



ZTX749

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

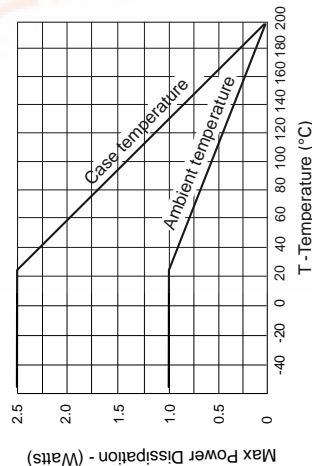
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f _T	100	160		MHz	I _C =100mA, V _{CE} =5V f=100MHz
Output Capacitance	C _{obo}		55	100	pF	V _{CB} =10V f=1MHz
Switching Times	t _{on}		40		ns	I _C =500mA, V _{CC} =10V
	t _{off}		450		ns	I _{B1} =I _{B2} =50mA

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

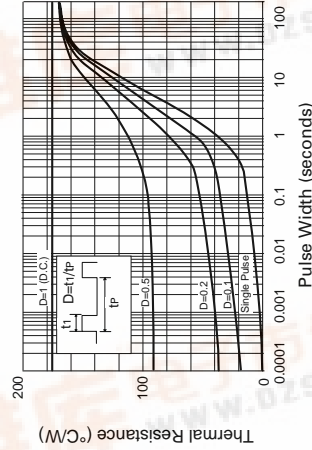
THERMAL CHARACTERISTICS

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

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



Derating curve



Maximum transient thermal impedance

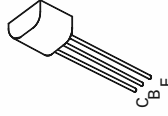
PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

ZTX749

ISSUE 1 - APRIL 94

FEATURES

- * 25 Volt V_{CEO}
- * 2 Amp continuous current
- * Low saturation voltage



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	-35	V
Collector-Emitter Voltage	V _{CEO}	-25	V
Emitter-Base Voltage	V _{EB0}	-5	V
Peak Pulse Current	I _{CM}	-6	A
Continuous Collector Current	I _C	-2	A
Power Dissipation at T _{amb} =25°C derate above 25°C	P _{tot}	1	W
	T _{j, T-stg}	5.7	mW/°C
Operating and Storage Temperature Range		-55 to +200	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-35			V	I _C =100µA, I _E =0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-25			V	I _C =10mA, I _B =0*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-5			V	I _E =100µA, I _C =0
Collector Cut-Off Current	I _{CBO}			-0.1	µA	V _{CB} =30V
				-10	µA	V _{CB} =30V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			-0.1	µA	V _{EB} =4V, I _E =0
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-0.12	-0.3	V	I _C =1A, I _B =100mA*
			-0.23	-0.5	V	I _C =2A, I _B =200mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-0.9	-1.25	V	I _C =1A, I _B =100mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		-0.8	-1	V	I _C =1A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	70	200			I _C =50mA, V _{CE} =2V*
		100	200	300		I _C =1A, V _{CE} =2V*
		75	150			I _C =2A, V _{CE} =2V*
		15	50			I _C =6A, V _{CE} =2V*

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

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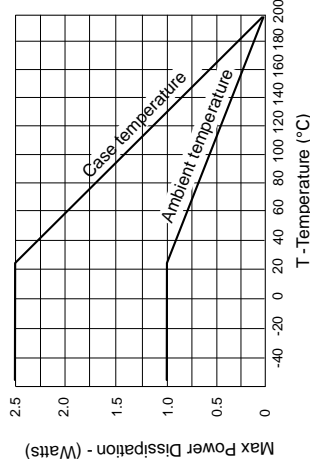
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Switching Times	t _{on}		40		ns	I _C =-500mA, V _{CC} =-10V
	t _{off}		450		ns	I _{B1} =I _{B2} =-50mA

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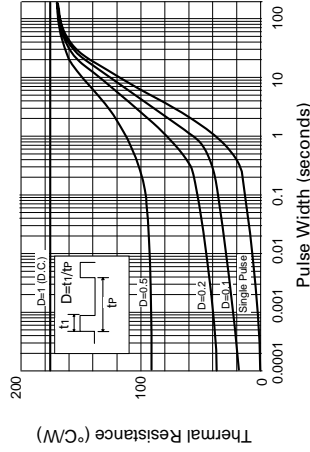
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Derating curve



Maximum transient thermal impedance

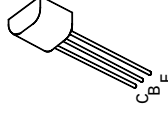
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MEDIUM POWER TRANSISTOR**

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Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-25			V	I _C =-10mA, I _B =0*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-5			V	I _E =-100µA, I _C =0
Collector Cut-Off Current	I _{CBO}			-0.1	µA	V _{CB} =-30V
				-10	µA	V _{CB} =-30V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			-0.1	µA	V _{EB} =-4V, I _E =0
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-0.12	-0.3	V	I _C =1A, I _B =-100mA*
			-0.23	-0.5	V	I _C =2A, I _B =-200mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-0.9	-1.25	V	I _C =1A, I _B =-100mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		-0.8	-1	V	I _C =-1A, V _{CE} =-2V*
Static Forward Current Transfer Ratio	h _{FE}	70	200			I _C =50mA, V _{CE} =-2V*
		100	200	300		I _C =1A, V _{CE} =-2V*
		75	150			I _C =-2A, V _{CE} =-2V*
		15	50			I _C =-6A, V _{CE} =-2V*

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TYPICAL CHARACTERISTICS

