



# THE DATASHEET OF ZTX951



# ZTX951

## PNP SILICON PLANAR ME HIGH CURRENT TRANSIS ISSUE 4 – JUNE 94

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-850	-1000	mV	$I_C = -4A, V_{CE} = -1V^*$
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	120			$I_C = -4A, V_{CE} = -1V^*$
		10	25			$I_C = -10A, V_{CE} = -1V^*$
Transition Frequency	$f_T$		120		MHz	$I_C = -100mA, V_{CE} = -10V, f = 50MHz$
Output Capacitance	$C_{obo}$		74		pF	$V_{CB} = -10V, f = 1MHz$
Switching Times	$t_{on}$		82		ns	$I_C = -2A, I_B = -200mA$
	$t_{off}$		350		ns	$I_B = -200mA, V_{CE} = -10V$

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

- \* 4 Amps continuous current
- \* Up to 15 Amps peak current
- \* Very low saturation voltage
- \* Excellent gain up to 10 Amps
- \* Spice model available

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	UNIT
Collector-Base Voltage		
Collector-Emitter Voltage		
Emitter-Base Voltage		
Peak Pulse Current		
Continuous Collector Current		
Practical Power Dissipation*		
Power Dissipation at $T_{amb} = 25^{\circ}\text{C}$		
Operating and Storage Temperature Range		

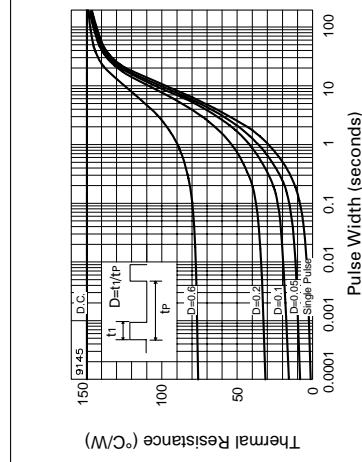
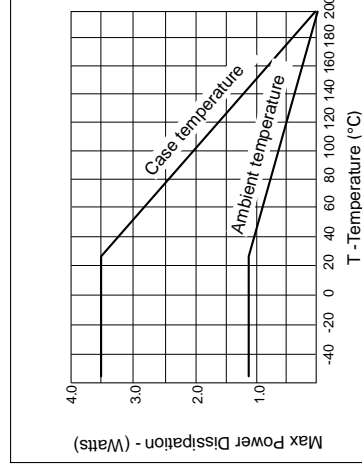
\*The power which can be dissipated as a function of ambient temperature. P.C.B. with copper equal to 1 inch square.

### ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CER}$	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	V
Collector Cut-Off Current	$I_{CBO}$	$\mu$ A
Collector Cut-Off Current	$I_{CER}$	$\mu$ A
Collector Cut-Off Current	$R_{\leq 1K\Omega}$	$\Omega$
Emitter Cut-Off Current	$I_{EBO}$	$\mu$ A
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V

### THERMAL CHARACTERISTICS

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



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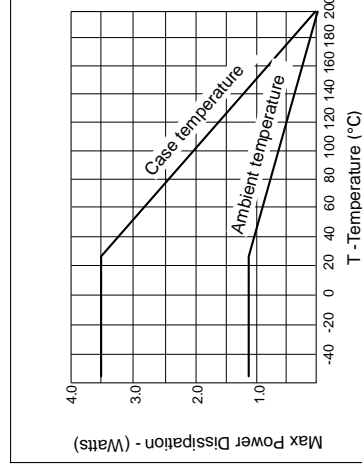
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### ELECTRICAL CHARACTERISTICS

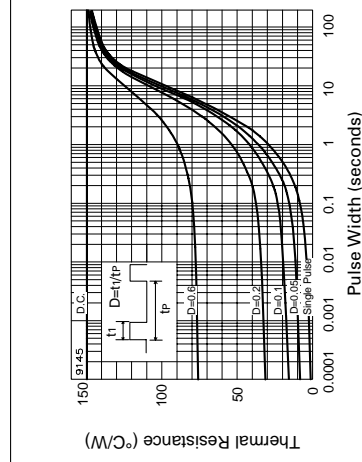
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Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V

