PC8129	×2f MOD-LO QUAD. MOD+RF Up converter	V _{cc} = 2.7 to 5.5 V, I _{cc} = 28 mA @3.0 V f _{MODout} = 100 to 400 MHz, f _{RFout} = 800 to 1900 MHz	• 20-pin SSOP

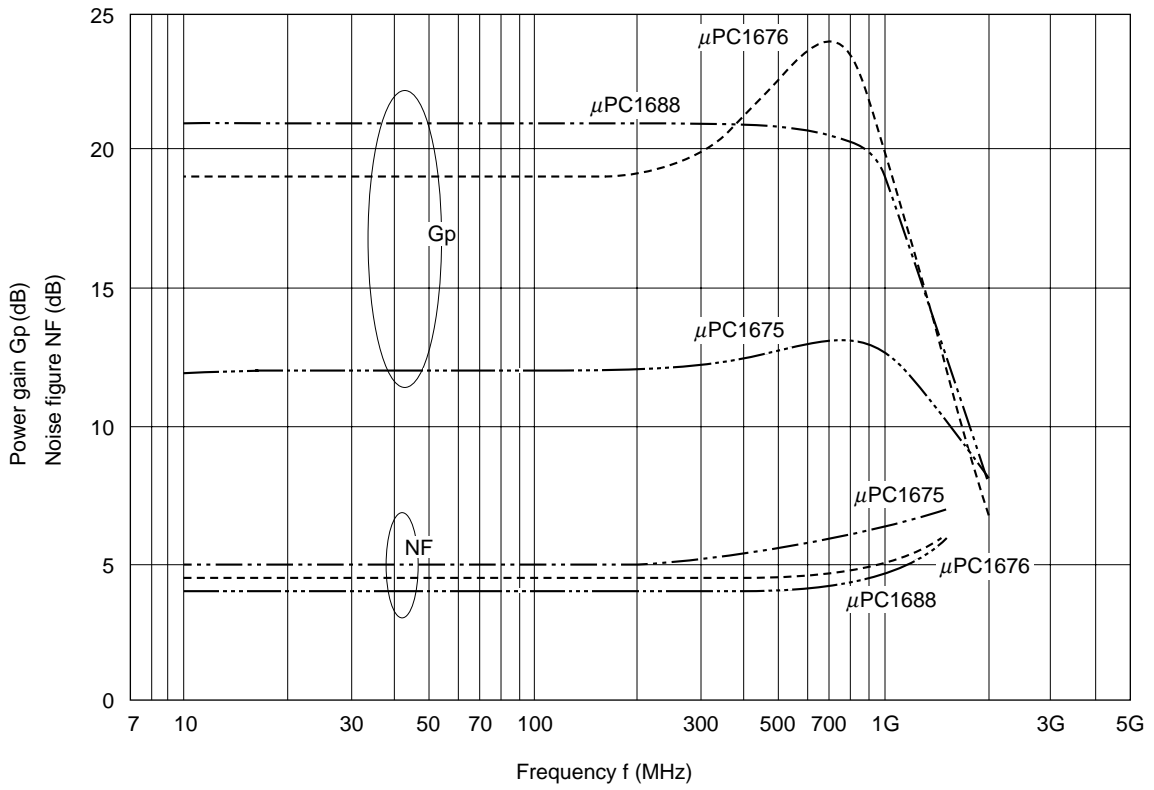
Si MMIC

■ Power gain, noise figure vs. frequency



