

**ZTX549
ZTX549A**

**PNP SILICON PLANAR
MEDIUM POWER TRANSISTORS**

ISSUE 1 – MARCH 94

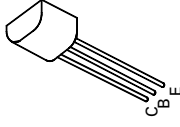
**ZTX549
ZTX549A**

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

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

FEATURES

- * 30 Volt V_{CE0}
- * 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 $T_{amb} = 25^{\circ}\text{C}$ derate above 25°C	P_{tot}	1	W
	T_j, T_{stg}	5.7	$\text{mW}/^{\circ}\text{C}$
Operating and Storage Temperature Range		-55 to +200	$^{\circ}\text{C}$

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

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

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

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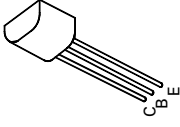
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Output Capacitance	C_{obo}			25	pF	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on}		300		ns	$I_C = 500\text{mA}$, $V_{CC} = 10\text{V}$ $I_B = I_{B2} = 50\text{mA}$
	t_{off}		50		ns	

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Power Dissipation: at $T_{amb} = 25^{\circ}\text{C}$ derate above 25°C	P_{tot}	1	W
	T_J, T_{stg}	5.7	mW/ $^{\circ}\text{C}$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to +200	$^{\circ}\text{C}$

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Emitter Cut-Off Current	I_{EBO}			-0.1	μA	$V_{EB} = 4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25	-0.50	V	$I_C = 1\text{A}$, $I_B = 100\text{mA}$ *
			-0.50	-0.75	V	$I_C = 2\text{A}$, $I_B = 200\text{mA}$ *
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.30	V	$I_C = 100\text{mA}$, $I_B = 1\text{mA}$ *
				-1.25	V	$I_C = 1\text{A}$, $I_B = 100\text{mA}$ *
Base-Emitter Saturation Voltage	$V_{BE(on)}$		-0.85	-1	V	$I_C = 1\text{A}$, $V_{CE} = 2\text{V}$ *
Static Forward Current Transfer Ratio	h_{FE}		70	200		$I_C = 50\text{mA}$, $V_{CE} = 2\text{V}$ *
			80	130		$I_C = 1\text{A}$, $V_{CE} = 2\text{V}$ *
			40	80		$I_C = 2\text{A}$, $V_{CE} = 2\text{V}$ *
ZTX549		100	160	300		$I_C = 500\text{mA}$, $V_{CE} = 2\text{V}$ *
	ZTX549A	150	200	500		$I_C = 500\text{mA}$, $V_{CE} = 2\text{V}$ *

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TYPICAL CHARACTERISTICS

