

ZTX749

**ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).**

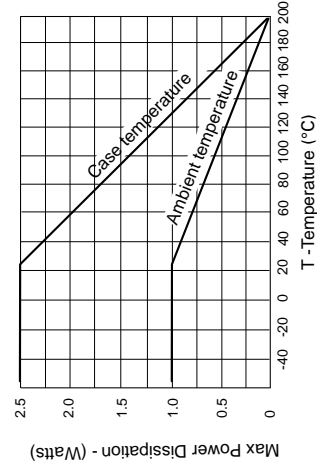
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f <sub>T</sub>	100	160		MHz	I <sub>C</sub> =-100mA, V <sub>CE</sub> =-5V f=100MHz
Output Capacitance	C <sub>obo</sub>		55	100	pF	V <sub>CB</sub> =-10V f=1MHz
Switching Times	t <sub>on</sub>		40		ns	I <sub>C</sub> =-500mA, V <sub>CE</sub> =-10V
	t <sub>off</sub>		450		ns	I <sub>B1</sub> =I <sub>B2</sub> =-50mA

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

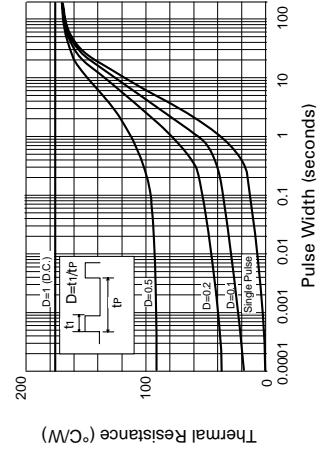
**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient <sub>1</sub>	R <sub>th(j-amb)1</sub>	175	°C/W
Junction to Ambient <sub>2</sub>	R <sub>th(j-amb)2</sub>	116	°C/W
Junction to Case	R <sub>th(j-case)</sub>	70	°C/W

† Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.



**Derating curve**



**Maximum transient thermal impedance**

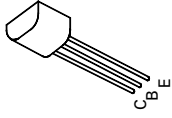
**PNP SILICON PLANAR MEDIUM POWER TRANSISTOR**

ZTX749

ISSUE 1 – APRIL 94

**FEATURES**

- \* 25 Volt V<sub>CE0</sub>
- \* 2 Amp continuous current
- \* Low saturation voltage



E-Line  
TO92 Compatible

**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-35	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-25	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Peak Pulse Current	I <sub>CM</sub>	-6	A
Continuous Collector Current	I <sub>C</sub>	-2	A
Power Dissipation at T <sub>amb</sub> =25°C derate above 25°C	P <sub>tot</sub>	1	W
Operating and Storage Temperature Range	T <sub>j, T<sub>stg</sub></sub>	5.7	mW/°C
		-55 to +200	°C

**ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	-35			V	I <sub>C</sub> =-100µA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	-25			V	I <sub>C</sub> =-10mA, I <sub>B</sub> =0*
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	-5			V	I <sub>E</sub> =-100µA, I <sub>C</sub> =0
Collector Cut-Off Current	I <sub>CBO</sub>		-0.1		µA	V <sub>CB</sub> =-30V
Emitter Cut-Off Current	I <sub>EBO</sub>		-0.1		µA	V <sub>CB</sub> =-30V, T <sub>amb</sub> =100°C
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>		-0.12	-0.3	V	I <sub>C</sub> =1A, I <sub>B</sub> =-100mA*
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>		-0.23	-0.5	V	I <sub>C</sub> =2A, I <sub>B</sub> =-200mA*
Base-Emitter Turn-On Voltage	V <sub>BE(on)</sub>		-0.9	-1.25	V	I <sub>C</sub> =1A, I <sub>B</sub> =-100mA*
Static Forward Current Transfer Ratio	h <sub>FE</sub>	70	200	300		I <sub>C</sub> =50mA, V <sub>CE</sub> =-2V*
		100	200	150		I <sub>C</sub> =1A, V <sub>CE</sub> =-2V*
		15	50	50		I <sub>C</sub> =-2A, V <sub>CE</sub> =-2V*
						I <sub>C</sub> =-6A, V <sub>CE</sub> =-2V*

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

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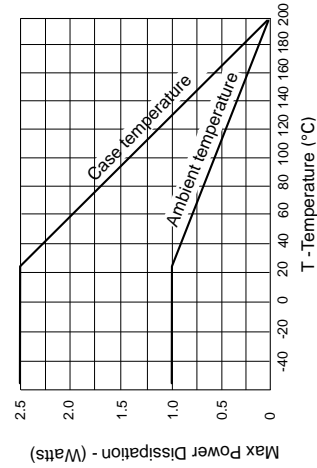
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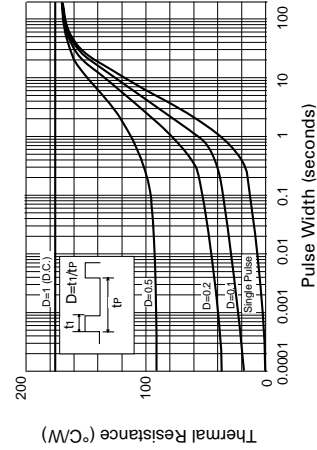
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**Derating curve**



**Maximum transient thermal impedance**

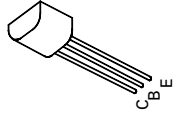
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Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	-5			V	I <sub>E</sub> =-100µA, I <sub>C</sub> =0
Collector Cut-Off Current	I <sub>CBO</sub>			-0.1	µA	V <sub>CB</sub> =-30V
Emitter Cut-Off Current	I <sub>EBO</sub>			-0.1	µA	V <sub>CB</sub> =-30V, T <sub>amb</sub> =100°C
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Static Forward Current Transfer Ratio	h <sub>FE</sub>	70	200	300		I <sub>C</sub> =50mA, V <sub>CE</sub> =-2V*
		100	200	150		I <sub>C</sub> =1A, V <sub>CE</sub> =-2V*
		75	150	50		I <sub>C</sub> =2A, V <sub>CE</sub> =-2V*
		15	50			I <sub>C</sub> =6A, V <sub>CE</sub> =-2V*

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

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## TYPICAL CHARACTERISTICS