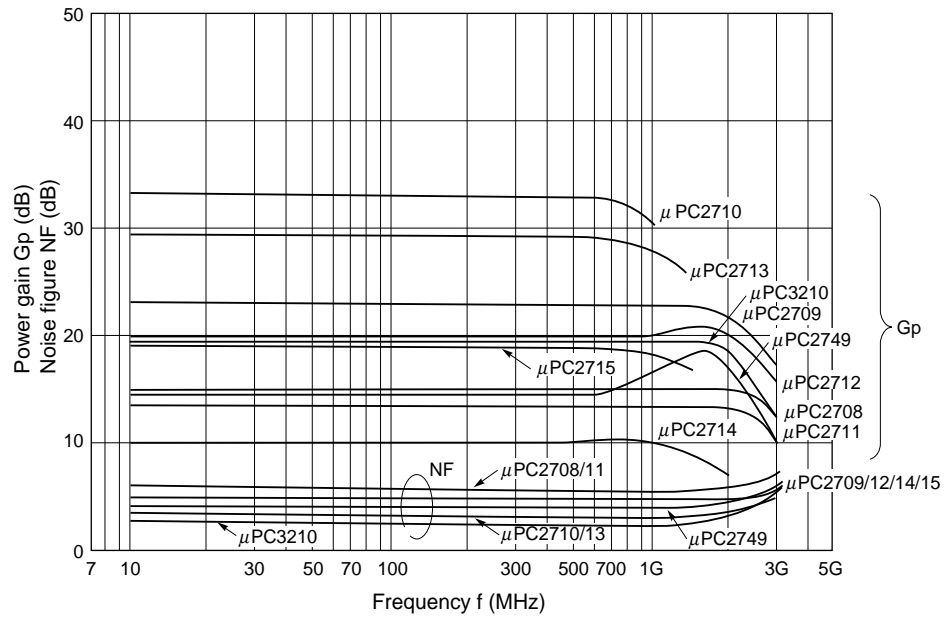
Si MMIC

■ Power gain, noise figure vs. frequency



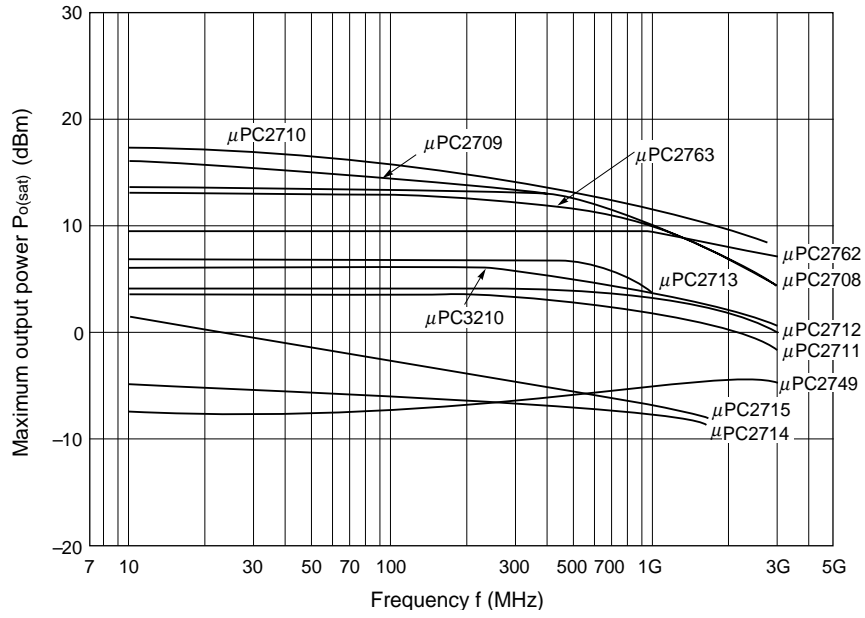
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■ Power gain, noise figure vs. frequency



