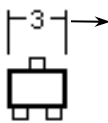
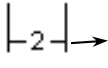
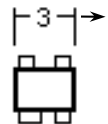
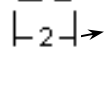
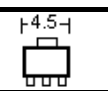

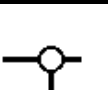
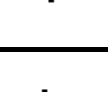

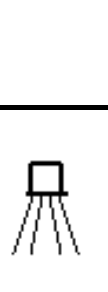

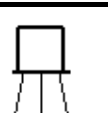
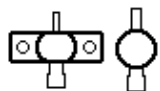


Low power transistors selection guide up to 1/2W


CASE	general purpose RF – IF	low noise	good dynamic IC ≤ 100 mA	high dynamic IC > 100 mA	amplifier > 2.5 GHz or Ft ≥ 8GHz	Ft ≥ 20GHz	oscillator	low voltage low consumption
 SOT 23	BFR 92A	BFQ 81 - 29P	BFR 93A	BFR 540	BFR 520		BFR 92A	BFT 25
	BFT 92	BFR 93A	BFR 520		BFR 540		MMBR 901	MRF 1027
	BFQ 81	BRF 182	NE 85633		BFR 182			
	BFS 17	BFR 182 W	BFR 106		BFR 182 W		BFT 92 oscillatore low noise	
 SOT 323	BSR 14	BFR 520-540						
		MMBR 901						
		MRF 1027						
		NE 85633						
 SoT 143	AT 00511	BFG 67 - 93A	MRF 9511	BFG 540	MRF 1027	BFP 405	BFG 425W	BFP 405
	BFG 92A	BFG520 - 540X	BFG 520	BFG 10X	MRF 9511	BFP 420	BFP 405	BFP 420
	HSMX 3655	HBFP 0420	BFP 193	BFG 540 X	MRF 5711	BFP 450	BFP 420	BFP 450
		BFP 181 - 182	BFP 196		BFG 10X	BFP 520	HBFP0420	HBFP0420
 SoT 343		183 - 196 - 405	BFP 450		BFP 183 - 405	HBFP 0420	up to 12 GHz	HBFP0420
		420 - 520			420 - 450		AT 00511	
		BFG 425W			BFG 425W		BFP 520	
		MRF 5711			BFG 520 - 540		up to 15 GHz	
 SoT 89		BFQ 540	BFQ 19	BFQ 17-18A	BFQ 540		BFG 92A	
				BFQ 540				
 SoT 223		BFG 541		BFG 35	BFG 198			
		BFG 235	BFG 97 - 198	BFG 135-235	BFG 541			
 SoT 37 plastic	BFR 90A	BFR 91A	BFQ 32	BFR 134			BFR 34A	
		BFR 34A	BFR 91A				BFR 90A	
 SoT 103 plastic	2SC 1070	BFG 195	AT 42085-86	MRF 559	AT 42085-86		AT42085-86	MRF 559
			AT 41486		AT 41486			
		MRF 536	BFG 96				MRF 536 low noise oscillator	
 SoT 103 SoT 173 ceramic or golden ceramic	BFQ 70	BFQ 66	AT 42035-10		AT42035-10		AT 420...	BFQ 70
	BFQ 71	BFQ 74	21dBm 2 GHz		+20.5 dBm		BFR 14C	BFQ 71
	BFQ 75	BFR 14C	BFQ 57 - 72		a 4 GHz		BFQ 57	
	BFQ 76	BFQ 77	BFQ 73S		HXTR 2101		BFQ 58	
		NE 21935	BFP 91A		HXTR 6103		BFQ 75	
			HXTR 3102		BFQ 57-58		BFQ 76	
			21dBm 2 GHz		BFQ 66-74		NE 21935	
			HXTR 2101		BFQ 77-58			
		18dBm 4 GHz		AT 41410				
 To 72 To 18 metallic	BF155-161-185		BFW 30				2SC 787	
	BFX 89		2N 5179 high gain				BF 155	
	BFY 90						BFW 30	
	BF 155						2N 5179	
	2N 2221							
	2N 2369							
 To 92 plastico	2N 2894							
	BF 199						BF 199	
	BF 497						BF 509	
	BF 509						2SC 2347	
 To 39 metall.	2N 3904							
	2N 1613			2N 5109			2N 5108	
	2N 1711			BFY 64			power oscillator	
	BFY 64							
	BFW 44							



case with heatsink

transistors used as medium and high power oscillator

HXTR 4103 NEX 2302-65
BFR 14C - BFQ 57-58
NE 243287 - 2N 3866

NOTE:  = PNP transistor

Transistor + I.C. + Ga As Fet for HIGH DYNAMIC

2

This table groups various devices suitable as **HIGH DYNAMIC** and **MODERATE NOISE** front-ends or post-amplifiers. Here are quoted only the informations associated with noise, gain and dynamic. Other informations and prices are available on the catalog pages. The purpose of this page is to group different devices (IC - FET - power transistors - GaAsFET - power modules, etc..) all suitable for for high dynamic in reception

