

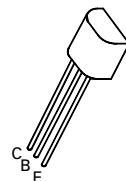
# PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

## 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/ $^{\circ}C$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +200		$^{\circ}C$

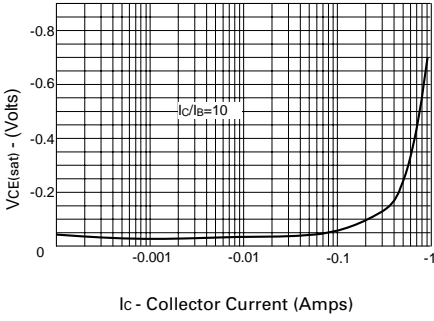
### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

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	$\mu A$	$V_{CB}=-80V$ $V_{CB}=-100V$
Emitter Cut-Off Current	$I_{EBO}$		-0.1		-0.1	$\mu A$	$V_{EB}=-4V$
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	$V_{CB}=-10V, f=1MHz$

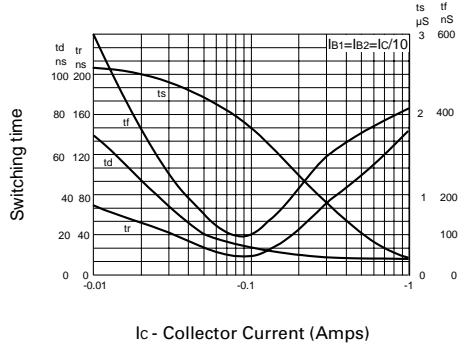
\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

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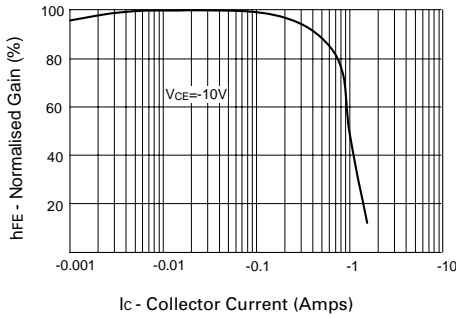
## TYPICAL CHARACTERISTICS



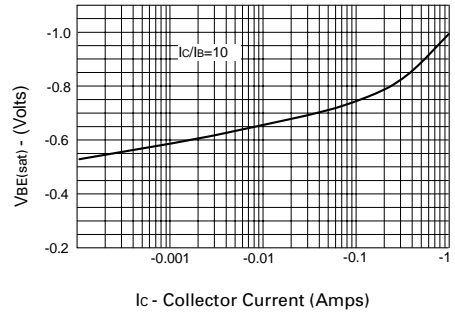
**$V_{CE(sat)}$  v  $I_C$**



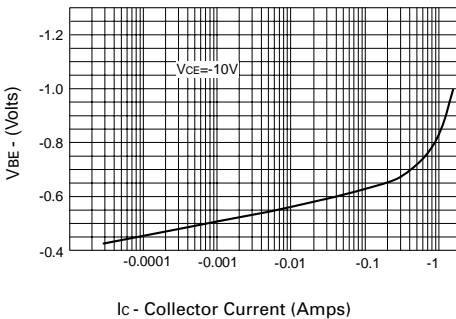
**Switching Speeds**



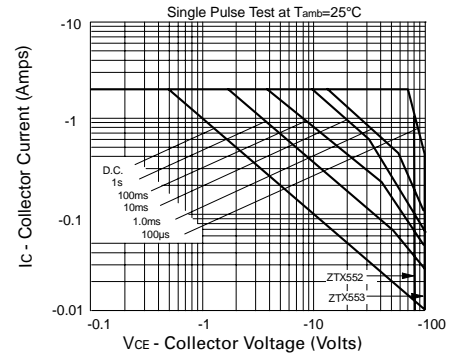
**$h_{FE}$  v  $I_C$**



**$V_{BE(sat)}$  v  $I_C$**



**$V_{BE(on)}$  v  $I_C$**



**Safe Operating Area**