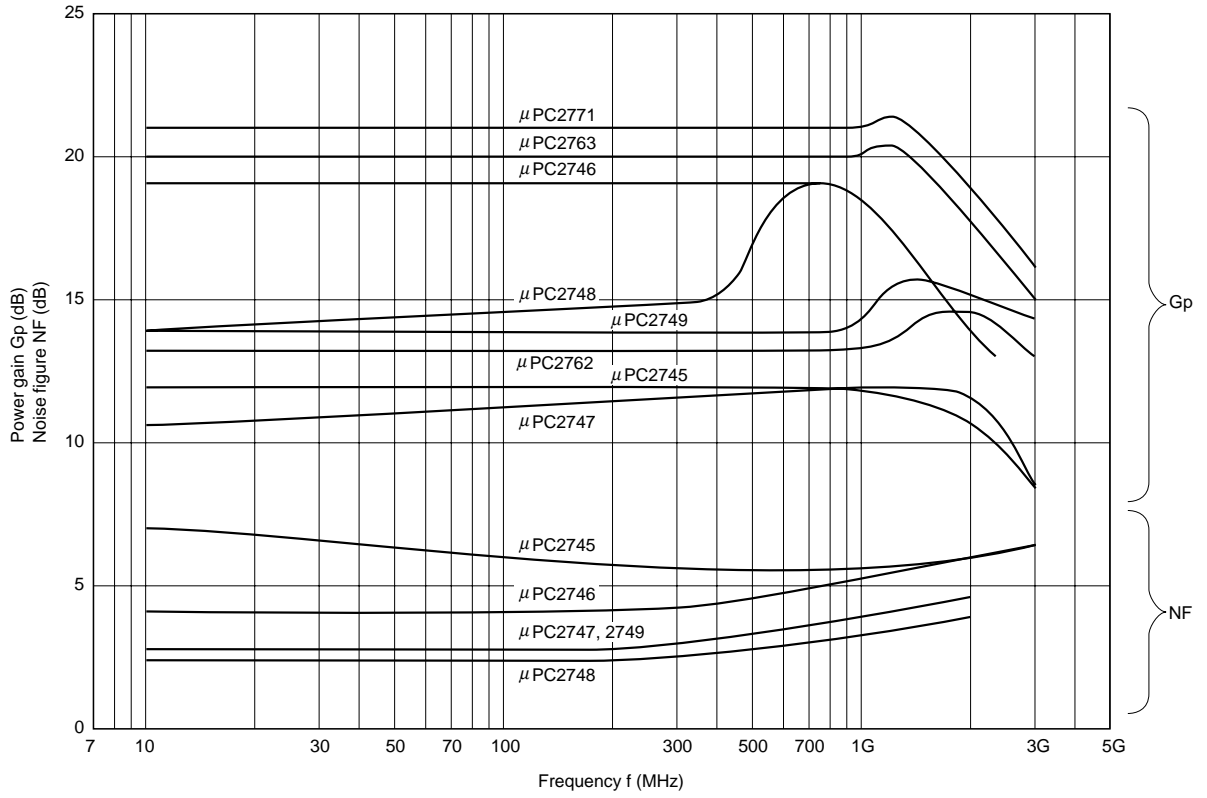
Si MMIC

■ $P_{O(sat)}$ vs. frequency

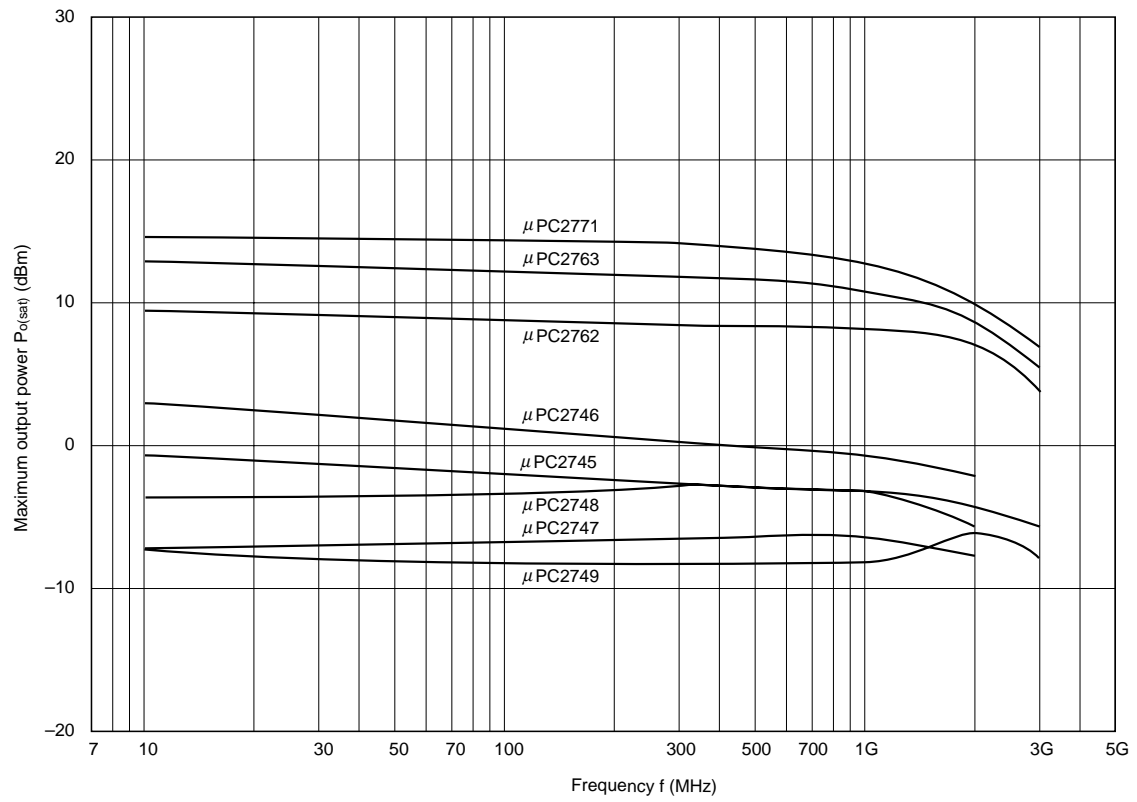


Si MMIC

■ Power gain, noise figure vs. frequency



Si MMIC

■ $P_{O(sat)}$ vs. frequency

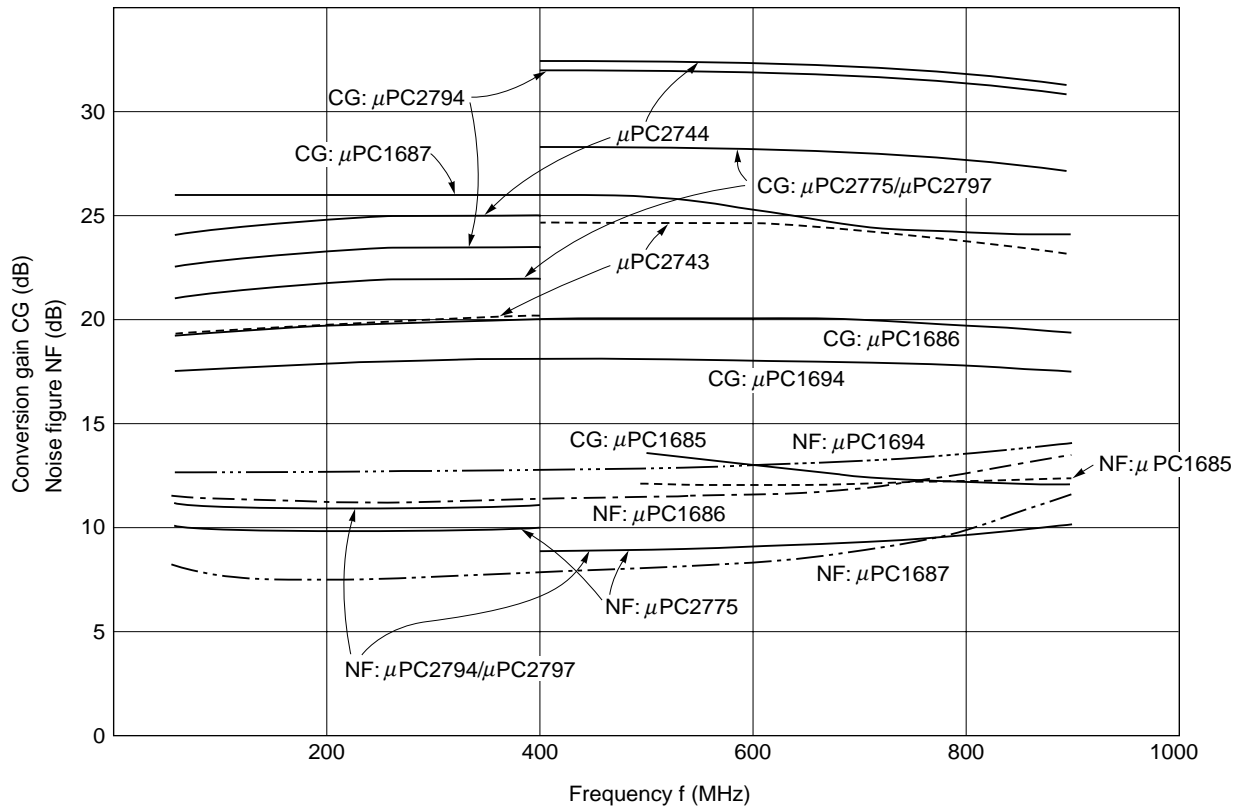
Si MMIC

■ Si MMIC

Part number	Function	Features	Package
μ PC1685	Down converter (MIX/OSC/IF amplifier)	CG = 12 dB, NF = 12.5 dB, CM = 86 dB μ , @900 MHz	• 8-pin SOP
μ PC1686		CG = 20 dB, NF = 12 dB, CM = 94 dB μ , @470 MHz	• 8-pin SOP/SSOP
μ PC1687		CG = 24 dB, NF = 10 dB, CM = 89 dB μ , @900 MHz	• 8-pin SOP/SSOP
μ PC1694		CG = 18 dB, NF = 12.5 dB, CM = 103 dB μ , @470 MHz	• 14-pin SOP
μ PC2743		CG = 20 dB, @470 MHz, CG = 23 dB @890 MHz	• 20-pin SOP
μ PC2744		CG = 25 dB, @470 MHz, CG = 31 dB @890 MHz	• 20-pin SOP
μ PC2775		CG = 22 dB, @470 MHz, CG = 28 dB, @890 MHz	• 20-pin SOP/SSOP
μ PC2794		CM = 96 dB μ , @470 MHz, CM = 92 dB μ , @890 MHz	• 20-pin SOP
μ PC2797			• 20-pin SSOP
μ PC3200		Vcc = 5 V, Icc = 41 mA CM = 96 dB μ , @470 MHz, CM = 88 dB μ , @800 MHz	• 20-pin SSOP
μ PC3202			• 20-pin SSOP
μ PC2721		CG = 20 dB, NF = 11 dB, f _{RF} = 0.9 to 2.0 GHz	• 8-pin SOP/SSOP
μ PC2722		CG = 15 dB, NF = 11 dB, f _{RF} = 0.9 to 2.0 GHz	
