

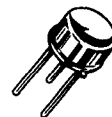
# NPN SWITCHING *Continued*

Type	V <sub>CEO</sub> V	Max I <sub>C</sub> mA	Max V <sub>CE(sat)</sub> at			h <sub>FE</sub> at			f <sub>T</sub> Min at		Switching Times (Max) at			Package	Complement
			V	I <sub>C</sub> mA	I <sub>B</sub> mA	Min.	Max.	I <sub>C</sub> mA	MHz	I <sub>C</sub> mA	t <sub>on</sub> ns	t <sub>off</sub> ns	I <sub>C</sub> mA		
BFY51	30	1000	0.35	150	15	40	—	150	50	50	55*	360*	150	TO-39	—
2N2218	30	800	0.4	150	15	40	120	150	250	20	25*	175*	150	TO-39	2N2904
2N2219	30	800	0.4	150	15	100	300	150	250	20	25*	200*	150	TO-39	2N2905
2N2220	30	800	0.4	150	15	20	60	150	250	20	20*	213*	150	TO-18	—
2N2221	30	800	0.4	150	15	40	120	150	250	20	25*	175*	150	TO-18	2N2906
2N2222	30	800	0.4	150	15	100	300	150	250	20	25*	200*	150	TO-18	2N2907
ZT80	25	500	0.2	10	2	38	162	10	200	10	50*	170*	20	TO-18	ZT180
ZT87	25	500	0.2	10	2	75	250	10	200	10	50*	170*	20	TO-18	ZT187
BFY52	20	1000	0.35	150	15	60	—	150	50	50	55*	360*	150	TO-39	—
2N706A	20	—	0.6	10	1	20	—	10	200	10	40	75	10	TO-18	—
2N2477	20	—	0.4	150	3.75	40	—	150	250	50	25	45	150	TO-39	—
2N2476	20	—	0.4	150	7.5	20	—	150	250	50	25	45	150	TO-39	—
2N2369A	15	500	0.2	10	1	—	120	10	—	—	9	13	10	TO-18	—
2N2368	15	500	0.24	10	1	20	60	10	—	—	12	15	10	TO-18	—
2N2369	15	500	0.24	10	1	40	120	10	—	—	12	18	10	TO-18	—
BSY95A	15	200	0.35	10	0.2	50	200	10	200	10	(note 3)			TO-18	—
2N708	15	—	0.4	10	1	30	120	10	300	10	(note 2)			TO-18	—
2N2938	13	500	0.4	50	1.6	30	105*	50	500	10	30	30	50	TO-18	—
2N2475	6	300	0.4	20	0.66	30	150	20	600	20	20	15	20	TO-18	—
2N709	6	—	0.3	3	0.15	20	120	10	600	5	15	15	10	TO-18	—

\*Typical      Note 2 t<sub>stg</sub> = 25 ns      Note 3 t<sub>stg</sub> = 50 ns



TO-18



TO-39

# ELECTRICAL CHARACTERISTICS

## N.P.N. SWITCHING TRANSISTORS

Dice Type	$V_{CB}$ Min.	$V_{CE}$ Min.	$t_{on}$ Max.	$t_{off}$ Max.	$h_{FE}$ at $I_C$ $V_{CE}$				$V_{CE(sat)}$ at $I_C$ $I_B$			$f_T$ Min.	$C_{obo}$ Max.	Geometry
	V	V	ns	ns	Min.	Max.	mA	V	V	mA	mA	MHz	pF	
2N2218A	75	40	35	285	40	120	150	10	0.3	150	15	250	8	G5
2N2219A	75	40	35	285	100	300	150	10	0.3	150	15	300	8	G5
2N2221A	75	40	35	285	40	120	150	10	0.3	150	15	250	8	G5
2N2222A	75	40	35	285	100	300	150	10	0.3	150	15	300	8	G5
2N2218	60	30	35	285	40	120	150	10	0.4	150	15	250	8	G5
2N2219	60	30	35	285	100	300	150	10	0.4	150	15	250	8	G5
2N2221	60	30	35	285	40	120	150	10	0.4	150	15	250	8	G5
2N2222	60	30	35	285	100	300	150	10	0.4	150	15	250	8	G5
2N2369	40	15	12	18	40	120	10	1	0.24	10	1	500	4	G18
2N2369A	40	15	12	18	40	120	10	1	0.2	10	1	500	4	G18

## P.N.P. SWITCHING TRANSISTORS

Dice Type	$V_{CB}$ Min.	$V_{CE}$ Min.	$t_{on}$ Max.	$t_{off}$ Max.	$h_{FE}$ at $I_C$ $V_{CE}$				$V_{CE(sat)}$ at $I_C$ $I_B$			$f_T$ Min.	$C_{obo}$ Max.	Geometry
	V	V	ns	ns	Min.	Max.	mA	V	V	mA	mA	MHz	pF	
2N2907A	60	60	45	100	100	300	150	10	0.4	150	15	200	8	G7
2N2907	60	40	45	100	100	300	150	10	0.4	150	15	200	8	G7
2N2894	12	12	60	90	40	150	30	0.5	0.5	100	10	400	6	G8

## N.P.N. HIGH FREQUENCY TRANSISTORS

Dice Type	$V_{CBO}$ Min.	$V_{CEO}$ Min.	$h_{FE}$ at $I_C$ at $V_{CE}$			$P_{out}$ at $V_{CE}$			$f_T$ Min.	N Max.	Geometry
	V	V	Min.	mA	V	mW	MHz	V	GHz	dB	
2N918	30	15	20	3	1	30	500	10.0	0.6	6	G14

$V_{CE(sat)}$ ,  $f_T$  and  $C_{obo}$  are parameters which are assembly dependent and figures quoted are those typically achieved on Ferranti assembly lines.