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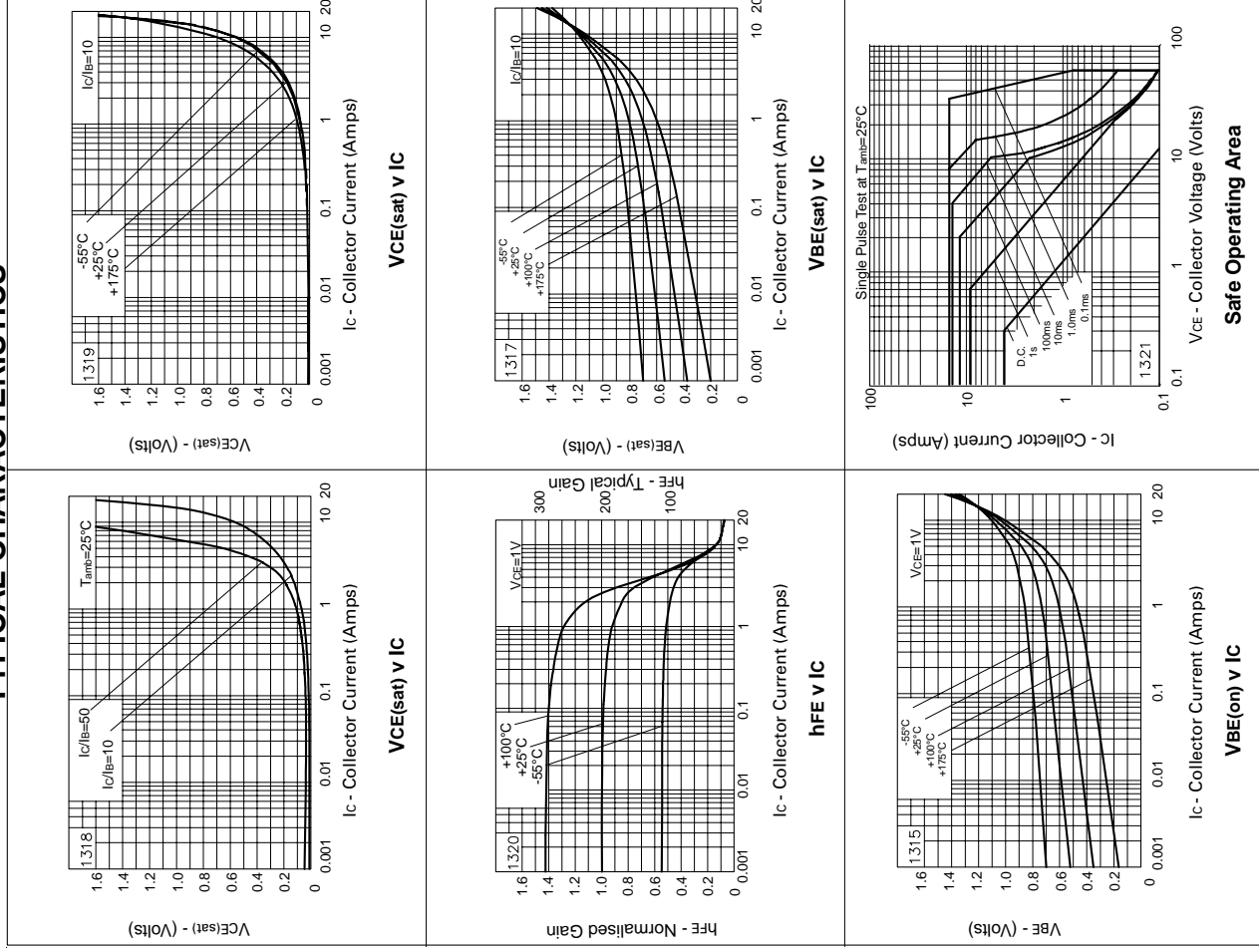
Derating curve



Maximum transient thermal impedance



# ZTX951

## TYPICAL CHARACTERISTICS



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