μ PC2795	Down converter	CG = 11 to 9.5 dB, NF = 13.5 to 14 dB, IM ₃ = 55 dBc	• 8-pin SSOP
μ PC2798	QAM IF Down Converter for Digital CATV	f _{in} = 30 to 250 MHz, IIP ₃ = -9 dBm, Vcc = 5 V V _{OUT} = 3 V _{P-P} (Differential, RL = 1 K Ω)	• 20-pin SSOP
μ PC2799	Up converter	Vcc = 5 V, Icc = 60 mA, f _{in} = 250 to 850 MHz	
μ PC3206	AGC Amplifier + Video Amplifier	GCR = 50 dB (MIN.), f = to 100 MHz (TYP.), Vcc = 5 V	
μ PC3211	AGC Amplifier	GCR = 55 dB (TYP.), Vcc = 9 V, IM ₃ = 57 dBc (TYP.) @P _{out} = -10 dBm	
μ PC2781	IQ Demo. with AGC	Vcc = 5 V, V _{OUT} = 1 V _{P-P} $\Delta\theta = \pm 2$ deg, $\Delta V = \pm 0.5$ dB, f _{in} = 440 to 520 MHz	
μ PC3205			
μ PC2731	AGC Amplifier + Down converter	CG = 14 dB, NF = 12 to 17 dB, f _{RF} = 0.9 to 2.0 GHz, GCR = 65 dB	• 20-pin SOP
μ PC2782	Down converter (MIX/OSC/IF Amp.)	CG = 10 to 11 dB, NF = 11 to 13 dB, IIP ₃ = 0 to 4.5 dBm	• 20-pin SSOP
μ PC2734		CG = 10 to 13 dB, NF = 9 to 14 dB, f _{RF} = 0.9 to 2.1 GHz @f _{IF} = 402.8 MHz	
μ PC2757	Down converter (MIX/Lo Amp./IF Amp.)	f _{RF} = 2.0 GHz, CG = 15 dB, Icc = 5.6 mA, Vcc = 3.0 V	• 6-pin mini/super mini-mold
μ PC2758		f _{RF} = 2.0 GHz, CG = 15 dB, Icc = 11 mA, Vcc = 3.0 V	
μ PC8112	Down converter	CG = 13 dB @f _{RF} = 1.9 GHz, Icc = 8.5 mA, Vcc = 3.0 V	• 20-pin SSOP
