



# ZTX949

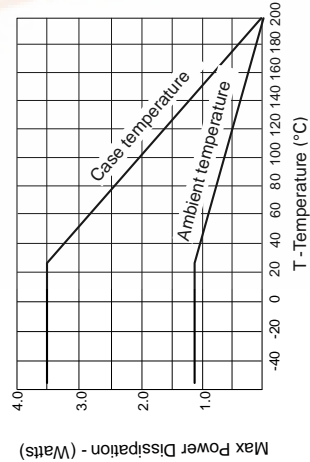
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-860	-1000	mV	$I_C=5A, V_{CE}=1V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	100	200	300		$I_C=10mA, V_{CE}=1V$
		100	200			$I_C=1A, V_{CE}=1V^*$
		75	140			$I_C=5A, V_{CE}=1V^*$
			35			$I_C=20A, V_{CE}=1V^*$
Transition Frequency	$f_T$		100		MHz	$I_C=100mA, V_{CE}=10V, f=50MHz$
Output Capacitance	$C_{obo}$		122		pF	$V_{CBF}=10V, f=1MHz$
Switching Times	$t_{on}$		120		ns	$I_C=4A, I_B=400mA, V_{CC}=10V$
	$t_{off}$		130		ns	$I_B=400mA, V_{CC}=10V$

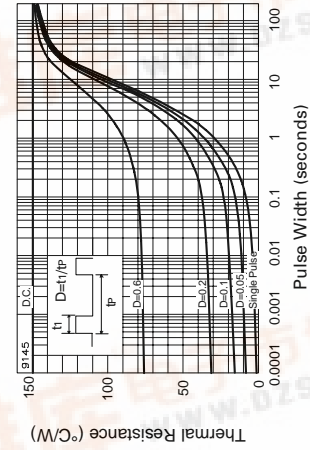
Measured under pulsed conditions. Pulse width=300 $\mu$ s. Duty cycle  $\leq 2\%$

## HERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient	$R_{th(j-amb)}$	150	$^{\circ}C/W$
Junction to Case	$R_{th(j-case)}$	50	$^{\circ}C/W$



Derating curve



Maximum transient thermal impedance

# PNP SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ISSUE 3 - JUNE 94

## FEATURES

- \* 4.5 Amps continuous current
- \* Up to 20 Amps peak current
- \* Very low saturation voltage
- \* Excellent gain up to 20 Amps
- \* Very low leakage
- \* Exceptional gain linearity down to 10mA
- \* Spice model available

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Peak Pulse Current	$I_{CM}$	-20	A
Continuous Collector Current	$I_C$	-4.5	A
Practical Power Dissipation*	$P_{totp}$	1.58	W
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	1.2	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +200	$^{\circ}C$

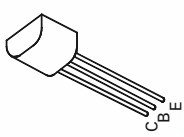
\*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50	-80		V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CE}$	-50	-80		V	$I_C=1\mu A, R_B \leq 1K\Omega$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-30	-45		V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6	-8		V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$			-50	nA	$V_{CBF}=40V$
				-1	$\mu A$	$V_{CBF}=40V, T_{amb}=100^{\circ}C$
Collector Cut-Off Current	$I_{CER}, R \leq 1K\Omega$			-50	nA	$V_{CBF}=40V$
				-1	$\mu A$	$V_{CBF}=40V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	$I_{EBO}$			-10	nA	$V_{EB}=6V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-40	mV	$I_C=0.5A, I_B=20mA^*$
				-80	mV	$I_C=1A, I_B=20mA^*$
				-100	mV	$I_C=2A, I_B=200mA^*$
				-240	mV	$I_C=5A, I_B=300mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-960	mV	$I_C=5A, I_B=300mA^*$

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捷多邦, 专业PCB打样工厂, 24小时加急出货



E-Line  
TO92 Compatible

# ZTX949

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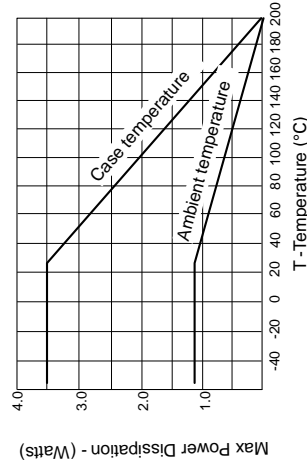
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Output Capacitance	$C_{obo}$		122		pF	$V_{CB} = -10V, f = 1MHz$
Switching Times	$t_{on}$		120		ns	$I_C = 4A, I_B = 400mA$
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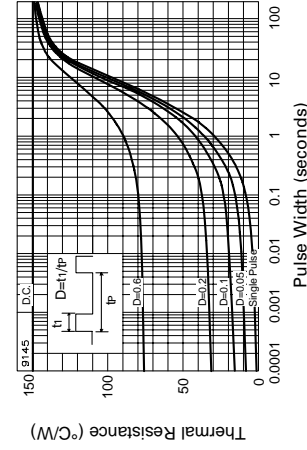
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Derating curve



Maximum transient thermal impedance

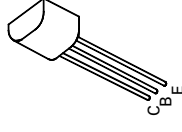
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Collector Cut-Off Current	$I_{CER}$ $R \leq 1K\Omega$			-50	nA	$V_{CB} = 40V$
				-1	$\mu A$	$V_{CB} = 40V, T_{amb} = 100^{\circ}C$
Emitter Cut-Off Current	$I_{EBO}$			-10	nA	$V_{EB} = 6V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-40	-60	mV	$I_C = 0.5A, I_B = 20mA^*$
			-80	-100	mV	$I_C = 1A, I_B = 20mA^*$
			-100	-160	mV	$I_C = 2A, I_B = 200mA^*$
			-240	-320	mV	$I_C = 5A, I_B = 300mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-960	-1100	mV	$I_C = 5A, I_B = 300mA^*$

