

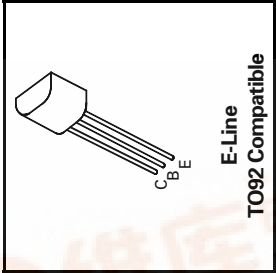
NPN SILICON PLANAR
HIGH SPEED SWITCHING TRANSISTOR

ZTX360

ISSUE 2 – MARCH 94

FEATURES

- * 40 Volt V_{CE}
- * 1 Amp continuous current
- * Fast switching



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CE0}	40	V
Emitter-Base Voltage	V_{EB0}	5	V
Continuous Collector Current	I_C	1	A
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{tot}	500	W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +175	$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Emitter Sustaining Voltage	$V_{CE0(SUS)}$	40			V	$I_C=10\text{mA}, I_B=0^*$
Collector Cut-Off Current	I_{CBO}		500 300		nA μA	$V_{CB}=40\text{V}, I_E=0$ $V_{CB}=40\text{V}, I_E=0, T_{amb}=150^{\circ}\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.6		V	$I_C=500\text{mA}, I_B=50\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.7		1.2	V	$I_C=500\text{mA}, I_B=50\text{mA}^*$
Static Forward Current Transfer Ratio	h_{FE}	25		150		$I_C=500\text{mA}, V_{CE}=1\text{V}^*$
Transition Frequency	f_T	200			MHz	$I_C=50\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$
Input Capacitance	C_{ib}		36	50	pF	$V_{EB}=0.5\text{V}, I_C=0, f=1\text{MHz}$
Output Capacitance	C_{ob}		5.75	10	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
Turn-On Time	t_{on}			40	ns	$V_{CC}=30\text{V}, I_C=500\text{mA}, I_{B(on)}=50\text{mA}, -V_{BE(off)}=2\text{V}$
Turn-Off Time	t_{off}			75	ns	$V_{CC}=30\text{V}, I_C=500\text{mA}, I_{B(on)}=-I_{B(off)}=50\text{mA}$

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

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