



**THE DATASHEET OF
ZTX788BSTZ**



ZTX788B

PNP SILICON PLANAR ME HIGH GAIN TRANSISTOR

ISSUE 2 – APRIL 94

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	100			MHz	$I_C=50\text{mA}$, $V_{CE}=5\text{V}$ $f=50\text{MHz}$
Input Capacitance	C_{ibo}		225		pF	$V_{EB}=0.5\text{V}$, $f=1\text{MHz}$
Output Capacitance	C_{obo}		25		pF	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$
Switching Times	t_{on}		35		ns	$I_C=500\text{mA}$, $I_B=50\text{mA}$
	t_{off}		400		ns	$I_B=50\text{mA}$, $V_{CC}=10\text{V}$

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

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient, Junction to Ambient, Junction to Case	$R_{th(j-amb)1}$	175	$^{\circ}\text{C/W}$
	$R_{th(j-amb)2}^{\dagger}$	116	$^{\circ}\text{C/W}$
	$R_{th(j-case)}$	70	$^{\circ}\text{C/W}$

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

FEATURES

- * 15 Volt V_{CE0}
- * Gain of 300 at $I_C=2$ Amps
- * Very low saturation voltage

APPLICATIONS

- * Darlington replacement
- * Flash gun convertors
- * Battery powered circuits
- * Motor drivers

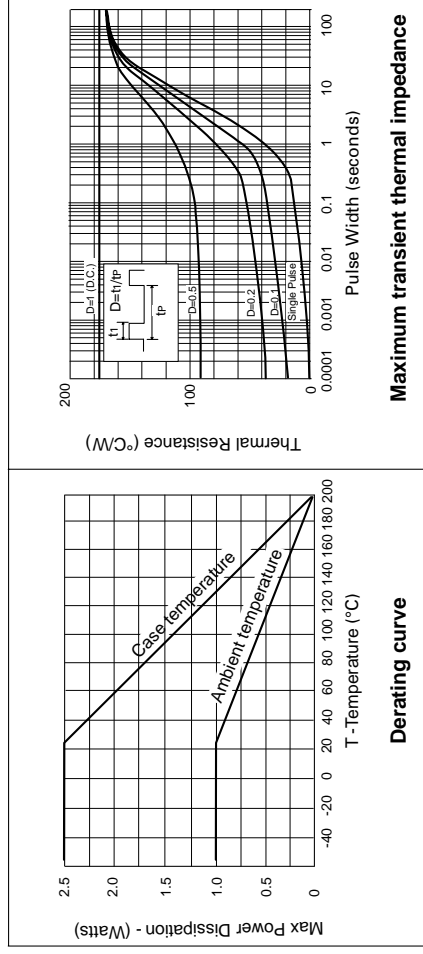
ABSOLUTE MAXIMUM RATINGS

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

*The power which can be dissipated as P.C.B. with copper equal to 1 inch square

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$
Collector Cut-Off Current	I_{CBO}
Emitter Cut-Off Current	I_{EBO}
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$
Static Forward Current Transfer Ratio	h_{FE}



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THERMAL CHARACTERISTICS

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APPLICATIONS

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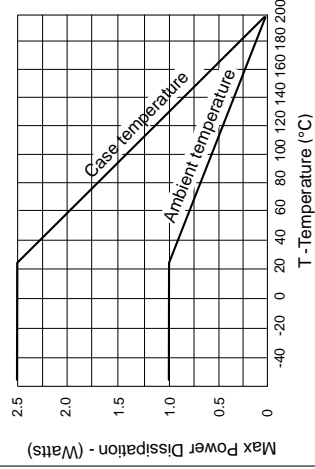
ABSOLUTE MAXIMUM RATINGS

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

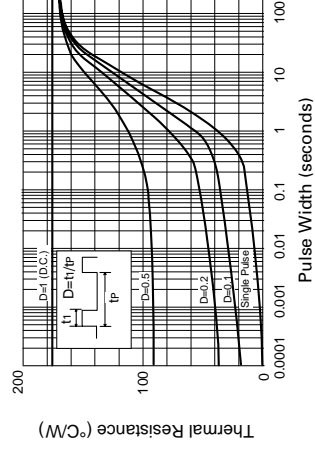
*The power which can be dissipated as P.C.B. with copper equal to 1 inch square

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$
Collector Cut-Off Current	I_{CBO}
Emitter Cut-Off Current	I_{EBO}
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$
Static Forward Current Transfer Ratio	h_{FE}



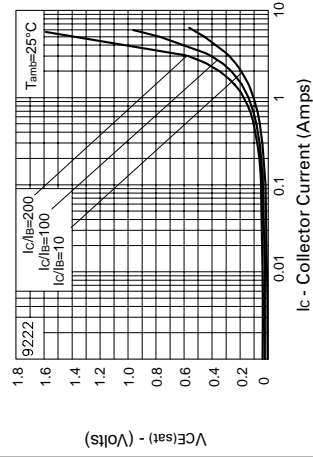
Derating curve



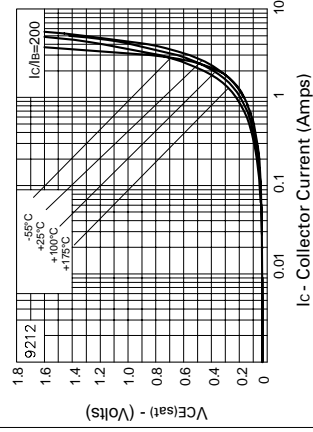
Maximum transient thermal impedance

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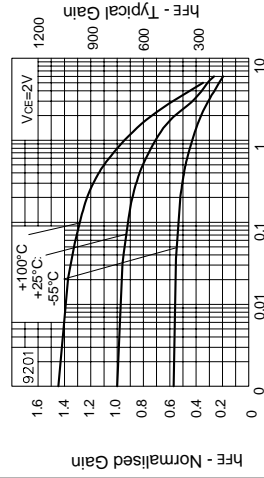
TYPICAL CHARACTERISTICS



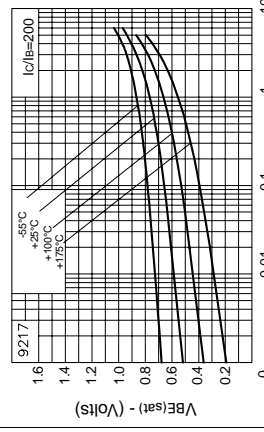
$V_{CE(sat)}$ v I_C



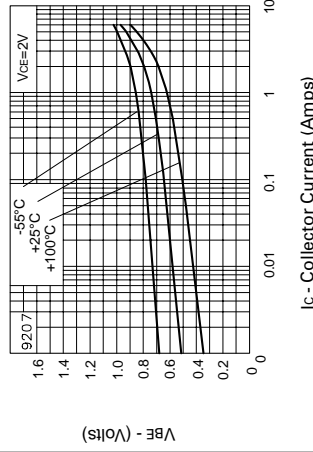
$V_{CE(sat)}$ v I_C



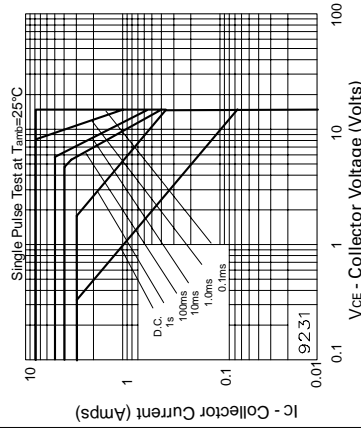
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area

Looking for pricing, stock, or lifecycle information?

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management