μ PC2753		f _{in} = DC to 400 MHz, CG _{MAX} = 79 dB, Vcc = 3 V, Icc = 6.5 mA	
μ PC8106	Up converter	CG = 10 dB, Icc = 9 mA, OIP ₃ = +5.5 dBm, Vcc = 3 to 5 V	• 6-pin mini/super mini-mold
μ PC8109		CG = 7 dB, Icc = 5 mA, OIP ₃ = +1.5 dBm, Vcc = 3 to 5 V	
μ PC8163	Higher IP ₃ up converter	CG = 5.5 dB, Icc = 16.5 mA, OIP ₃ = 6.0 dBm, Vcc = 2.7 to 3.3 V	• 6-pin super mini-mold
μ PC8100	Up/Down converter	Up converter + Down converter 1 chip IC	• 20-pin SSOP
μ PB1502	Prescaler with power save mode	f _{max.} = 1.7 GHz, 64/65, 128/129, Vcc = 3.0 V	• 8-pin SOP
μ PB1502(1)		f _{max.} = 2.0 GHz, 64/65, 128/129, Vcc = 3.0 V	
μ PB1504	Prescaler	f _{max.} = 1.1 GHz, 64/65, 128/129, Vcc = 3 V, Icc = 1.9 mA	• 8-pin SSOP 175 mil
μ PB1505		f _{max.} = 3.0 GHz, +256/128/64, Vcc = 5 V, Icc = 14 mA	
μ PB1506		f _{max.} = 3.0 GHz, +256/128/64, Vcc = 5.0 V	
μ PB1507			
μ PB1508		f _{max.} = 3.0 GHz, 1/2, Vcc = 5.0 V	
μ PB1509		f _{max.} = 700 MHz/800 MHz/1 GHz, 1/2, 1/4, 1/8	
μ PB1510		f _{max.} = 3.0 GHz, 1/4, Vcc = 5.0 V	
μ PA101	Transistor array	MULTI PLAYER	• 14-pin ceramic • 8-pin SOP
μ PA102		2 DIFF AMP	• 14-pin ceramic • 14-pin SOP
μ PA103		3 Trs+1 PIAR Tr	
μ PA104		ADDER	

