

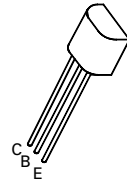
NPN SILICON PLANAR HIGH SPEED SWITCHING TRANSISTOR

ZTX314

ISSUE 2 – MARCH 94

FEATURES

- * 15 Volt V_{CE0}
- * $f_T=500$ MHz



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Base Current	I_B	100	mA
Continuous Collector Current	I_C	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	300	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +175	$^{\circ}C$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40		V	$I_C=10\mu A, I_E=0$
Collector-Emitter Sustaining Voltage	$V_{CEO(SUS)}$	15		V	$I_C=10mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		200 30	nA μA	$V_{CB}=20V, I_E=0$ $V_{CB}=20V, I_E=0, T_{amb}=100^{\circ}C$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		0.2 0.5	V V	$I_C=10mA, I_B=1mA^*$ $I_C=100mA, I_B=10mA^*$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	0.7	0.85 1.6	V	$I_C=10mA, I_B=1mA^*$ $I_C=100mA, I_B=10mA^*$
Static Forward Current Transfer Ratio	h_{FE}	40 40 30 20	120 120		$I_C=10mA, V_{CE}=1V^*$ $I_C=10mA, V_{CE}=0.35V^*$ $I_C=30mA, V_{CE}=1V^*$ $I_C=100mA, V_{CE}=1V^*$
Transition Frequency	f_T	500		MHz	$I_C=10mA, V_{CE}=10V$ $f=100MHz$
Output Capacitance	C_{obo}		4	pF	$V_{CB}=5V, f=1MHz$
Storage Time	t_{stg}		13	ns	$I_C=I_{B1}=I_{B2}=10mA$
Turn-on Time	t_{on}		12	ns	$I_C=10mA, I_{B1}=3mA$
Turn-off Time	t_{off}		18	ns	$I_C=10mA, I_{B1}=3mA,$ $I_{B2}=1.5mA$

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