

PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

ZTX552 ZTX553

ISSUE 1 – MARCH 94

FEATURES

- * 100 Volt V_{CE0}
- * 1 Amp continuous current
- * $P_{tot}=1$ Watt



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX552	ZTX553	UNIT
Collector-Base Voltage	V_{CBO}	-100	-120	V
Collector-Emitter Voltage	V_{CEO}	-80	-100	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 $T_{amb}=25^{\circ}C$ derate above $25^{\circ}C$	P_{tot}	1 5.7		W mW/°C
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +200		°C

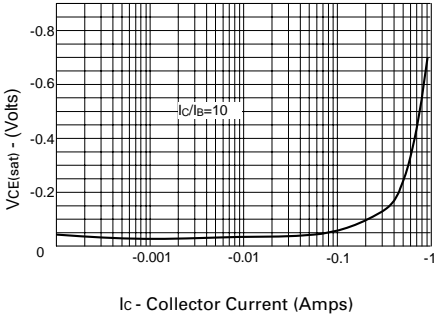
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$).

PARAMETER	SYMBOL	ZTX552		ZTX553		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-100		-120		V	$I_C=-100\mu A$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	-80		-100		V	$I_C=-10mA$
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	$V_{CB}=-80V$ $V_{CE}=-100V$
Emitter Cut-Off Current	I_{EBO}		-0.1		-0.1	μA	$V_{EB}=-4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25		-0.25	V	$I_C=-150mA, I_B=-15mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.1		-1.1	V	$I_C=-150mA, I_B=-15mA^*$
Base-Emitter Turn-on Voltage	$V_{BE(on)}$		-1.0		-1.0	V	$I_C=-150mA, V_{CE}=-10V^*$
Static Forward Current Transfer Ratio	h_{FE}	40 10	150	40 10	200		$I_C=-150mA, V_{CE}=-10V^*$ $I_C=-1A, V_{CE}=-10V^*$
Transition Frequency	f_T	150		150		MHz	$I_C=-50mA, V_{CE}=-10V$ $f=100MHz$
Output Capacitance	C_{obo}		12		12	MHz	$V_{CB}=-10V, f=1MHz$

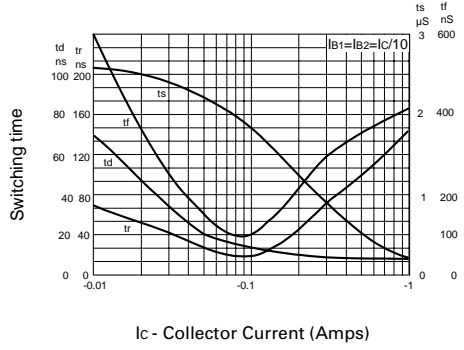
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

ZTX552 ZTX553

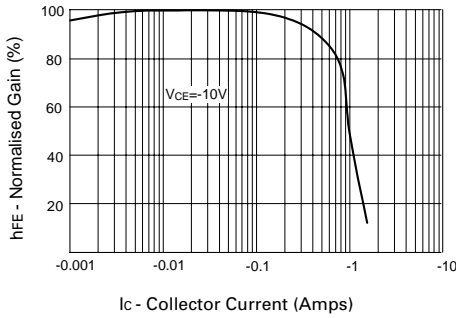
TYPICAL CHARACTERISTICS



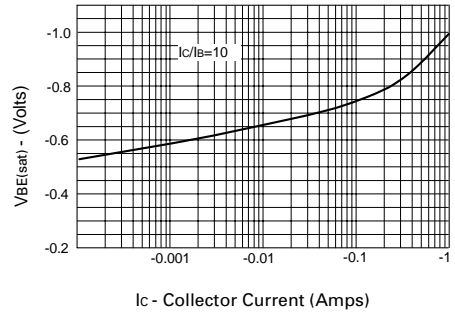
$V_{CE(sat)}$ v I_C



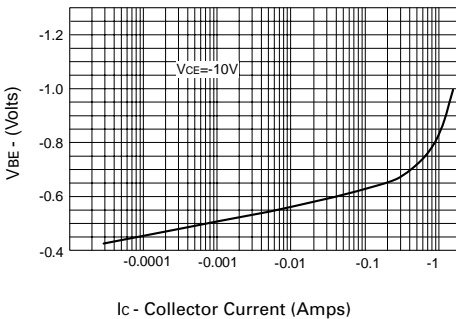
Switching Speeds



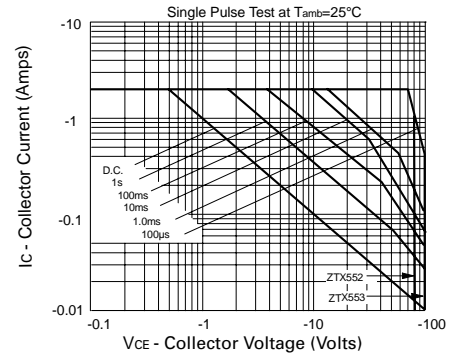
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area