



ZTX953

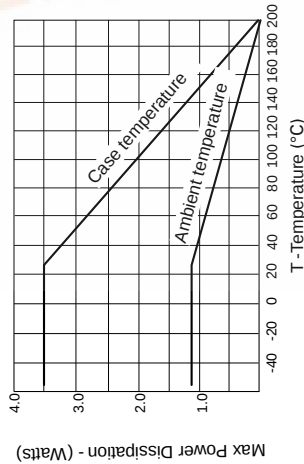
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	V _{BE(on)}		-880	-1100	mV	I _C =-10mA, V _{CE} =-1V*
Static Forward Current Transfer	h _{FE}	100	200	300		I _C =-10mA, V _{CE} =-1V*
		100	200			I _C =-1A, V _{CE} =-1V*
		50	90			I _C =-3A, V _{CE} =-1V*
		30	50			I _C =-4A, V _{CE} =-1V*
			15			I _C =-10A, V _{CE} =-1V*
Transition Frequency	f _T		125		MHz	I _C =-100mA, V _{CE} =-10V f=50MHz
Output Capacitance	C _{obo}		65		pF	V _{CE} =-10V, f=1MHz
Switching Times	t _{on}		110		ns	I _C =-2A, I _B =-200mA
	t _{off}		460		ns	I _B =-200mA, V _{CE} =-10V

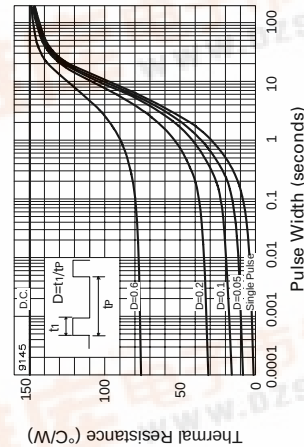
Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

HERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient Junction to Case	R _{th(j-amb)} R _{th(j-case)}	150 50	°CW °CW



Derating curve



Maximum transient thermal impedance

PNP SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ISSUE 4 - JUNE 94

FEATURES

- * 3.5 Amps continuous current
- * Up to 10 Amps peak current
- * Very low saturation voltage
- * Excellent gain up to 10 Amps
- * Spice model available

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V _{CBO}	-140	V
Collector-Emitter Voltage	V _{CEO}	-100	V
Emitter-Base Voltage	V _{EBO}	-6	V
Peak Pulse Current	I _{CM}	-10	A
Continuous Collector Current	I _C	-3.5	A
Practical Power Dissipation*	P _{top}	1.58	W
Power Dissipation at T _{amb} =25°C	P _{tot}	1.2	W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +200	°C

*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-140	-170		V	I _C =-100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CE}	-140	-170		V	I _C =-1μA, R _B ≤ 1KΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-100	-120		V	I _C =-10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E =-100μA
Collector Cut-Off Current	I _{CBO}				nA	V _{CE} =-100V, T _{amb} =-100°C
Collector Cut-Off Current	I _{CER}				μA	V _{CE} =-100V, T _{amb} =100°C
Collector Cut-Off Current	I _{CER}				nA	V _{CE} =-100V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}				nA	V _{EB} =-6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}				mV	I _C =-100mA, I _B =-10mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}				mV	I _C =-1A, I _B =-100mA*
					mV	I _C =-2A, I _B =-200mA*
					mV	I _C =-4A, I _B =-400mA*
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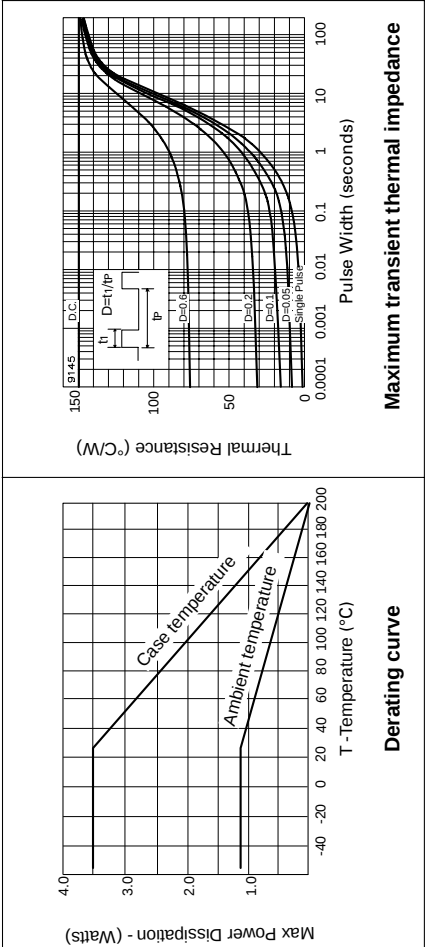
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Collector-Emitter Breakdown Voltage	V _{(BR)CE}	-140	-170		V	I _C =-1µA, R _B ≤1KΩ
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-100	-120		V	I _C =-10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6	-8		V	I _E =-100µA
Collector Cut-Off Current	I _{CBO}				nA	V _{CB} =-100V V _{CE} =-100V, T _{amb} =100°C
Collector Cut-Off Current	I _{CER} R ≤1KΩ			-50 -1	µA	V _{CB} =-100V V _{CE} =-100V, T _{amb} =100°C
Emitter Cut-Off Current	I _{EBO}			-10	nA	V _{EB} =-6V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		-20	-50	mV	I _C =-100mA, I _B =-10mA*
			-80	-100	mV	I _C =-1A, I _B =-100mA*
			-140	-170	mV	I _C =-2A, I _B =-200mA*
			-250	-330	mV	I _C =-4A, I _B =-400mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		-960	-1100	mV	I _C =-4A, I _B =-400mA*

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TYPICAL CHARACTERISTICS