cod.	type	NF and Gain vs. frequency and current absorption	dynamic IP3 - IMD - 1dBCP (P1dB)
AT 420...	up to 2 GHz transistor, Ic 10 mA 1.1dBNF IIP3 +17dBm	wide band Norton circuit 100-500MHz (VHF Comm 2-93) with results : 10 dBG Ic 16 mA 1.3 dBNF IIP3 +20dBm -- Ic 23 mA 1.5dBNF IIP3 +22dBm	
ATF 54143	GaAsFet Phemt type	they are a last generation GaAs-FETs especially designed as front-end for base stations so they have high dynamic and very low noise, suitable for 50-3000MHz band. OIP3 +36dBm	
BGD 802 + MHW 5222A etc...	CATV A class power modules	18 - 24 dBG 5-1000 MHz wide band, comprehensive descriptions in the next pages, MHW 5222A has a particular very low NF 3.5 - 4.5 dB	very high dynamic high OIP3 > +40 dBm
BF982 - 996	low power dual gate FET	2 or 4 FETs in parallel or push-pull give a good dynamic with a low NF see article on EL. World 3-96	
BFG 135	up to 2 GHz trans.	50 MHz 23dBG 2dBNF @ 30 mA 900 MHz 14dBG 2.1dBNF @ 30mA	OIP3 + 38 dBm @ 100 mA , very good as HF-VHF-UHF second stage (see various articles)
BFG 235	up to 1.5 GHz trans.	900 MHz 12dBG 2.7dBNF @ 60mA	OIP3 + 40 dBm
BFG 195	up to 2 GHz trans.	150 MHz - 1.3 dBNF @ 20 mA 500 MHz - 1.7dBNF @ 50 mA	opt. IMD Ic 20 - 80 mA (see article on RR 11-98 in config. Norton config.)
BFG 541	up to 2.5 GHz trans.	900 MHz 1.9dBNF 15dBG	OIP3 +34dBm Ic 40 mA
BFG 591	up to 1 GHz trans.	500 MHz - 17dBG @ 70 mA	opt. IMD Ic 60 - 80 mA
BFP 196	up to 2 GHz trans.	900 MHz 16dBG with 50 mA	OIP3 + 35dBm with 70 mA
BFP 450	up to 4 GHz trans.	1.8 GHz - 1.8 dBNF - 14dBG @ 50 mA	1.8 GHz : IP3 +29dBm P1dB +19dBm
BFQ17+18A	up to 500 MHz trans.	these devices were designed for A class TV	IMD Ic 60 mA and 80 mA
BFQ 32 pnp	up to 900 MHz trans.	500 MHz 3.8 dBNF 14 dBG @ 50 mA	complementary of the famous BFR96
BFQ 70	up to 2 GHz trans.	800 MHz 18dBG 1.5 dBNF with 20 mA	IP3 +27.5 dBm with only 20 mA
BFQ 73S	up to 1 GHz trans.	200 MHz 2.5dBNF - 22dBG @ 50 mA	800 MHz Ic 50 mA : IP3 +35 dBm IMD -60dBc with 2 400mV tones
BFQ 540	up to 1.3 GHz trans.	900 MHz 2dBNF - 13dBG @ 40 mA	Ic 40 - 50 mA
BFR 540	up to 2 GHz trans.	900 MHz 2dBNF	OIP3 + 34dBm with 40 mA
2N5109 2N5108	these devices are widely known and used for IF , HF and VHF, they TO39 transistor up to 500 MHz similar types	famous Norton circuit with transformer to obtain a 1 - 150 MHz wide band 9dBG @ 80 mA	have a good dynamic OIP3 + 37dBm Ic 80mA crossmodulat. -57dBc with 5 mW out and low noise 3dBNF @ 30 MHz
2N5179 BFW 30	up to 500 MHz trans.	21 dBG @ 200 MHz	OIP3 +34 dBm
DV 1205 S DV 1210 S	power FET	respectively with a bias of 0.5A and 1 A (if they are used in transmission they provide 5W, or 10W in A class). They have about 7dB NF in VHF	
HXTR 5102	> 1 GHz transistor	500 MHz 4 dBNF Ic 25mA	
MRF 559	up to 1 GHz trans.	at 500 MHz 4dBNF 14dBG @ 80 mA 3dBNF 14dBG @ 30 mA	1dBCP 0.5W
various types	medium power broad band	very good impedance matching with low VHF-UHF NF , 0.2 - 0.3 dBNF - 20 dBG	OIP3 +25dBm
CLY 10	GaAsFet	2.7dBNF @ 1.8 GHz 10dBG @ 400 mA	P1dB +33dBm OIP3 +47dBm
CGY 21	MMIC for CATV	20-1100 MHz < 4dBNF 20dBG @ 160mA	OIP3 +32.5dBm @ 160 mA
GPA..... GPD..... MWA.....	HF VHF MMIC	see more detailed specifications in " MMIC GPA GPD UTO MWA series "	
ERA 5	MMIC GaAsFet	dc 1 GHz <4.5 dBNF 20 dBG @ 65 mA	OIP3 + 33dBm @ 65 mA
MGA 62563	MMIC GaAsFet	it is the wide band component with the lowest noise and good dynamic that we have, see MMIC wide band amplifiers section for a more detailed explanation	
MRF 136	Power Fet TMOS	MRF136, with 28 Vcc and 0.5 A of current (14 W of bias), is exactly in the condition to give 20W RF power, in this bias condition it has only 1 dBNF @ 150 MHz. This low noise amplifier has an extremely high dynamic range.	
MRF 171	very high dynamic		
MAALSS0034	MMIC	with a NF of 1.6-1.8 dB in VHF-UHF the P1dB is +22dBm	
SL 611C	I.C. IF amplif. Plessey	IF high dynamic as amplifier and also as AGC on AM - SSB receivers	

See various articles on VHF Communications 2 -96 , 2-92 , 4-74 , 2-93
and on RR 5-91 , 11-98 , 7/8-03