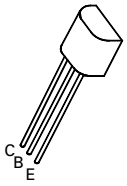
PNP SILICON PLANAR HIGH SPEED SWITCHING TRANSISTOR

ZTX510

ISSUE 2 – MARCH 94

FEATURES

* 12 Volt V_{CEO}
* f_T=400MHz



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

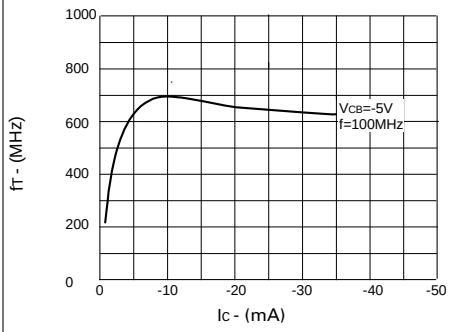
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-12	V
Collector-Emitter Voltage	V_{CEO}	-12	V
Emitter-Base Voltage	V_{EBO}	-4	V
Base Current	I_B	-40	mA
Continuous Collector Current	I_C	-200	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	300	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +175	°C

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

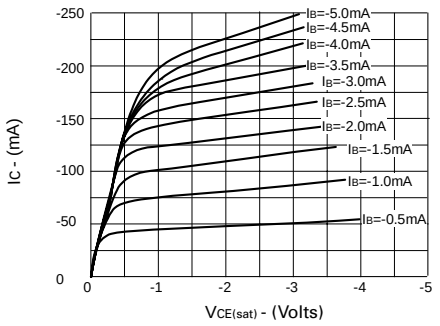
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-12			V	I_C=-10μA
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	-12			V	I_C=-10mA
Collector Cut-Off Current	I_{CBO}			-0.1	μA	V_{CB}=-6V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.15 -0.2 -0.5	V V V	I_C=-10mA, I_B=-1mA* I_C=-30mA, I_B=-3mA* I_C=-100mA, I_B=-10mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-0.76 -0.82 -1.7		-0.98 -1.2	V V V	I_C=-10mA, I_B=-1mA* I_C=-30mA, I_B=-3mA* I_C=-100mA, I_B=-10mA*
Static Forward Current Transfer Ratio	h_{FE}	30 40 20		150		I_C=-10mA, V_{CE}=-0.3V* I_C=-30mA, V_{CE}=-0.5V* I_C=-100mA, V_{CE}=-1V*
Transition Frequency	f_T	400			MHz	I_C=-30mA, V_{CE}=-5V f=100MHz
Output Capacitance	C_{obo}			6	pF	V_{CB}=-5V, f=140KHz
Input Capacitance	C_{ibo}			6	pF	V_{EB}=-0.5V, f=140KHz
Switching Times	t_{on}			60	ns	I_C=-30mA, I_{B1}=I_{B2}=-1.5mA
	t_{off}			90	ns	

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

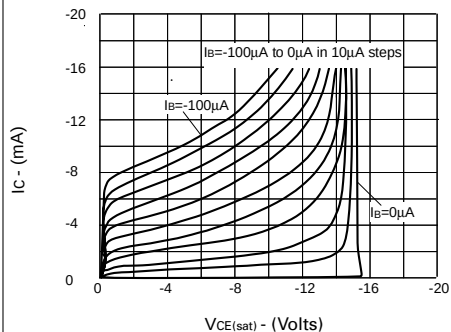
TYPICAL CHARACTERISTICS



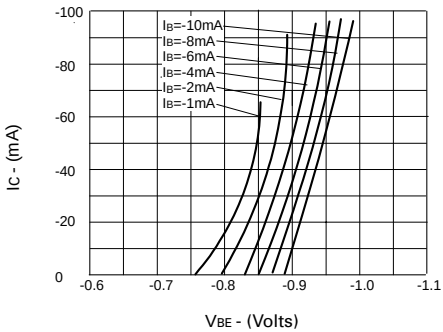
IC v fT



VCE(sat) v IC



VCE v IC



VBE v IC