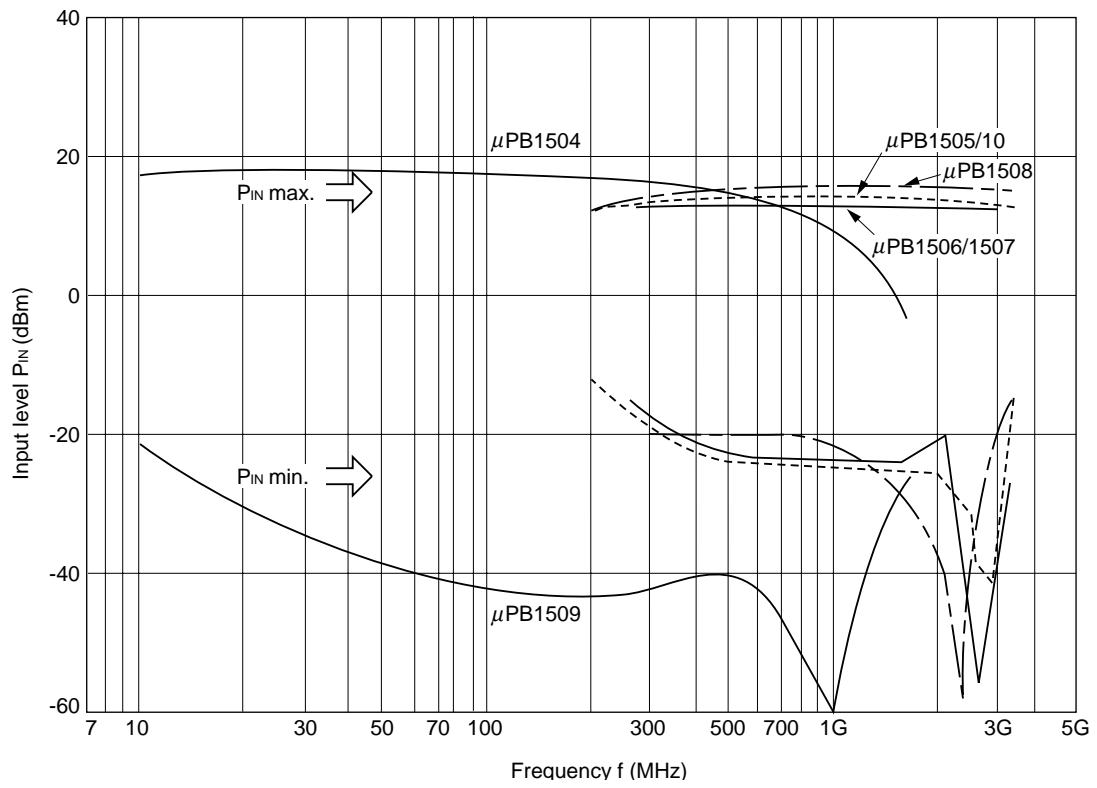
Si MMIC

■ Down converter (Conversion gain, noise figure vs. frequency)



Si MMIC

■ Prescaler (Input level vs. frequency)

