

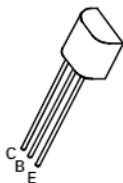
NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 2 – MARCH 1994

FEATURES

- * 60 Volt V_{CEO}
- * 1 Amp continuous current
- * $P_{tot} = 1$ Watt

ZTX450 ZTX451



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

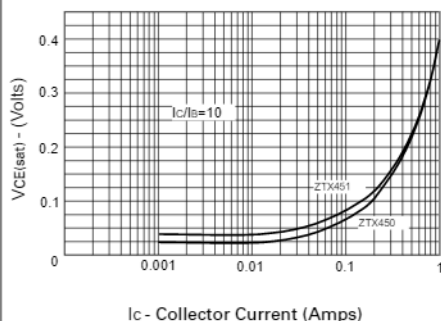
PARAMETER	SYMBOL	ZTX450	ZTX451	UNIT
Collector-Base Voltage	V_{CBO}	60	80	V
Collector-Emitter Voltage	V_{CEO}	45	60	V
Emitter-Base Voltage	V_{EBO}		5	V
Peak Pulse Current	I_{CM}		2	A
Continuous Collector Current	I_C		1	A
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}		1	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200		$^{\circ}C$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

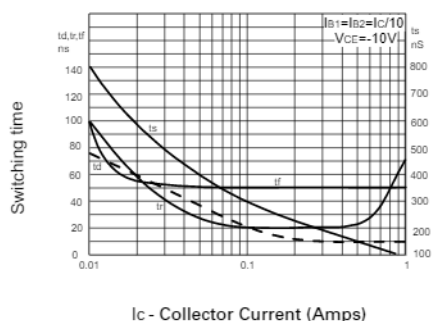
PARAMETER	SYMBOL	ZTX450		ZTX451		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60		80		V	$I_C = 100 \mu A$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	45		60		V	$I_C = 10 mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E = 100 \mu A$
Collector Cut-Off Current	I_{CBO}		0.1		0.1	μA μA	$V_{CB} = 45V$ $V_{CB} = 60V$
Emitter Cut-Off Current	I_{EBO}		0.1		0.1	μA	$V_{EB} = 4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.25		0.35	V	$I_C = 150 mA, I_B = 15 mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.1		1.1	V	$I_C = 150 mA, I_B = 15 mA^*$
Static Forward Current Transfer Ratio	h_{FE}	100 15	300	50 10	150		$I_C = 150 mA, V_{CE} = 10V^*$ $I_C = 1A, V_{CE} = 10V^*$
Transition Frequency	f_T	150		150		MHz	$I_C = 50 mA, V_{CE} = 10V$ $f = 100 MHz$
Output Capacitance	C_{obo}		15		15	pF	$V_{CB} = 10V, f = 1 MHz$

ZTX450 ZTX451

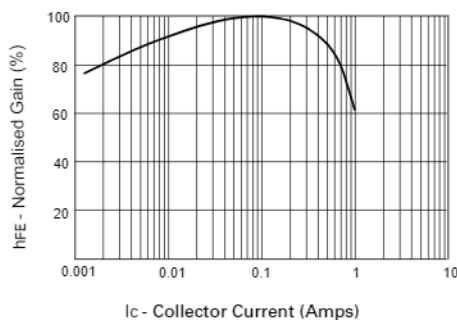
TYPICAL CHARACTERISTICS



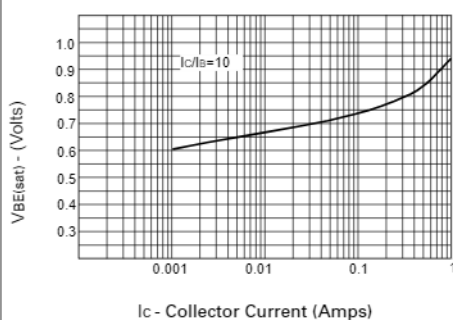
$V_{CE(sat)}$ v I_C



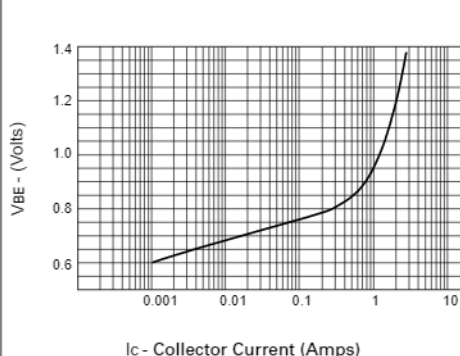
Typical Switching Speeds



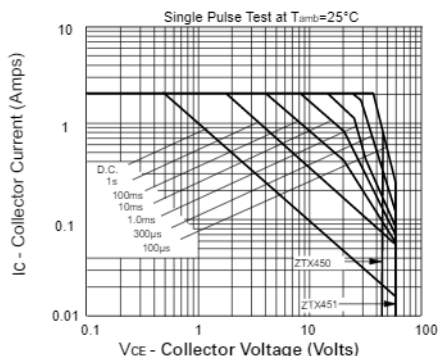
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area

