

# High Speed Saturated Switching Transistors

Bipolar Transistors

NATL SEMICOND (DISCRETE)

V <sub>CE(sat)</sub> (Volts) Min	Devices		t <sub>on</sub> (ns) Max	t <sub>off</sub> @ I <sub>C</sub>		h <sub>FE</sub> @ I <sub>C</sub>		V <sub>CE(sat)</sub> @ I <sub>C</sub> & I <sub>B</sub>			f <sub>T</sub> (MHz) Min	Package	P <sub>D</sub> (Amb) (mW) @25°C
	NPN	PNP		(ns) Max	mA	Min	mA	(Volts) Max	mA	mA			
60		2N2904A	45	100	150	40	150	0.4	150	15	200	TO-39	600
		2N2905A	45	100	150	100	150	0.4	150	15	200	TO-39	600
		2N2907A	45	100	150	100	150	0.4	150	15	200	TO-18	400
		MMBT2907A	45	100	150	100	150	0.4	150	15	200	TO-236*	350
		PN2907A	45	100	150	100	150	0.4	150	15	200	TO-92(92)	625
		PN3645	40	100	300	100	150	0.25	50	2.5	200	TO-92(92)	625
		TN2905A	45	100	150	100	150	0.4	150	15	200	TO-237(91)	850
50	2N3725		35	60	500	60	100	0.95	1A	100	300	TO-39	800
	TN3725		35	60	500	60	100	0.95	1A	100	300	TO-237(91)	850
45		PN3644	40	100	300	100	150	0.25	50	2.5	200	TO-92(92)	625
40	2N2219A		35	285	150	100	150	0.3	150	15	300	TO-39	800
	2N2222A		35	285	150	100	150	0.3	150	15	300	TO-18	400
	2N3903		70	225	10	50	10	0.2	10	1.0	250	TO-92(92)	625
	2N3904		70	250	10	100	10	0.2	10	1.0	300	TO-92(92)	625
	2N4400		35	255	150	50	150	0.4	150	15	200	TO-92(92)	625
	2N4401		35	255	150	100	300	0.4	150	15	250	TO-92(92)	625
	BSR17A		70	250	10	100	10	0.2	10	1.0	300	TO-236*	350
	MMBT2222A		35	285	150	100	150	0.3	150	15	300	TO-236*	350
	MMBT3904		70	250	10	100	10	0.2	10	1.0	300	TO-236*	350
	MMBT4401		35	255	150	100	300	0.4	150	15	250	TO-236*	350
	PN2222A		35	285	150	100	150	0.3	150	15	300	TO-92(92)	625

\* TO-236AB is standard for all devices.  
Please refer to Surface Mount section for TO-236 Device Marking.

