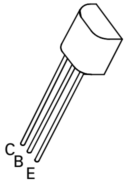
PNP SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 1 – MARCH 94

ZTX549
ZTX549A

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}	-35	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 derate above 25°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°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-35			V	I_C=-100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-30			V	I_C=-10mA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-100μA
Collector Cut-Off Current	I_{CBO}			-0.1 -10	μA μA	V_{CB}=-30V V_{CB}=-30V, T_{amb}=100°C
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	V_{EB}=-4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25 -0.50	-0.50 -0.75	V V	I_C=-1A, I_B=-100mA* I_C=-2A, I_B=-200mA*
ZTX549A				-0.30	V	I_C=-100mA, I_B=-1mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.9	-1.25	V	I_C=-1A, I_B=-100mA*
Base-Emitter Saturation Voltage	$V_{BE(on)}$		-0.85	-1	V	IC=-1A, V_{CE}=-2V*
Static Forward Current Transfer Ratio	h_{FE}	70 80 40	200 130 80			I_C=-50mA, V_{CE}=-2V* I_C=-1A, V_{CE}=-2V* I_C=-2A, V_{CE}=-2V*
ZTX549		100	160	300		I_C=-500mA, V_{CE}=-2V*
ZTX549A		150	200	500		I_C=-500mA, V_{CE}=-2V*

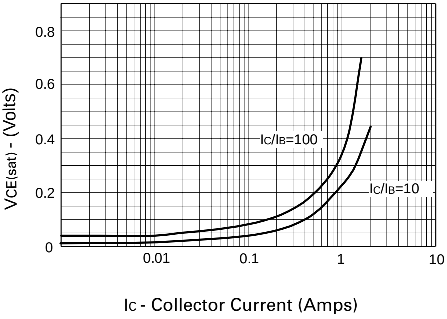
*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

ZTX549
ZTX549A

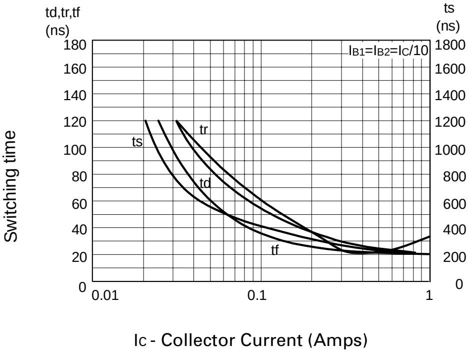
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	100			MHz	I_C=-100mA, V_{CE}=-5V f=100MHz
Output Capacitance	C_{obo}			25	pF	V_{CB}=-10V, f=1MHz
Switching Times	t_{on}		300		ns	I_C=-500mA, V_{CC}=-10V I_{B1}=I_{B2}=-50mA
	t_{off}		50		ns	

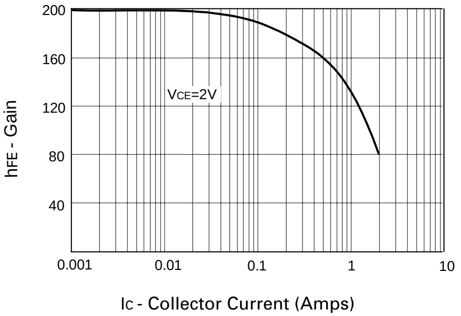
TYPICAL CHARACTERISTICS



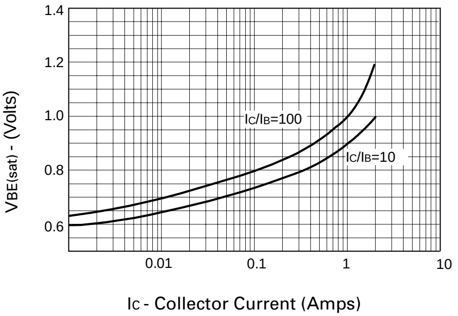
$V_{CE(sat)}$ v I_C



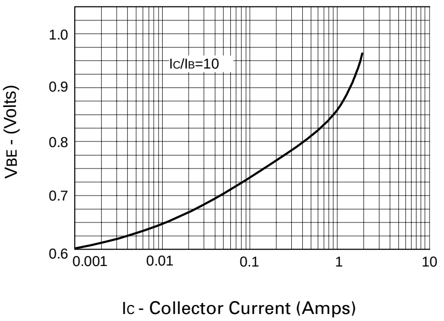
Switching Speeds



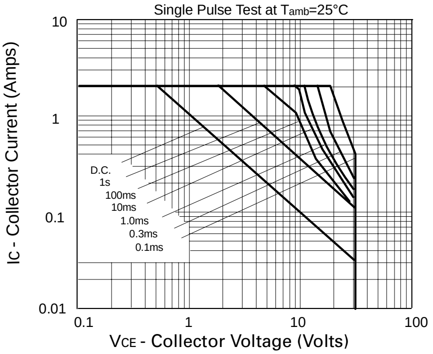
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area