

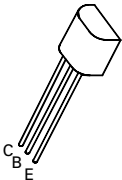
NPN SILICON PLANAR
MEDIUM POWER TRANSISTORS

ISSUE 2 – MARCH 1994

ZTX454
ZTX455

FEATURES

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



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	ZTX454	ZTX455	UNIT
Collector-Base Voltage	V_{CBO}	140	160	V
Collector-Emitter Voltage	V_{CEO}	120	140	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 $T_{amb} = 25^{\circ}C$).

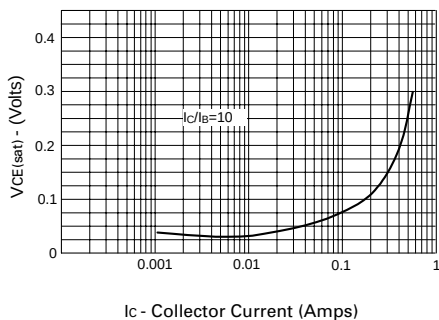
PARAMETER	SYMBOL	ZTX454		ZTX455		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	140		160		V	$I_C=100\mu A$
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	120		140		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}		0.1		0.1	μA	$V_{CB}=140V$ $V_{CB}=120V$
Emitter Cut-Off Current	I_{EBO}		0.1		0.1	μA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.7 1.0		0.7	V	$I_C=150mA, I_B=15mA$ $I_C=200mA, I_B=20mA$
Static Forward Current Transfer Ratio	h_{FE}	100 30 10†	300	100 10†	300		$I_C=150mA, V_{CE}=10V^*$ $I_C=200mA, V_{CE}=1V^*$ $I_C=1A, V_{CE}=10V^*$
Transition Frequency	f_T	100		100		MHz	$I_C=50mA, V_{CE}=10V$ $f=100MHz$
Output Capacitance	C_{obo}		15		15	pF	$V_{CB}=10V, f=1MHz$

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

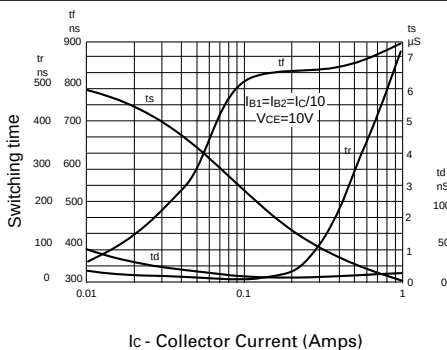
† Typical

ZTX454 ZTX455

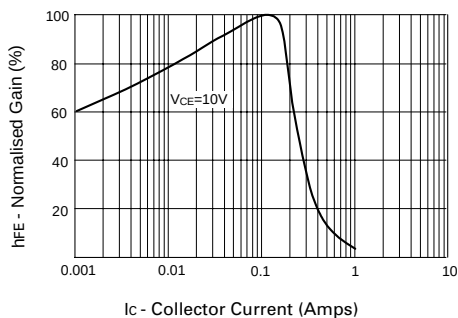
TYPICAL CHARACTERISTICS



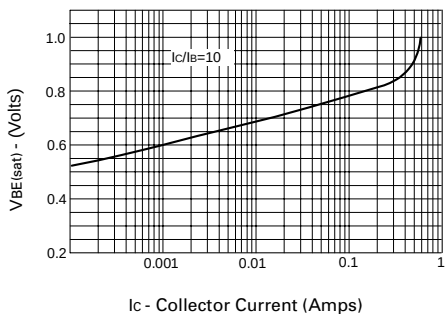
$V_{CE(sat)}$ v I_C



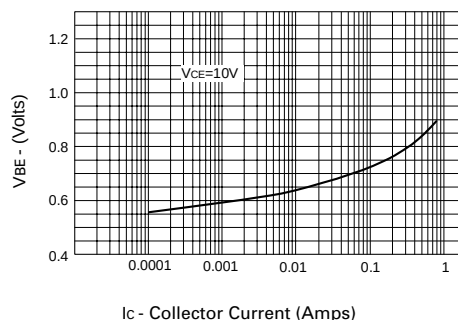
Typical Switching Speeds



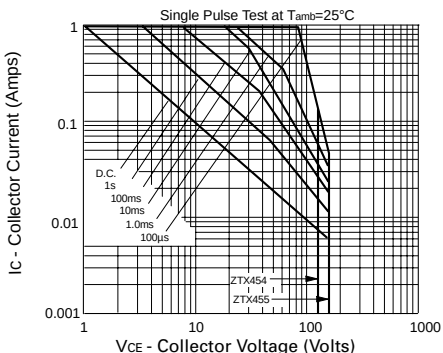
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area