THE DATASHEET OF

ZTX853

ZTX853

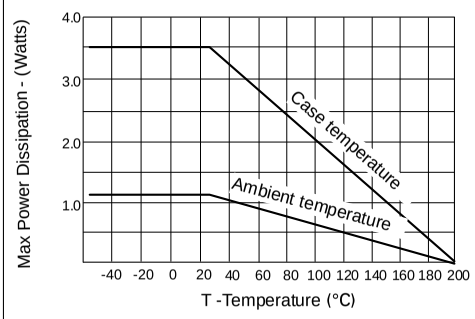
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		830	950	V	IC=4A, V_{CE}=2V*
Static Forward Current Transfer Ratio	h_{FE}	100 100 50 20	200 200 100 30	300		I_C=10mA, V_{CE}=2V I_C=2A, V_{CE}=2V* I_C=4A, V_{CE}=2V* I_C=10A, V_{CE}=2V*
Transition Frequency	f_T		130		MHz	I_C=100mA, V_{CE}=10V f=50MHz
Output Capacitance	C_{obo}		35		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on} t_{off}		50 1650		ns ns	I_C=1A, $I_{B!}$=100mA I_{B2}=100mA, V_{CC}=10V

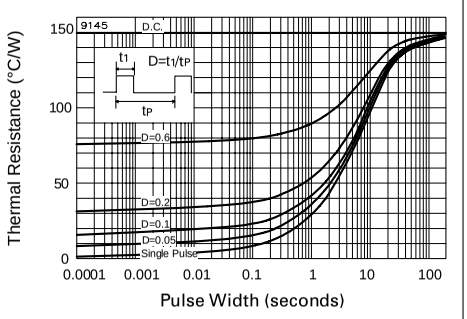
*Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤2%

THERMAL CHARACTERISTICS

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



Derating curve



Maximum transient thermal impedance

NPN SILICON PLANAR ME
HIGH CURRENT TRANSIST

ISSUE 3 - NOVEMBER 1995

FEATURES

* 100 Volt V_{CEO}
* 4 Amps continuous current
* Up to 10 Amps peak current
* Very low saturation voltage
* P_{tot}=1.2 Watts

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°C
Operating and Storage Temperature Ran

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

ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBO
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$
Collector-Emitter Breakdown Voltag	$V_{(BR)CER}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$
Collector Cut-Off Current	I_{CBO}
Collector Cut-Off Current	I_{CER} R ≤1KΩ
Emitter Cut-Off Current	I_{EBO}
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$

ZTX853

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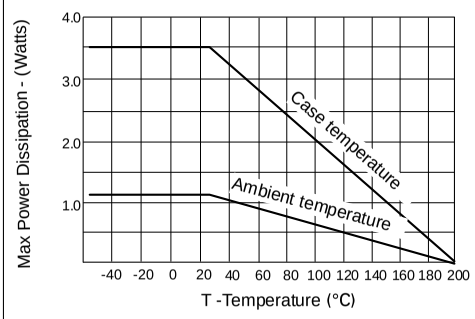

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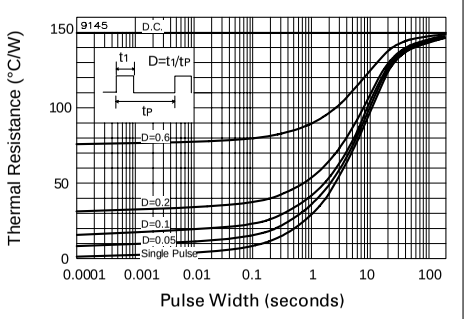

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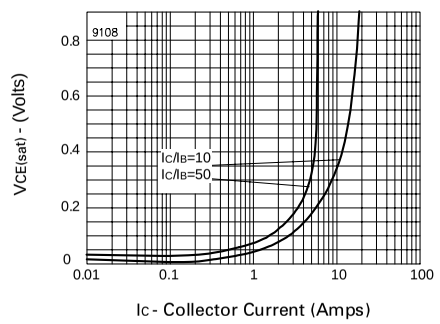
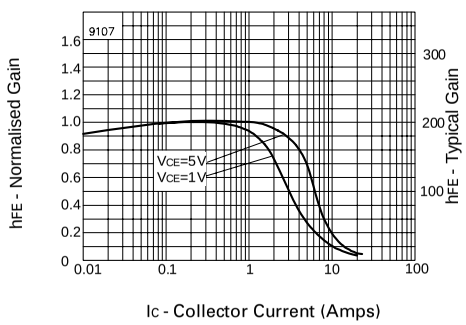
Base-Emitter Saturation Voltage	$V_{BE(sat)}$

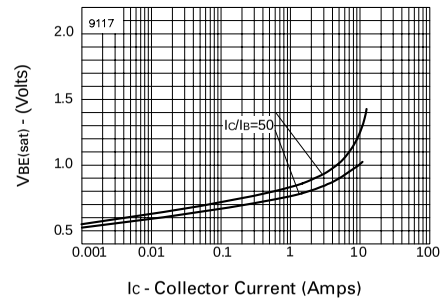
TYPICAL CHARACTERISTICS



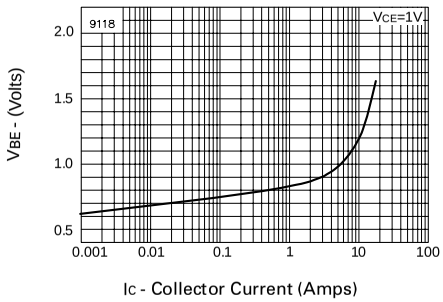
VCE(sat) v IC



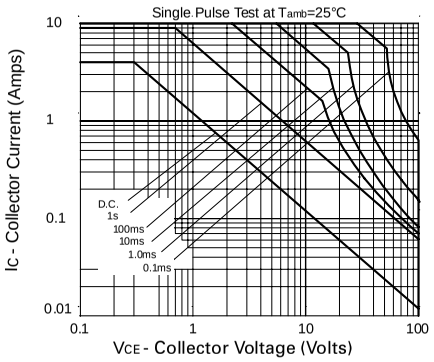
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area

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- Shortage Management
- Alternative Solution
- Excess Inventory Management