

## SMALL-SIGNAL TRANSISTORS — PLASTIC (continued)

### RF Transistors

The RF transistors are designed for Small Signal amplification from RF to VHF/UHF frequencies. They are also used as mixers and oscillators in the same frequency ranges. Several types are AGC characterised. The transistors are listed in order of decreasing  $F_T$  Min.

Device Type	Pin Out	$BV_{CEO}$ min. Volts	$P_d$ max. mW	$I_C$ max. mA	$h_{FE}$ Min.	@ $I_C$ mA	$V_{CE}$ Volts	$F_T$ typ MHz	$C_{RE}$ $C_{RB}$ pF Max.	$N_F$ typ dB	F MHz
<b>NPN</b>											
MPSH17	BEC	15	625	100	25	5	10	1600	0.9	6*	200
MPSH10	BEC	25	625	100	60	4	10	1500	0.7	—	—
BF374	BEC	25	625	100	70	1	10	800	0.6	4	100
BF375	BEC	25	625	100	35	1	10	800	0.6	4	100
BF959	CEB	20	625	100	40	20	10	800	0.65(\$)	3	200
MPS918	EBC	15	625	50	20	8	10	800	1.7	6*	60
MPS3563	EBC	12	625	50	20	8	10	800	1.7	6*	60
BF199	CEB	25	625	100	40	7	10	750	0.35	2.5	35
BF373	BEC	45	625	100	38	7	10	720	0.32	—	—
BF371	BEC	30	625	100	38	7	10	720	0.23(\$)	—	—
BF240	CEB	40	625	25	65	1	10	600	0.34	2.5	100
BF224	CEB	30	625	50	30	7	10	600	0.28(\$)	2.5	100
BF241	CEB	40	625	25	35	1	10	470	0.34	2.5	100
BF254	CEB	20	625	100	65	1	10	260	0.9(\$)	1.7	1
BF255	CEB	20	625	100	35	1	10	200	0.9(\$)	1.7	1

### PNP

BF509	CBE	35	625	50	20	3	10	850	0.25	2.5*	200
MPSH81	BEC	20	625	50	60	5	10	700	0.85	—	—
BF506	CBE	35	625	50	20	3	10	600	0.25	4*	200
MPSH54	EBC	80	625	100	30	1.5	10	130	1.6	2*	1

(\$) Typ.

\* Max.

### High-Speed Saturated Switching Transistors

The transistors listed in this table are specially optimized for high-speed saturated switches. They are heavily gold doped and processed to provide very short switching times and low output capacitance (below 6 pF). The transistors are listed in order of decreasing turn-on time ( $t_{ON}$ ).

Device Type	$t_{on}$ ns Max.	$t_{off}$ ns Max.	@ $I_C$ mA	$BV_{CEO}$ Volts Min.	$h_{FE}$ Min.	@ $I_C$ mA	$V_{CE(sat)}$ Volts Max.	@ $I_C$ mA	& $I_B$ mA	$f_T$ MHz Min.	@ $I_C$ mA
<b>NPN</b>											
2N3904	70	250	10	40	100	10	0.2	10	1	300	10
2N3903	70	225	10	40	50	10	0.2	10	1	250	10
2N4400	35	255	150	40	50	150	0.4	150	15	200	20
MPS2369	12	18	10	15	40	10	0.25	10	1	500	10

### PNP

2N3906	70	250	10	40	100	10	0.25	10	1	250	10
2N3905	70	225	10	40	100	10	0.25	10	1	200	10
2N4402	35	255	150	40	50	150	0.4	150	15	150	20
MPS3640	25	35	50	12	30	10	0.2	10	1	500	10

<sup>1</sup>  $BV_{EBO}$

\* Typ