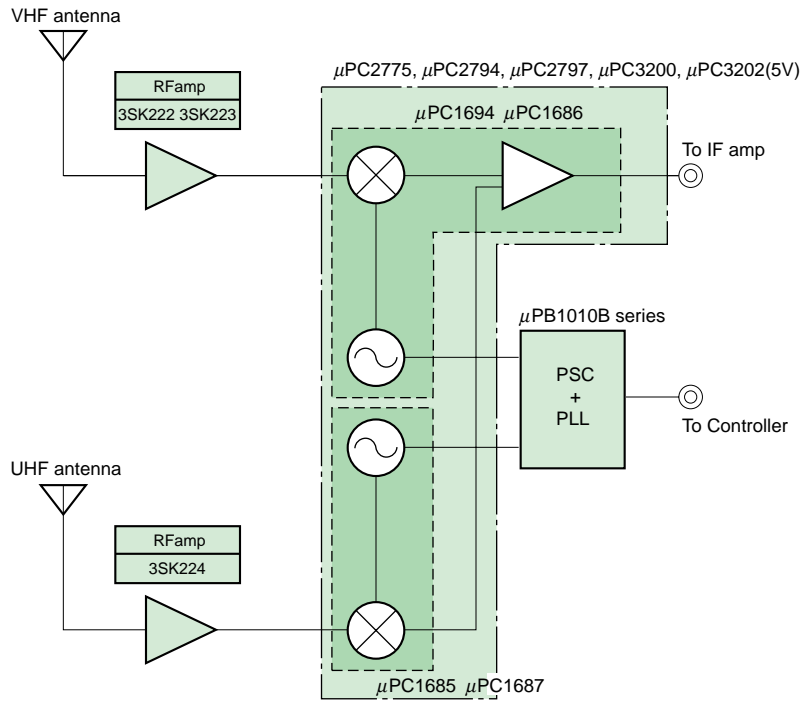


Transistor, FET
■ TV tuner

Application		Bi-polar transistor		Dual gate FET	
		Mini-mold (3-pin)	Small mini-mold (3-pin)	Mini-mold (4-pin)	Super mini-mold (4-pin)
VHF band	RF			3SK131 3SK222 3SK223 3SK230 3SK252	3SK254
	MIX	2SC3545	2SC4182 2SC4184	3SK131	3SK242
	OSC	2SC3545	2SC4182 2SC4184		
UHF band	RF ($\lambda/4$)		2SC4183	3SK135A 3SK224 3SK231 3SK253	3SK255
	RF ($\lambda/2$)			3SK134B	
	RF (GaAs FET)			3SK177 3SK206	
	MIX	2SC3545 2SC3841	2SC4183 2SC4185 2SC4184 2SC4186		
	OSC	2SC3545 2SC3841	2SC4182 2SC4184 2SC4185		

Transistor, FET

■ **TV tuner (Application Block Diagram)**

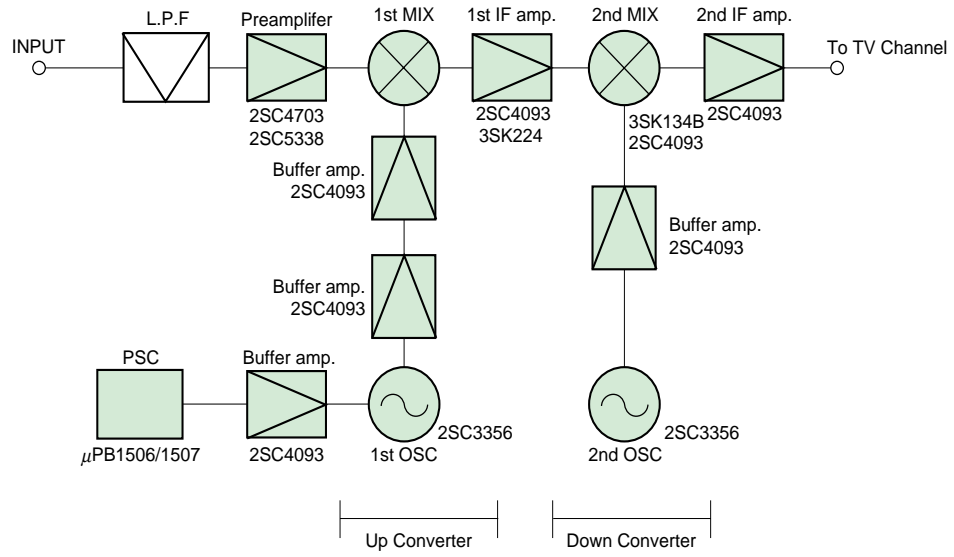


Transistor, FET
■ CATV converter

Application	Part number						Electrical characteristics	
	TO-92	Mini-mold		Super mini-mold		Ultrasuper mini-mold	f _r (GHz)	NF (dB)
		3-pin	4-pin	3-pin	4-pin	3-pin		
Pre Amp.	2SC3355	2SC3356	2SC4093	2SC4228	2SC5013	2SC5008	7 (20 mA)	1.1 (1 GHz)
	2SC2570A	2SC2351	2SC4092				5 (20 mA)	1.5 (1 GHz)
Buffer Amp.				2SC4185			2 (5 mA)	3 (0.5 GHz)
	2SC2570A	2SC2351	2SC4092				5 (20 mA)	1.5 (1 GHz)
1st IF Amp.	2SC3355	2SC3356	2SC4093	2SC4226	2SC5011	2SC5006	7 (20 mA)	1.1 (1 GHz)
	2SC2570A	2SC2351	2SC4092				5 (20 mA)	1.5 (1 GHz)
1st and 2nd OSC		2SC3545		2SC4184			1.8 (5 mA)	
				2SC4185			2 (5 mA)	
		2SC4568		2SC4570		2SC5005	5.5 (5 mA)	
		2SC4569		2SC4571		2SC5004	5 (5 mA)	
2nd IF Amp.			2SC4185			2 (5 mA)		

