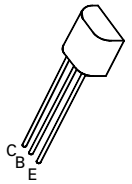
NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

ZTX449

ISSUE 2 – MARCH 1994

FEATURES

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



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	30	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

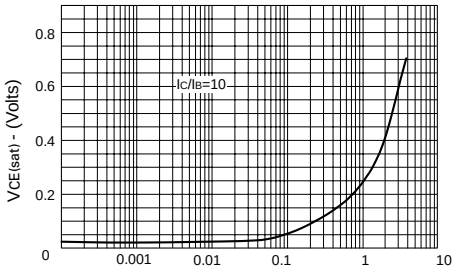
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50			V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	IC=10mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	I_E=100μA, I_C=0
Collector Cut-Off Current	I_{CBO}			0.1 10	μA μA	V_{CB}=40V V_{CB}=40V, T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}			0.1	μA	V_{EB}=4V, I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5 1	V V	I_C=1A, I_B=100mA* I_C=2A, I_B=200mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1.25	V	I_C=1A, I_B=100mA*
Base-Emitter Turn-on Voltage	$V_{BE(on)}$			1	V	IC=1A,V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	70 100 80 40		300		I_C=50mA, V_{CE}=2V* I_C=500mA, V_{CE}=2V* I_C=1A, V_{CE}=2V* I_C=2A, V_{CE}=2V*
Transition Frequency	f_T	150			MHz	I_C=50mA, V_{CE}=10V f=100MHz
Output Capacitance	C_{obo}			15	pF	V_{CB}=10V, f=1MHz

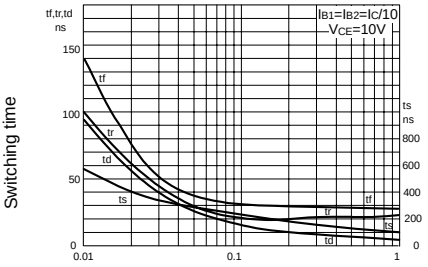
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

ZTX449

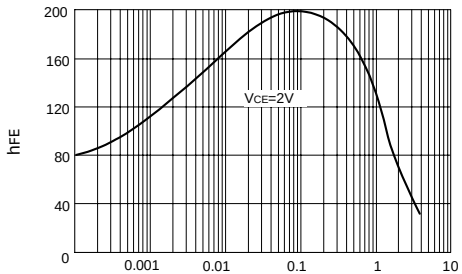
TYPICAL CHARACTERISTICS



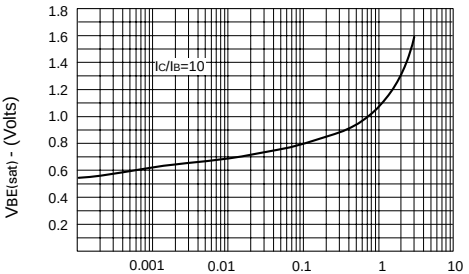
VCE(sat) v IC



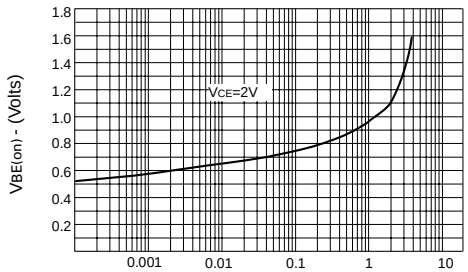
Switching Speeds



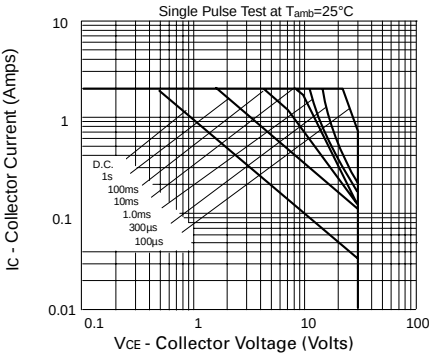
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area