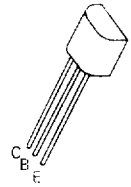
NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

ZTX454 ZTX455

ISSUE 2 – MARCH 1994

FEATURES

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



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

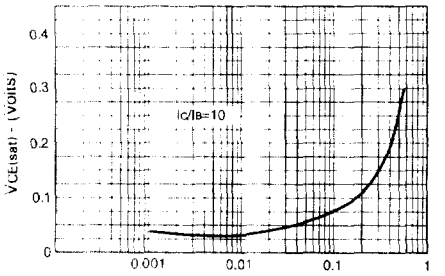
PARAMETER	SYMBOL	ZTX454	ZTX455	UNIT
Collector-Base Voltage	V_{CBO}	140	160	V
Collector-Emitter Voltage	V_{CEO}	120	140	V
Emitter-Base Voltage	V_{EBO}	5		V
Peak Pulse Current	I_{CM}	2		A
Continuous Collector Current	I_C	1		A
Power Dissipation at T_{amb}=25°C	P_{tot}	1		W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +200		°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER	SYMBOL	ZTX454		ZTX455		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	140		160		V	I_C=100μA
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=100μA
Collector Cut-Off Current	I_{CBO}		 0.1		0.1	μA 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

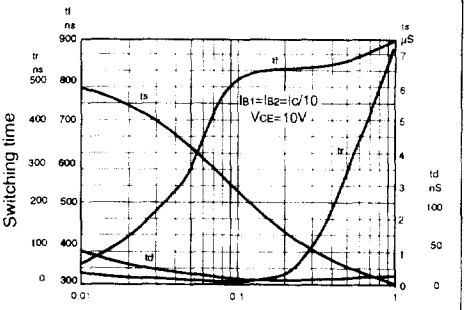
* Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%
† Typical

TYPICAL CHARACTERISTICS



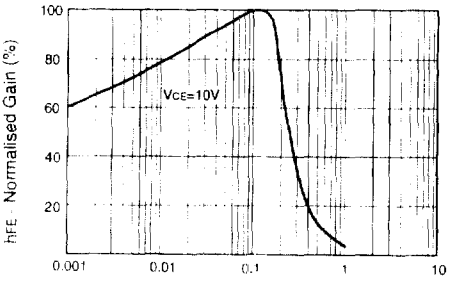
IC - Collector Current (Amps)

VCE(sat) v IC



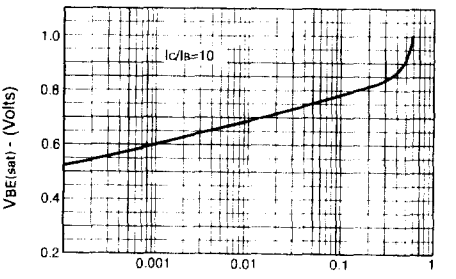
IC - Collector Current (Amps)

Typical Switching Speeds



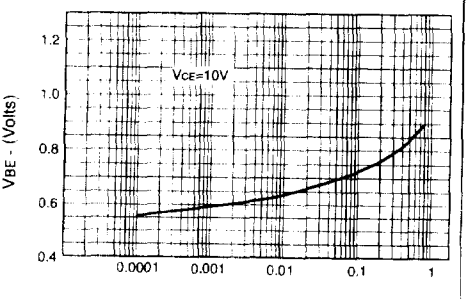
IC - Collector Current (Amps)

hFE v IC



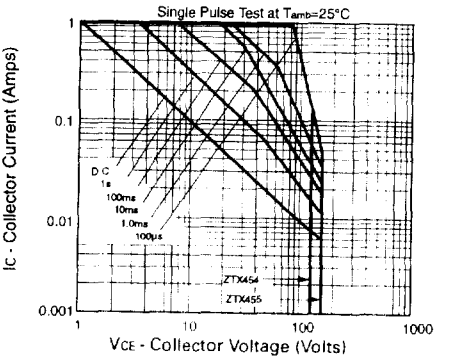
IC - Collector Current (Amps)

VBE(sat) v IC



IC - Collector Current (Amps)

VBE(on) v IC



Safe Operating Area