Transistor, FET

■ **CATV converter (Application Block Diagram)**



Transistor, FET**■ Low Noise Transistor Quick Reference Table**

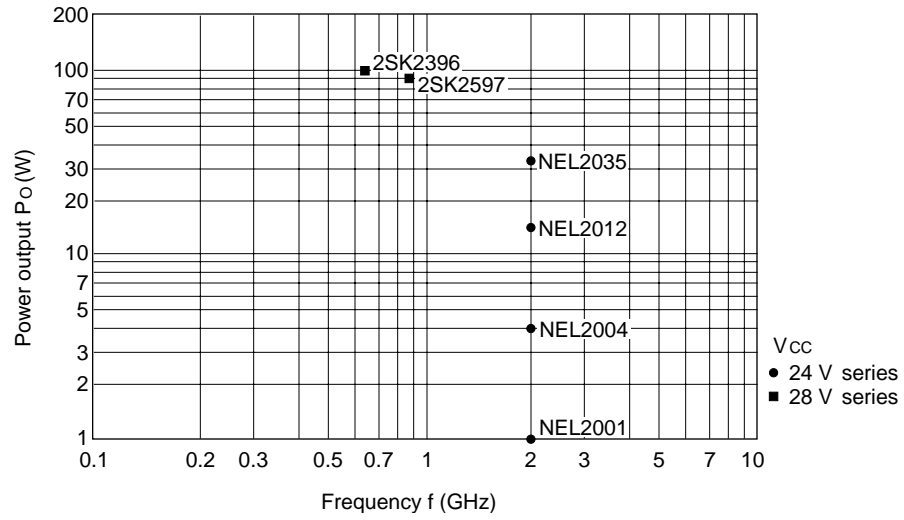
Frequency (MHz) \ NF (dB)	2.5	3.5	4.0
500	————	2SC2148	————
2000	2SC3604	2SC3603	2SC2149
4000	2SC3587	————	————

Transistor, FET**■ Power Transistor Quick Reference Table (for fixed radio station)**

Output power Frequency	10 W or higher
800 MHz or higher	2SK2396
900 MHz or higher	2SK2597
1900 MHz or higher	NEL2000 SERIES

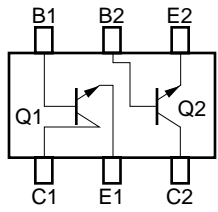
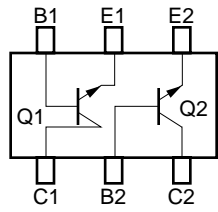
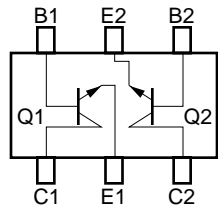
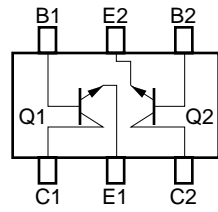
Transistor, FET**■ Power Transistor Quick Reference Table (for mobile and portable radio station)**

Output power Frequency	0.1 W or higher	1 W or higher
1000 MHz or higher	2SC5288 2SC5289	

Transistor, FET**■ Power Transistor Quick Reference Table (for mobile and portable radio station) (Output Power vs. Frequency)**

Transistor, FET

■ **Twin Transistor**

								
Same chip						Different chip		
for Pager		for VCO		for Mobile communication		for VCO		
Part number	2SC No. (X2)	Part number	2SC No. (X2)	Part number	2SC No. (X2)	Part number	2SC No.	
							Q1	Q2
μ PA800T.TF	2SC5008	μ PA811T	2SC5008					
μ PA801T.TF	2SC5006	μ PA810T.TF	2SC5006	μ PA821TF	2SC5006	μ PA831TF	2SC5006	2SC5007
μ PA802T	2SC5007	μ PA812T	2SC5007	μ PA822TF	2SC5007	μ PA832TF	2SC5006	2SC5010
μ PA803T	2SC5005	μ PA813T	2SC5005			μ PA833TF	2SC5195	2SC5010
μ PA804T.TF	2SC5004					μ PA834TF	2SC5007	2SC5006
μ PA805T	2SC5009					μ PA835TF	2SC5010	2SC5006
μ PA806T	2SC5010			μ PA826TF	2SC5010	μ PA836TF	2SC5010	2SC5195
μ PA807T	2SC5181			μ PA827TF	2SC5181	μ PA837TF	2SC5181	2SC5195
μ PA808T	2SC5186			μ PA828TF	2SC5186	μ PA838TF	2SC5195	2SC5186
μ PA809T.TF	2SC5195	μ PA814T.TF	2SC5195	μ PA829TF	2SC5195	μ PA839TF	2SC5008	2SC5006